

more choice
NOM



STRENGTHEN PREPARE RESPOND

THE INTERAGENCY BOARD | FY 2014 ANNUAL REPORT



“OUT OF MANY,
ONE”

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.

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Adelphi University

American National Standards Institute

Arizona State Police, Department of Public Safety, Bomb Squad

Arlington County (VA) Fire Department

ASTM International

Branford (CT) Fire Department

Boca Raton (FL) Police Department

Boston (MA) Fire Department

California Department of Corrections & Rehabilitation, Office of Correctional Safety, Emergency Operations Unit

California State University, Cal Maritime Academy

Canadian Police Research Centre

Carrollton (TX) Fire Rescue

Cecil County (MD) Department of Emergency Services

Charleston County (SC) Sheriff's Office

Charlotte (NC) Fire Department

Cincinnati (OH) Fire Department

Cincinnati (OH) Police Department

City of Las Vegas (NV) Office of Emergency Management

City of Ottawa

City of Plantation (FL) Fire Department

City of San Antonio (TX) Fire Department

City of Seattle (WA)

City of Troy (MI) Police Department

City of Tulsa (OK)

Cook County (IL) Department of Homeland Security & Emergency Management

County of Powell (MT)

Dartmouth University School of Medicine, Emergency Medicine

Defence R&D Canada, Centre for Security Science

Delaware Emergency Management Agency

Department of Defense, Chemical and Biological Defense Program

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

Department of Defense, Office of the Assistant Secretary for Defense, Homeland Defense and Americas' Security Affairs

Department of Defense, Office of the Assistant Secretary for Defense, Domestic Preparedness Support Initiative

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, Customs and Border Protection

Department of Homeland Security, Domestic Nuclear Detection Office

Department of Homeland Security, Federal Emergency Management Agency, CBRNE Office, IND Branch

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, National Preparedness Directorate, National Integration Center

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, Office of Health Affairs, Medical First Responder Coordination Branch

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

Department of Homeland Security, Science & Technology Directorate

Department of Homeland Security, Science & Technology Directorate, Capability Development Support Group, Office of Standards

IAB CHAMPIONS



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

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

Department of Homeland Security, Transportation Security Administration

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

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

Department of Veterans Affairs

DeWitt (NY) Fire District

District of Columbia Fire and Emergency Medical Services

Emergency Services Coalition for Medical Preparedness

Fairfax County (VA) Fire and Rescue Department

Fairfax County (VA) Police Department

Fairfax County (VA) Police Department, SWAT

Federal Bureau of Investigation, Technical Hazards Response Unit

Fire Department, City of New York (FDNY)

Georgetown University

Grand Rapids (MI) Fire Department

Harrisburg Area Community College, Public Safety Training Center

Homeland Security Studies and Analysis Institute

Huntingdon County (PA) Emergency Management Agency

Inova Fairfax Hospital

International Association of Chiefs of Police

International Association of Emergency Medical Services Chiefs

International Association of Emergency Managers

International Association of Fire Fighters

International Association of Women Police

International Safety Equipment Association

Intertek, HP White Laboratory

Kent (WA) Fire Department, Kent Fire Training Academy

Lawrence Livermore National Laboratory

Long Island University

Los Angeles (CA) Fire Department

Los Angeles (CA) Police Department

Los Angeles (CA) Police Department, Emergency Services Division

Los Angeles County (CA) Fire Department

Los Angeles County (CA) Sheriff's Department

Louisiana Poison Center

Louisiana State University, Stephenson Disaster Management Institute

Massachusetts Department of Fire Services

Massachusetts Department of Public Health, Bioterrorism Response Laboratory

Merionette Park (IL) Fire Department

Miami-Dade (FL) Police Department

Montclair (NJ) Police Department

Montgomery County (MD) Fire and Rescue Service

Mt. Erie (WA) Fire Department

National Bomb Squad Commanders Advisory Board

National Defense University

National Fire Protection Association

National Guard Bureau

National Guard Bureau, Civil Support Team

National Guard Bureau, United States Army CBRN School

National Institutes of Health, National Institute of Environmental Health Sciences

National Institute for 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

National Institute of Standards and Technology, Special Programs

National Institute of Standards and Technology, Standards Services Group

National Tactical Officers Association

IAB CHAMPIONS



Naval Postgraduate School, Center for Homeland Defense and Security

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

New Windsor (NY) Police Department

New York City (NY) Police Department, Counterterrorism Bureau

New York City (NY) Fire Department

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

New York State Department of Public Health, Wadsworth Center

New York State Police

Ohio Funeral Directors Association, Mortuary Response Team

Ohio Task Force 1, FEMA Urban Search & Rescue

Oral Roberts University

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

Oregon Office of Emergency Management

Park County (CO) Sheriff's Office

Phoenix (AZ) Fire Department

Phoenix (AZ) Police Department

Pineville (NC) Fire Department

Placer County (CA) Health and Human Services

Rhode Island State Department of Health Laboratory

Sacramento County (CA) Sheriff's Department

Safety Equipment Institute

Salem (NY) Volunteer Fire Department

Santa Clara County (CA) Sheriff's Office

Sarasota County (FL) Fire Department

Sarasota County (FL) Sheriff's Office

Seattle (WA) Fire Department

Seattle (WA) Police Department

Snohomish County (WA) Fire District #7

South Carolina Law Enforcement Division

South Central (PA) Regional Task Force

Stautzenberger College

Technical Support Working Group, Combating Terrorism Technical Support Office

Town of Shirley (MA)

UK Home Office, Centre for Applied Science and Technology

Underwriters Laboratories

Unified Police Department of Greater Salt Lake (UT)

United States Army Chemical Materials Activity

United States Army Maneuver Support Center

United States Army Research Laboratory

United States Army Training and Doctrine Command

United States Capitol Police

United States Coast Guard, Seventh District

United States Coast Guard, Ninth District

United States Department of Agriculture, Animal Plant Health Inspection Service, Animal Care Emergency Programs

United States Environmental Protection Agency

United States Fire Administration, National Fire Academy

United States Forest Service, National Interagency Fire Center

United States Marshals Service

United States Navy, Commander Naval Surface Forces Pacific

United States Northern Command, North America Aerospace Defense Command

United States Army Public Health Command, Army Institute of Public Health

University of California, Irvine School of Medicine, Center for Disaster Medical Sciences

University of Connecticut

University of Tulsa

Upper Merion Township (PA) Police Department

Valencia Community College

Walker County (GA) Emergency Services

Washington Metro Transit Police Department

West County (MO) EMS & Fire Protection District

Yale Emergency Medicine

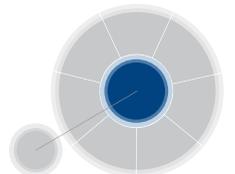
York County (ME) Emergency Management

PHOTO COURTESY OF BEVERLY HILLS CALIFORNIA WWW.BEVERLYCALIFORNIA.COM



IAB

— THE —
**INTER
AGENCY
BOARD**



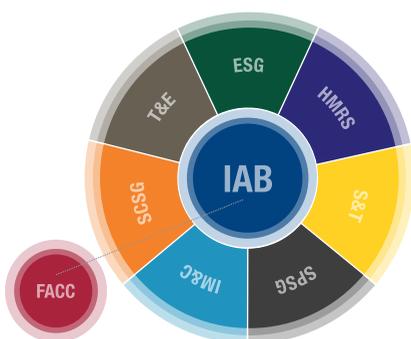
MISSION:

STRENGTHENING THE
NATION'S ABILITY TO
PREPARE FOR
AND
**RESPOND SAFELY
AND EFFECTIVELY**
TO EMERGENCIES,
DISASTERS,
AND CBRNE
INCIDENTS

— THE —
**INTER
AGENCY
BOARD**

The InterAgency Board (IAB) is a voluntary, collaborative panel of emergency preparedness and response practitioners from a wide array of professional disciplines that represents all levels of government and operational, technical, and support organizations. The IAB provides a structured forum for the exchange of ideas 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 with developing and implementing 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.

THIS SECTION ARTICULATES THE BACKGROUND, MISSION, VISION, VALUES, AND FOCUS OF THE IAB. IT SERVES AS THE BASIS FOR THE IAB'S ONGOING STRATEGIC PLANNING EFFORT. THIS INFORMATION IS NOT STATIC, IT EVOLVES AS THE IAB'S WORK PROGRESSES.



IAB ORGANIZATIONAL CHART

The InterAgency Board (IAB)
Federal Agency Coordinating Committee (FACCC)
Equipment SubGroup (ESG)
Health, Medical, & Responder Safety (HMRS) SubGroup
Information Management & Communications (IM&C) SubGroup
Science & Technology (S&T) SubGroup
Standards Coordination SubGroup (SCSG)
Strategic Planning SubGroup (SPSP)
Training & Exercises (T&E) SubGroup

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 accomplishes 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.

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. We are, 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. We help organizations that sponsor research and development programs formulate grant guidance and evaluate program effectiveness. We help response agencies make decisions about equipment by providing insight about performance and operational, training, and maintenance requirements.

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 pursues the following areas of emphasis:

1. EQUIPMENT

- Continually update and sustain the Standardized Equipment List (SEL).
- Support the Responder Knowledge Base (RKB).
- Identify gaps in capability.
- Participate in requirements development processes.
- Prioritize equipment needs.

2. HEALTH, MEDICAL, AND RESPONDER SAFETY

- 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 health and 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 protect the health and safety of responders and victims.

3. INFORMATION MANAGEMENT AND COMMUNICATIONS

- Identify needs and gaps in the Responder Information Environment.
- Identify gaps in available information technology needed to support responders.
- 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.

- Identify gaps and challenges related to information collection, classification, storage, security, and dissemination that affect incident prevention and emergency preparedness response.
- Educate emergency responders about the National Strategy for Information Sharing and how to collect, receive, and share essential elements of information.
- Identify gaps and provide decision support material for interoperable communications technologies, policies, and strategies.

4. SCIENCE AND TECHNOLOGY

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

5. STANDARDS COORDINATION

- Identify and document applicable standards, from internal (IAB) and external sources.
- Recommend potential solutions in terms of standards, equipment development, training, practices, or policies.
- 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.
- Recommend and promote the adoption and use of standards.
- Identify and inform responders about relevant standards activities, comment periods, and programs that are addressing interoperability and compatibility issues.

6. STRATEGIC PLANNING

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

7. TRAINING AND EXERCISES

- 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.



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 2014. 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 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

Jay Hagen, Seattle (WA) Fire Department

STATE & LOCAL DEPUTY CHAIRS

John Delaney Jr., Arlington County (VA) Fire Department

Joseph Booth, LSU Stephenson Disaster Management Institute

FEDERAL AGENCY COORDINATING COMMITTEE

The Federal Agency Coordinating Committee 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

Margaret Sobey-Santos, International and Interagency Office for the Joint Program Executive Office for Chemical and Biological Defense

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 maintaining and producing the IAB SEL, developing equipment-driven priorities for research and development and standards development, and coordinating with other SubGroups to ensure proper use of equipment in various mission environments.

STATE & LOCAL CO-CHAIR

Douglas E. Wolfe, Sarasota County (FL) Fire Department

FEDERAL CO-CHAIR

William Haskell III, 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 regarding needs for new or modified equipment performance and operational standards.

STATE & LOCAL CO-CHAIR

Dr. Sandy Bogucki, Bradford (CT) Fire Department

FEDERAL CO-CHAIR

Dr. Duane Caneva, Department of Homeland Security, Customs and Border Protection

INFORMATION MANAGEMENT & COMMUNICATIONS SUBGROUP

The IM&C SubGroup develops and advocates protocols and technologies for effective, timely, accurate, and secure information management and communications

STRUCTURE

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

Mark Hogan, City of Tulsa (OK)

FEDERAL CO-CHAIR

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

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

Gabriel Ramos, Technical Support Working Group, Combating Terrorism Technical Support Office

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

Cassandra Robinson, National Institute of Standards and Technology, Standards Coordination Office

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

Jeff Dulin, Charlotte (NC) Fire Department

FEDERAL CO-CHAIR

Ray Mollers, 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. This SubGroup 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 G. Noll, CSP, CEM, South Central (PA) Regional Task Force

FEDERAL CO-CHAIR

Carol Mintz, Department of Homeland Security, Federal Emergency Management Agency, National Training and Education Division

LETTER FROM THE CHAIR

It is my pleasure to share with you some of the IAB's accomplishments during FY 2014 and explain to you how the IAB creates value for America's first responders. Our achievements and accomplishments are made possible through the hard work and sacrifice of many individuals that have united, as a team, around our mission, to strengthen the nation's ability to prepare for and respond safely and effectively to emergencies, disasters, and CBRNE incidents. Simply put, our origins lie in the ashes and rubble at Oklahoma City, New York City, and many other incident sites and sacred places where we realized, collectively, that terrorism was no longer an "overseas concern." At that time, the first order of business was promoting standardization and interoperability; one team, one fight.

Our vision is to be the source for emergency responder insight about policies and practices that impact their work. The backbone of the IAB is sustaining the SEL, which has supported valuable and effective equipment acquisitions for over 15 years. The real value of the SEL is that it helps put the right equipment and tools into the hands of first responders where the work happens. The SEL has enabled first responders to make smart decisions about equipment acquisitions.

Last year, we reflected on 15 years of accomplishments and IAB history. This year, as you will read in the following pages, we have expanded our mission into other important areas, and we will continue to expand to address emerging issues. As we consume media coverage about devastating natural disasters, ISIS, and the first Ebola patient to perish in the U.S., our mission and our relevance to America's first responders seems more important than ever. Our strongest asset continues to be our people. The network of professional relationships among our federal sponsor agencies across disciplines, educational and research institutions, and their first responder counterparts has resulted in a level of teamwork and commitment that I find remarkable in the homeland security enterprise. We have leveraged that commitment, and those relationships, to maintain a relentless focus on preparedness and to achieve impressive results.

On a sunny day in September recently, I had the privilege of attending the Fallen Fire Fighter Memorial in Colorado Springs, Colorado. Standing on the lawn in the park, listening to the pipes and drums, I contemplated the shoulder patches on the Class A uniforms of the men and women standing around me. I was standing among brothers and sisters from Dallas, Chicago, New York City, Tualatin Valley, Oregon, Orange County, and many other places. As I watched the honor guard members distribute over 100 flags to grieving family members, I was galvanized by the thought that an IAB project, resource, or product is directly relevant and aimed squarely at preventing these tragic deaths. Clearer communications, better



JAY HAGEN
IAB CHAIR

Assistant Chief, Seattle (WA) Fire Department

Assistant Chief Jay Hagen is assigned to the Operations Division of the Seattle, Washington Fire Department where he supervises approximately 1,000 firefighters. During his twenty-six 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, Jay 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. Jay served as outgoing Chair of the InterAgency Board for FY 2014.

personal protective equipment, more effective simulation and training tools, advanced safety procedures; our efforts are vitally important. Observing the distribution of flags, each representing a fallen firefighter, provided me with absolute clarity about why the IAB matters.

The work products of the IAB is highlighted in this annual report which describes the many ways that our members work together to continually improve the preparedness, readiness, and ability of America's first responders to effectively perform their jobs, at home in their communities, deployed at disaster scenes, or wherever their duty calls them.

As I rotate out of the Chair position, I want to offer thanks to Margaret Sobey-Santos, Chair of the FACC, for providing me with support and guidance as well as serving as a mentor and role model to me in government service. I would also like to thank Joey Booth from the Stephenson Disaster Management Institute at LSU, for serving in the Deputy Chair role and Captain John Delaney, from the Arlington County Fire Department, who has taken over as IAB Chair. I wish him well and I know he will take the IAB in a positive direction.

With sincere gratitude,

Jay Hagen
IAB Chair



JOHN DELANEY, JR.
IAB DEPUTY CHAIR

Captain II, Arlington County (VA)
Fire Department

John Delaney has been in the fire service for over 24 years; the last 19 years as a member of the Arlington County Fire Department (ACFD), Arlington, Virginia where currently he is the station commander for the technical rescue team. Additionally, he is the program manager for Arlington County Fire Department's High Threat Response Program which focuses on building operational capabilities that will be required for atypical threats to include: active shooter, explosive and fire as a weapon events. The program focuses on developing multiagency, integrated police and fire response. Previously he was the team leader for the National Medical Response Team–National Capital Region (NMRT-NCR). The NMRT-NCR was a federally funded weapon 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 multiple large-scale regional and national emergencies; including the 1998 Florida Wildfires, 2004 Hurricane Charley, 2001 Anthrax Attack at the Senate Office Buildings, the September 11, 2001 attack on the Pentagon and the Haiti earthquake of 2010. His education and training in weapons of mass destruction, hazardous materials, and technical rescue response has allowed for contribution on numerous local, regional, and national initiatives and committees focusing on a variety of first responder and homeland security matters. He is the incoming Chair of the InterAgency Board (IAB). He is a graduate of James Madison University and in 2008 received his Master's Degree in Homeland Security from the Naval Postgraduate School. Captain Delaney resides in Ashburn, Virginia with his wife and three children.

DEPUTY CHAIRS



JOSEPH BOOTH
IAB DEPUTY CHAIR

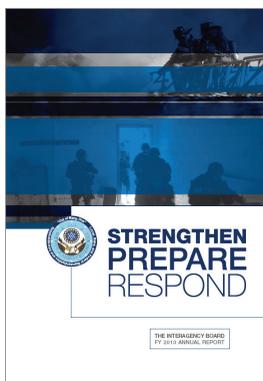
**Executive Director, LSU Stephenson
Disaster Management Institute**

Joseph Booth is the Executive Director of the LSU Stephenson Disaster Management Institute (SDMI). He built and opened the Louisiana Business Emergency Operations Center, a highly acclaimed model of public/private sector partnering for disaster survival and community resilience. Booth was appointed to the Partnership for Recovery, Japan Task Force, and twice traveled to Japan for meetings with senior government and private sector leaders, and contributed to the Task Force report. Most recently he was the guest of the Australian Attorney General at their Australian Emergency Management Institute where he was a featured speaker on strategic foresight and also the future of social media in disaster management. He is a frequent speaker on disaster management and response at national forums.

Under his leadership, SDMI has begun a Center for Business Preparedness focusing on societal resilience through the small and medium sized business community. Booth also oversaw the creation of the SDMI Disaster Lab, and is performing geographic information system (GIS) work for the state. During Hurricane Isaac in 2012, SDMI produced GIS modeling which not only provided storm track forecasting but consequence modeling for a new level of disaster forecasting. Most recently, Booth has begun a cybersecurity initiative to close the gap between the private sector and state and local disaster managers and is hosting a joint National Guard and LSU cyber lab. This information sharing and analysis program will provide greater awareness and cooperation between critical infrastructure partners and first responders. Booth is also leading the implementation of a new transformational technology lab at LSU.

Before coming to LSU, Booth was employed by Northrop Grumman's Information Technology sector, as a director of public safety and homeland security accounts to develop business and transition sophisticated capabilities to state and local government customers. He further served as a subject matter expert in matters relevant to state and local governments.

Booth is a former Deputy Superintendent of Louisiana State Police, serving as the Chief of Crisis Response and Special Operations at the rank of Lieutenant Colonel until his retirement. In this capacity he oversaw some of the largest hazardous material responses in U.S. history, led the Louisiana response to the Space Shuttle Columbia disaster, and led responses to Hurricanes Katrina, Rita, and others. Booth also served as chairman of the Louisiana Emergency Response Commission. He was the state program manager of a Department of Defense initiative; the Command and Control Advanced Concepts and Technology Demonstration, a Homeland Security program designed to demonstrate a common civil/military information sharing capability. In addition, Booth led Louisiana's communications interoperability initiative and formed a multi-state Gulf Coast Coalition to implement an integrated, single architecture for first responders in the multi-state area. Booth led the implementation of the nation's leading effort in 700MHz technology for public safety communications.



Published the IAB Annual Report, Research & Development Priority List, Standards Development Priority List, and the Standardized Equipment List (SEL), a voluntary guideline of equipment recommended by the IAB for preparing and responding to chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) and all-hazards events, linked to the Department of Homeland Security (DHS) Approved Equipment List (AEL).

Produced several position papers, white papers, and briefs on pertinent first responder issues:

- » The Cyberspace Security Continuum: A People, Processes, and Technology Approach to Meeting Cyber Security Challenges in the 21st Century (December 2013)
- » IAB Report: Needs and Requirements for Protective Helmets (April 2014)

Provided content for the DHS Science and Technology (S&T) Directorate First Responder Group (FRG) on the following First Responder blog content: Communities of Practice on the Expiration of Windows XP and Narrow Banding of the Emergency Services Sector (ESS) Spectrum.

FY 2014 HIGHLIGHTS

(OCTOBER 2013 – SEPTEMBER 2014)

OCTOBER | NOVEMBER | DECEMBER

OCTOBER 2013

Hosted and conducted an IAB Cyber PlugFest in conjunction with the October 2013 Board Meeting, which included a cyber-attack scenario utilizing real-world incidents and data. This event provided an excellent opportunity to inform IAB members of emerging and evolving technologies and threats.

NOVEMBER 2013

Created the First Responder of the Future Working Group to begin identifying capabilities, requirements and needs for the future fire fighter, patrol officer, and emergency medical technician.

Successfully piloted a process for catalyzing the development of IAB priority standards and initiated work on six of the eight FY13 priorities.

Conducted outreach via the IAB Leadership Team to current and potential federal partners including the Department of Homeland Security's (DHS) Customs and Border Protection and Office of Health Affairs.

Provided technical review and assistance to the DHS S&T FRG regarding developing and beta testing the First Responder Simulation Project.

Participated in Project Responder 4 (PR4)—a DHS S&T initiative to identify emergency responder enduring and emergency capability needs by providing recommendations and feedback to the project.

JANUARY | FEBRUARY | MARCH

JANUARY 2014

Created the Weapons of Mass Destruction Working Group to draft the Unified Response Standard Operating Protocols to include facilitating an in-person meeting with representatives from both the IAB and Joint Task Force – Civil Support in Fort Eustis, VA.

FEBRUARY 2014

Provided recommendations to the Federal Emergency Management Agency (FEMA) Response Directorate – CBRNE Branch on the FEMA RadResponder Tool and the FEMA 72 Hr. Improvised Nuclear Device Playbook.

MARCH 2014

Provided responses to the Pacific Northwest National Laboratory (PNNL) First Responder Survey on Handheld Biodetection.

Provided input to the National Fire Academy developing training and lessons learned support materials released to the Operation Jack Rabbit catastrophic release project.

APRIL | MAY | JUNE

Reviewed the latest BioWatch Indoor and Outdoor Guidance documents and provided feedback for first increment (March) and second increment (April).



Featured in a series of articles in the PNNL Northwest Regional Technology Center for Homeland Security Monthly Newsletter (April, May, and July).

JULY | AUGUST | SEPTEMBER

JULY 2014

Reviewed and submitted feedback on the PR4 Draft Plan.

AUGUST 2014

Coordinated development of a new standard on the selection, care and maintenance of tactical operations video equipment through partnership with the National Fire Protection Association and Underwriters Laboratory.

Provided feedback to the Public Health Emergency Medical Countermeasures Enterprise, Chemical Integrated Product Development Team on administering atropine to patients severely ill from nerve agent exposure in a potential mass casualty incident.

SEPTEMBER 2014

DHS S&T Small Business Innovation Research Program Phase I proposals selected toward development of handheld detector for identification of fire gases and particulates.

APRIL 2014

Featured in a CBRNe World Magazine article titled *All on Board* about being the voice of the first responder.



Launched the IAB's social media presence with accounts on both Twitter and LinkedIn.

MAY 2014

Provided responses to a DHS Assistant Secretary for Preparedness and Response, Biomedical Advanced Research and Development Authority Survey on Mass Casualty Decontamination.

JUNE 2014

Revamped the IAB First Responder Research and Development (R&D) Priority Process and Survey to include research, pilot surveys, and data analysis to ensure strong data correlation, strength, and validity, and officially launched the revised 2014 IAB First Responder R&D Priority Survey.

Hosted and facilitated an SEL Strategic Review Meeting to discuss an overall outreach mission for the SEL to include identifying a target audience and revisions to the SEL display on the IAB public website.

FY 2014 HIGHLIGHTS CONTINUED

OCTOBER 2013 – SEPTEMBER 2014

Provided IAB presentations at the Combating Terrorism Technical Support Office – Technical Support Working Group (TSWG) Personal Protective Equipment Conference, the National Occupational Research Agenda – Public Safety Sector Council Meeting, the Federal Emergency Management Agency – National Training and Education Conference, and the 2014 National Sheriff's Association Conference.

Membership or subject matter expert participation at various conferences and working groups:

- » 2014 Biosurveillance Symposium
- » American Society for Testing and Materials – Committee Meetings
- » BioWatch Small Group Review of Indoor Guidance Draft
- » Committee for Tactical Emergency Casualty Care
- » Department of Homeland Security, First Responder Management of Improvised Explosive Devices and Mass Shooting Incidents – Stakeholder Engagement Meeting
- » Department of Homeland Security, S&T Directorate, First Responders Group – Simulation Project Meeting
- » Department of Homeland Security, Science & Technology Directorate, Project Responder 4 Virtual Meetings
- » Emergency Services Coordinating Council Meeting
- » Emergency Services Sector, Critical Infrastructure Partnership, Advisory Council
- » Federal Communications Commission, Emergency Response Interoperability Council, Public Safety Advisory Committee
- » Federal Emergency Management Agency – National Training Conference
- » First Responder Network Authority (FirstNet)
- » International Association of Chiefs of Police Conference
- » International Biodetection Technologies Conference
- » Jack Rabbit II Experiment Planning Session
- » London Fire Brigade Joint Interagency Exercise (London, England)
- » National Bomb Squad Commanders Advisory Board
- » National Public Safety Telecommunications Council
- » National Fire Protection Association, Technical Committee on Non-Structural Fire Fighting Self-Contained Breathing Apparatus
- » National Homeland Security Conference
- » State, Local, Tribal and Territorial Government Coordinating Council
- » TSWG Biological Threat Day Workshop
- » TSWG Instant Eye Flight Training
- » TSWG Personal Protective Equipment Conference
- » TSWG Radiation Dispersal Device (RDD) Workshop
- » Virginia Hazmat Conference



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 high-yield explosive (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, 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.

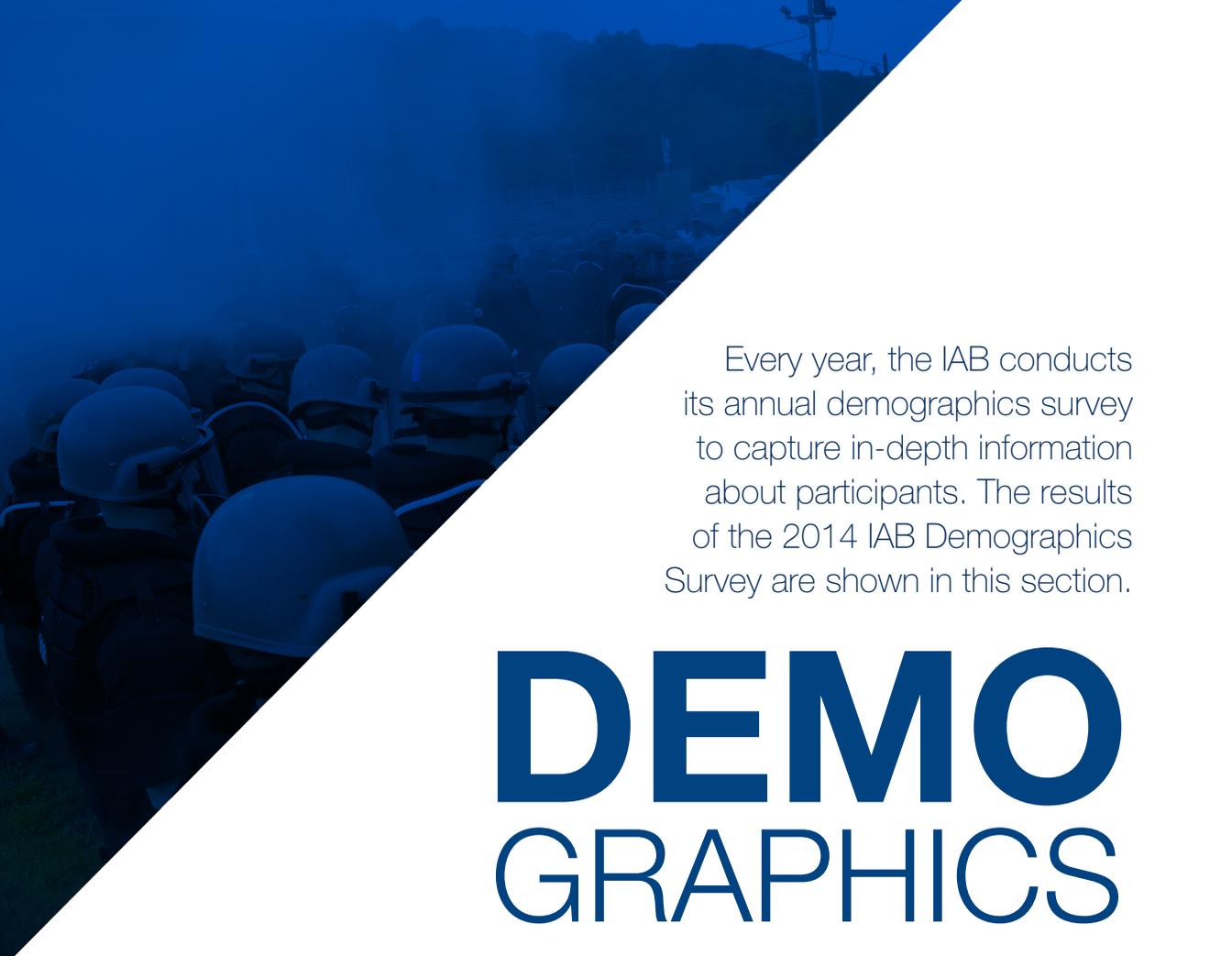
This Strategy—created by the Cabinet-level National Science and Technology Council, which is the principal means within the Executive Branch for coordinating interagency science and technology policies—represents the federal consensus regarding the development of standards for CBRNE equipment used by 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.

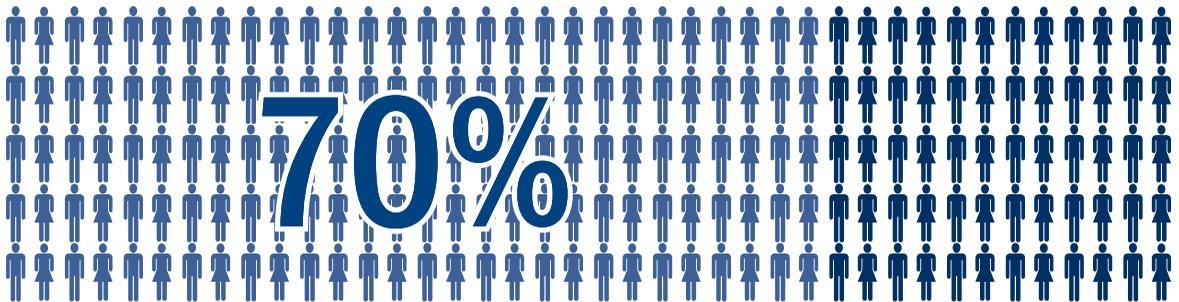
<http://www.whitehouse.gov/blog/2011/08/30/path-emergency-reponse-standards>



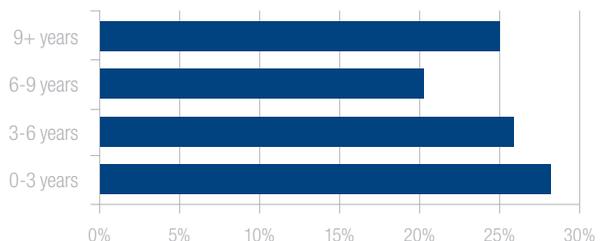
Every year, the IAB conducts its annual demographics survey to capture in-depth information about participants. The results of the 2014 IAB Demographics Survey are shown in this section.

DEMO GRAPHICS

The IAB community comprises approximately 200 dedicated professionals. Roughly seventy percent of IAB participants have first responder backgrounds.



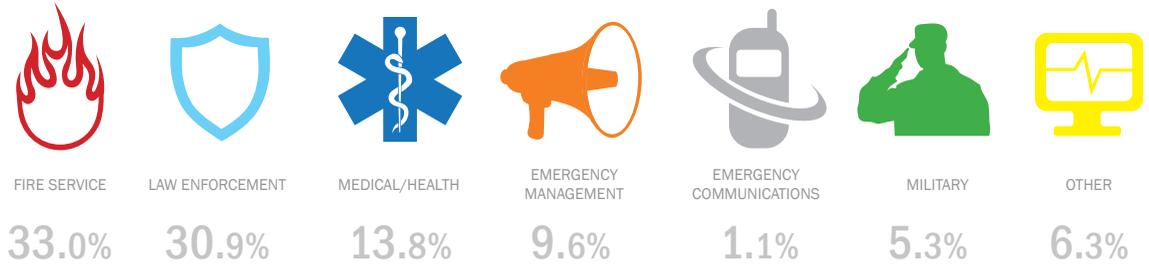
LENGTH OF SERVICE WITH THE IAB



The majority of participants have served with the IAB for more than six years.

State, local, and federal responders from various disciplines, as defined by the Homeland Security Presidential Directives, are represented. These disciplines include fire service, law enforcement, medical/health, emergency management, emergency communications, and military.

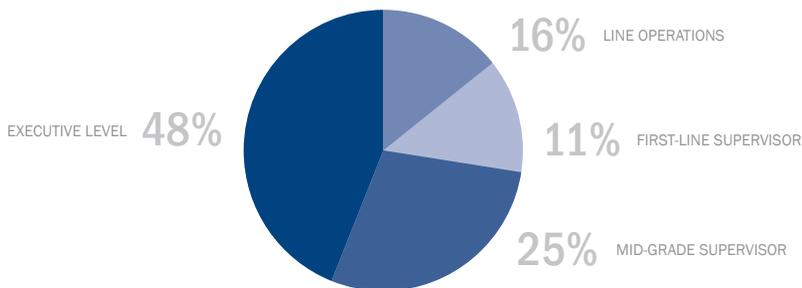
ACTIVE FIRST RESPONDER DISCIPLINE BREAKDOWN



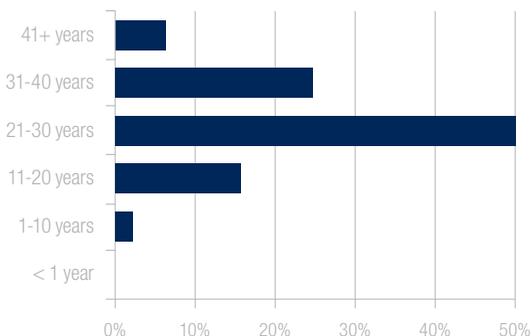
*Others include: Health & Safety Training, Incident Management and Veterinary

The largest percentage of membership currently works at the executive level, which includes Chief, Deputy Chief, or Emergency Manager positions.

ACTIVE FIRST RESPONDER OPERATIONAL LEVEL



ACTIVE FIRST RESPONDER LENGTH OF SERVICE



The majority of the first responders have been in service for more than 21 years and work in jurisdictions with populations of 500,000 or greater.

The thirty percent of IAB participants who are not first responders 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.

NON-FIRST RESPONDER PRIMARY PROFESSIONAL ROLE DISCIPLINE BREAKDOWN



GOVERNMENTAL

58.6%



PROFESSIONAL ASSOCIATIONS

5.2%



INFORMATION TECHNOLOGY

5.2%



ACADEMIA

3.5%



BUSINESS AND INDUSTRY

1.8%



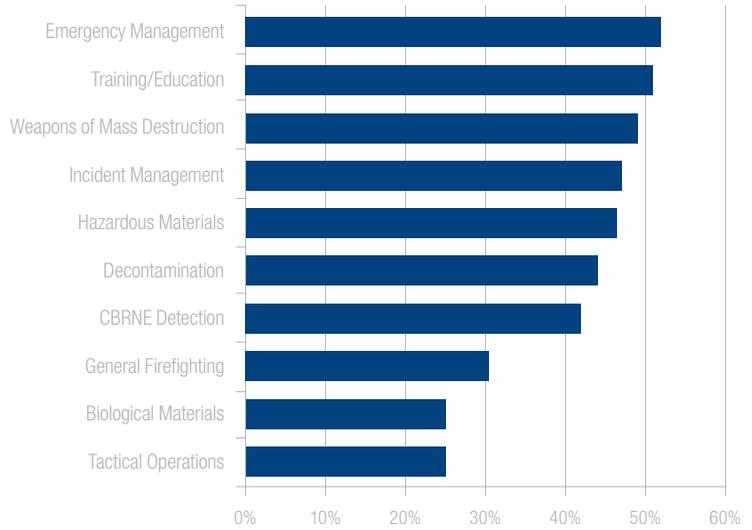
OTHER

25.7%

*Other includes: Cyber Security, Environmental Emergency Response, Public Health, and Standards Development

The IAB community maintains a wide range of expertise within the emergency response field, representation includes both members and subject matter experts.

GENERAL AREAS OF EXPERTISE (ENTIRE IAB COMMUNITY)



*Others include: Search & Rescue, Radiological Materials, Communications, Pre-hospital Emergency Medical Care (Advanced and Basic Life Support), Clandestine Laboratory Response, Criminal Investigations, Physical Security, Confined Space Rescue, Force Protection, Nuclear Materials, and Public Health

IAB participants are located across the nation in order to better represent diverse populations, departments, and perspectives.

IAB PARTICIPATION (MEMBERS/SMES)

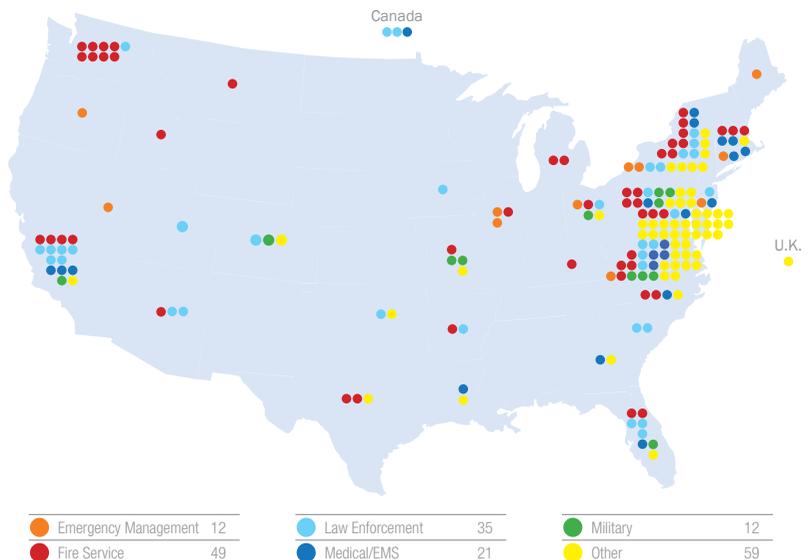
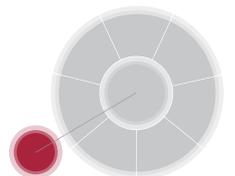


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FACC

FEDERAL
AGENCY
COORDINATING
COMMITTEE





FACC

FEDERAL
AGENCY
COORDINATING
COMMITTEE



CHAIR

MARGARET SOBEY-SANTOS

*Chief, International and Interagency Office for the
Joint Program Executive Office for Chemical and
Biological Defense*

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 to operate 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, DOD Joint Program Executive Office for Chemical and Biological Defense

(JPEO-CBD) served as the FACC Chair of the IAB during FY 2014. The FACC Chair is elected on an annual basis.

The FACC leverages ongoing federal RDT&E efforts to meet 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.

MEMBERSHIP

CHRISTINA BAXTER

*Technical Support Working Group, Combating
Terrorism Technical Support Office*

JEFFREY BLIZZARD

*Department of Homeland Security, Federal Emergency
Management Agency, CBRNE Programs*

DONALD C. BULEY

*Department of Defense, Joint Project Manager
Guardian*

SEAN CRAWFORD

*Department of Homeland Security, Federal Emergency
Management Agency, CBRNE Programs*

JIM FURLO

*Department of Defense, Homeland Defense and
Americas' Security Affairs, Domestic Preparedness
Support Initiative*

ERIC HALLSTROM

National Guard Bureau

WILLIAM HASKELL

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

KATHLEEN HIGGINS

*Department of Homeland Security, Science and
Technology Directorate, Support to the Homeland
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DONALD LAPHAM

*Department of Defense, Homeland Defense and
Americas' Security Affairs*

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*Department of Homeland Security, Science and
Technology Directorate, Capability Development
Support Group, Office of Standards*

JEFFREY MCQUILLEN

National Guard Bureau

CHERI ROE

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

DANIEL SCHULTZ

*Department of Homeland Security, National Programs
and Protection Directorate, 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*

REVIEW OF FY 2014 WORK PLAN

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 2014, 31 FACC priorities were submitted by 11 member organizations of the FACC, and each was aligned with at least one SubGroup priority. Like the previous year, many of the priorities received substantial support and have moved forward as planned. Eighteen of the priorities are considered successfully completed with the remainder either removed, on-hold, or carried over to next year. These successfully completed priorities include, but are not limited to, providing subject matter expertise to provide feedback, review, and comment on agency documents, papers, processes; updating the list of adopted and referenced standards and the list of prioritized standards gaps; reviewing the Critical Infrastructure Risk Management process and identifying emergency critical infrastructure risks and expected impacts on the sector; developing a needs and requirements document for protective helmets; reviewing FEMA's IND 72-hour response plan; continuous AEL/SEL harmonization as well as reviewing first responder standards related to the AEL/SEL; participating in the development and review of personal protective equipment (PPE) related information and guidance documents; evaluating the integration of first responders into the NGB CBRN Response Enterprise exercises for increased interoperability; providing requirements and capability gaps for Project Responder 4; and providing content for DHS S&T's FirstResponder.gov blog.

The federal priorities that were not completed have been removed for various reasons or carried over to the FY 2015 work plan. Reasons for the 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.

The FACC is 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 2015.

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 (CB) defense systems and materiel. The CB defense capabilities must support the diverse requirements of military operations supporting national security as well as homeland security missions. Through the Joint Project Managers, the JPEO-CBD, 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 DOD personnel who respond to CBRN events alongside civilian emergency responders.

As one of the founding organizations of the IAB, the DOD and the JPEO-CBD continue to support all facets and areas of the IAB. Personnel from DOD serve on the FACC, participate in developing the overall IAB strategy, and attend IAB SubGroup and Committee sessions.

Department of Defense, Homeland Defense and Americas' Security Affairs (HD&ASA)

The Homeland Defense and Americas' Security Affairs (HD&ASA) office is responsible for policy guidance on homeland defense activities for the DOD. The Assistant Secretary of Defense (ASD), HD&ASA, under the authority, direction, and control of the Under Secretary of Defense for Policy (USD(P)), serves as the principal civilian advisor to the Secretary of Defense and the USD(P) on homeland defense activities and Defense Support of Civil Authorities (DSCA), homeland preparedness, and coordinates the transfer of dual-use technologies in support of homeland security. The HD&ASA provides overall supervision of homeland defense activities of the DOD, to include the Defense Critical Infrastructure Program; domestic antiterrorism; the Defense Continuity Program; other homeland defense-related activities; and alignment of homeland defense policies and programs with DOD policies for counterterrorism and counternarcotics.

Department of Defense, Joint Program Executive Office for Chemical and Biological Defense, Joint Project Manager Guardian (JPMG)

The JPMG's mission is to develop, test, produce, field, and sustain timely and affordable Joint Integrated Force Protection, Chemical, Biological, Radiological, Nuclear, and high-yield Explosive (CBRNE) Analytics and Response Capabilities to protect our forces, the American people, U.S. assets and interests at home and abroad from threats to national security in the face of a changing, complex and uncertain global environment. The JPMG provides Army installations with decision support tools to enable timely and accurate decision making, as well as warning and notification systems. The JPMG supports DOD Weapons of Mass Destruction Response Units by providing advanced analytics, information management, communications, and commercial off-the-shelf life cycle management across their portfolio, as well as protection, detection, identification, and survey and monitoring capabilities. The JPMG also supports programs which field integrated and interoperable physical security/force protection/CBRN protection and response capability to forward operating bases and deployable units. As the mission space for JPMG's stakeholder community frequently intersects with the civilian responder community, support to and from the IAB is an important aspect of good business practices.

Department of Defense, National Guard Bureau (NGB)

The NGB is responsible for managing Department of Defense initial Chemical, Biological, Radiological and Nuclear (CBRN) response capabilities and integrating those capabilities with first responders at the state and local level. National Guard CBRN response capabilities include the Weapons of Mass Destruction – Civil Support Teams (WMD-CSTs), CBRNE Enhanced Response Force Packages (CERFPs), and Homeland Response Forces (HRFs), which augment local and state capabilities as regional assets to provide critical lifesaving functions in the event of a natural or man-made CBRN incident. The NGB ensures the utility of these capabilities by meeting civilian standards and integrating them with civilian standard operating procedures. The NGB also provides the National Guard “essential ten” capabilities to support all-hazards response in every state and territory including: command and control, logistics, aviation, security, engineering, transportation, medical, CBRN, maintenance, and communications. The NGB

partners with the IAB to develop best practices for integrating National Guard capabilities to support first responders and to shape how DOD capabilities can complement existing first responder capabilities in preparing for and responding to emergencies.

Department of Homeland Security, Federal Emergency Management Agency (FEMA), Protection and National Preparedness (PNP)

The PNP department is responsible for coordinating preparedness and protection-related activities throughout FEMA, including grants, planning, training, exercises, individual and community preparedness, assessments, lessons learned, continuity of government, and National Capital Region coordination.

The PNP is comprised of the following offices and components:

- Office of the Deputy Administrator
- Office of Counterterrorism and Security Preparedness
- Office of Preparedness Integration and Coordination
- Strategic Resource Management Office
- Grant Programs Directorate (GPD)
- Office of National Capital Region Coordination
- National Continuity Programs Directorate
- National Preparedness Directorate (NPD)

The GPD and NPD are the PNP components that participate in the IAB's FACC. In FY13 and 14, FEMA's funding for the IAB came from the National Integration Center (NIC), which is within the NPD.

The NPD provides the doctrine, programs, and resources that prepare the nation to prevent, protect, mitigate, respond to, and recover from disasters while minimizing the loss of lives, infrastructure, and property. The NPD is responsible for enhancing the nation's readiness through a comprehensive preparedness cycle of planning, organizing, equipping, training, exercising, evaluating, and improvement planning.

The purpose of GPD is to strategically and effectively administer and manage FEMA grants to ensure critical and measurable results for customers and stakeholders. Its mission is to manage federal assistance to measurably improve the capability of



and reduce the risks to the nation in times of man-made and natural disasters. The GPD maintains DHS' Authorized Equipment List (AEL) and coordinates with the IAB to harmonize the latest AEL with the IAB's SEL.

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

The IP leads the coordinated national program to reduce risk 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 for IP serves as the Sector-Specific Agency (SSA), leading the protection and resilience efforts for the Emergency Services Sector (ESS), one of the nation's 16 Critical Infrastructure Sectors. The ES-SSA is responsible for implementing the Presidential Policy Directive -21: Critical Infrastructure Security and Resilience, its sector partnership model and the risk management framework within the ESS.

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 performed at the state, local, tribal, and territorial level, are enhanced through the IAB, which provides a vital link and engagement process to a diverse body of emergency preparedness and response experts who act as a credible voice for the responder community.

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

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

The OHA serves as the principal advisor to the Secretary and the FEMA Administrator on medical and public health issues. The 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 that rapidly detects 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 (i.e., 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.

Department of Homeland Security, Science and Technology (S&T) Directorate, Capability Development Support Group, Office of Standards

The DHS S&T Directorate serves as the primary research and development 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. The DHS S&T manages an integrated program of S&T, from basic research to product transition, guided by a risk-diverse, multi-tiered invested strategy based primarily on the stated needs of customers balanced with emerging technology opportunities. The Office of Standards within the Capability Development Support Group of S&T is the organization which performs the Standards Executive function for the Department. The Office of Standards facilitates the integration of existing standards into Department operations and the deployment of standards-based capabilities by funding standards development activities in the areas of chemical and biological countermeasures, explosive detection, PPE, biometrics, incident management, and response robots. It is important to note that the first standards adopted by DHS were those adopted by the IAB. The S&T Office of Standards provides the majority of the funds that support the standards development requirements identified by the IAB.

Department of Homeland Security, Science and Technology Directorate (S&T), Support to the Homeland Security Enterprise and First Responders Group (FRG)

The Support to the Homeland Security Enterprise and First Responders Group, commonly referred to as FRG, was established in October 2010 to strengthen the first response community's ability to protect the homeland and respond to disasters. Currently, three divisions (the Office for Interoperability and Compatibility, First Responder Technologies, and the National Urban Security Technology Laboratory) and two cross-cutting programs (the Systems Assessment and Validation for Emergency Responders program and the Communications, Outreach, and Responder Engagement program) work together to carry out FRG's overall mission to strengthen first responder safety and effectiveness. By engaging with first responders at every stage, FRG pursues a clear understanding of their 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 fulfilling their needs through the use of existing and emerging technologies, knowledge products, and standards. The FRG focus areas include responder safety and effectiveness; voice and data communications; information sharing; alerts, warnings, and notifications; and radiological/nuclear response and recovery.

Department of Justice, Office of Justice Programs, National Institute of Justice (NIJ)

The NIJ is the research, development, testing, and evaluation arm of the Department of Justice. The NIJ's principal authorities are derived from the Omnibus Crime Control and Safe Streets Act of 19681 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*.

At the core of NIJ's new standards development process are the Special Technical Committees (STCs). Members of an STC include practitioners, scientists, stakeholder organizations, and individuals knowledgeable in testing, standards development, and certification. The final 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 CR-0116.00, *Certification Program Requirements*
- NIJ Standard-0117.00, *Public Safety Bomb Suit Standard*
- NIJ CR-0117-00, *Certification Program Requirements*

Standards soon to be published:

- Duty Holster
- Restraints
- Walk-Through and Hand-Held Metal Detectors
- In-Car Video Systems

Standards currently being developed or revised include:

- Stab Armor Standard
- Offender Tracking Systems
- Ballistic Body Armor Standard

- License Plate Readers
- Interview Room Video Standard

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)

To carry out the NIOSH mission to maintain national and world leadership in preventing work-related illness and injuries, their efforts range from research and information to guidance and service. Their program portfolio focuses on relevance, quality, and impact achieved by involving partners and stakeholders throughout the research continuum.

The NIOSH program portfolio is organized into eight industrial sectors. Within these sectors, The Personal Protective Technology (PPT) cross-sector exists to prevent work-related illness and injury by advancing the state of knowledge and application of PPTs. Personal Protective Technology includes technical methods, processes, techniques, tools, and materials that support the development and use of personal protective equipment worn to reduce occupational exposure to hazards.

Within NIOSH, NPPTL leadership serves as the program manager for the NIOSH PPT Cross-Sector Program. A laboratory was established in 2001 when Congress underscored the need for improved personal protective equipment and encouraged research for PPTs.

The NPPTL applies state-of-the-art science to meet increasingly complex occupational safety and health challenges. Their 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.



FACC CHAIR

MARGARET SOBEY-SANTOS

**Chief, International and Interagency
Office for the Joint Program
Executive Office for Chemical
and Biological Defense**

Margaret Sobey-Santos serves as the Chief of the International and Interagency Office for the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). In this role she is responsible for the coordination and synchronization of partnership engagements across the JPEO-CBD Enterprise.

Margaret is a recognized subject matter expert in the areas of strategic planning, international and interagency collaboration, Chemical and Biological Defense, national level exercise planning, response and recovery in and across both military and civilian mission spaces. She has been the head of U.S. Delegation for several international engagements and continues to foster cooperation across international, civil and military lines as well as lead planner for several North Atlantic Treaty Organization (NATO) exercises.

She has worked in several positions in the Chemical and Biological Defense Program including, threat agent sciences, Homeland Defense and International Engagements. Prior to her work for the Department of Defense and the Chemical and Biological Defense Program, she worked on Capitol Hill for two U.S. Senators.

Margaret received a Bachelor of Arts from Goucher College, Towson, MD and a Master of Arts from the National Defense University, College of International Security Affairs, with a double major in International Security and Homeland Security.

She is a member of the U.S. Army Acquisition Corps, and Program Management Level 3 certified as well as Project Management Professional (PMP) certified.

PHOTO COURTESY OF THOMAS BRANDON

ESG

EQUIPMENT
SUBGROUP

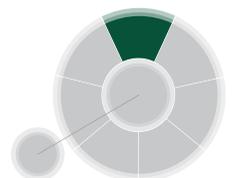


PHOTO COURTESY OF SEATTLE (WA) FIRE DEPARTMENT



ESG

EQUIPMENT SUBGROUP



STATE & LOCAL CO-CHAIR

DOUGLAS E. WOLFE

Sarasota County (FL) Fire Department

FEDERAL CO-CHAIR

WILLIAM E. HASKELL III

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

The mission of the ESG is to develop, maintain, and update the IAB Standardized Equipment List (SEL) 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 responder mission areas; and to review and make recommendations for new equipment research and standardization, closely coordinating its efforts with those of the other IAB SubGroups.

ROLE AND FUNCTIONS

The ESG is the largest of the IAB SubGroups, and addresses standardization and interoperability issues relating directly to protective, operational, and support equipment for emergency responders. The ESG responsibilities include maintaining and periodically publishing the IAB SEL (including designing example products and identifying/incorporating new technologies); developing equipment-driven priorities for research and development (R&D) and standards development; and coordinating

with other SubGroups such as T&E 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 Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) National Preparedness Directorate (NPD), Grant Programs Directorate.

ESG SEL EQUIPMENT OVERSIGHT AREAS

- 1 PERSONAL PROTECTIVE EQUIPMENT (PPE)
- 2 EXPLOSIVE DEVICE MITIGATION AND REMEDIATION EQUIPMENT
- 3 CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) OPERATIONAL AND SEARCH & RESCUE EQUIPMENT
- 4 INFORMATION TECHNOLOGY
- 5 CYBERSECURITY ENHANCEMENT EQUIPMENT

MEMBERSHIP

ERIC ASHBURN

Walker County (GA) Emergency Services

TAUSEEF BADAR

Commander Naval Surface Forces

JOHANNA BRISCOE

*United States Department of Agriculture,
Animal Plant Health Inspection Service,
Animal Care Emergency Programs*

RICHARD BYTNER

New York State Police

JERRY DIEHL

*Arizona Department of Public Safety,
State Police, Bomb Squad*

TIMOTHY DORSEY

*West County (MO) Emergency Medical
Services and Fire Protection District*

THOMAS GROEL

*Federal Bureau of Investigation, Hazardous
Materials Response Unit*

ERIC IMHOF

California State University, Cal Maritime

LISA LANHAM

Sarasota County (FL) Sheriff's Office

JAIME LESINSKI

Los Angeles (CA) Fire Department

ANDRZEJ MIZIOLEK

U.S. Army Research Laboratory

JOSEPH NAMM

City of Plantation (FL) Fire Department

IRENE RICHARDSON

U.S. Army Chemical Materials Activity

AXEL RODRIGUEZ

*U.S. Army Natick Soldier, Research,
Development & Engineering Center*

PETER STEVENSON

U.S. Environmental Protection Agency

STEVEN TOWNSEND

Carrollton (TX) Fire Rescue

RON WATSON

Los Angeles County (CA) Fire Department

FOREST WILLIS

U.S. Coast Guard, Seventh District

SUBJECT MATTER EXPERTS

EDWARD BAILOR

United States Capitol Police (Retired)

RICH DUFFY

*International Association of Fire Fighters
(Retired)*

DONALD HEWITT

Proconsul, Inc.

JEFF MARCUS

Los Angeles (CA) Fire Department (Retired)

PATRICK MORRISON

International Association of Fire Fighters

JEFF STULL

International Personnel Protection, Inc.

DAVID TREBISACCI

National Fire Protection Association

- 6 INTEROPERABLE COMMUNICATIONS EQUIPMENT
- 7 DETECTION
- 8 DECONTAMINATION
- 9 MEDICAL
- 10 POWER
- 11 CBRN REFERENCE MATERIALS
- 12 CBRN INCIDENT RESPONSE VEHICLES
- 13 TERRORISM INCIDENT PREVENTION EQUIPMENT
- 14 PHYSICAL SECURITY ENHANCEMENT
- 15 INSPECTION AND SCREENING SYSTEMS
- 16 ANIMALS AND PLANTS
- 17 CBRN PREVENTION AND RESPONSE WATERCRAFT
- 18 CBRNE AVIATION EQUIPMENT
- 19 CBRNE LOGISTICAL SUPPORT EQUIPMENT
- 20 INTERVENTION EQUIPMENT
- 21 OTHER AUTHORIZED EQUIPMENT

MISSION SPECIFIC SUBLISTS (MSSL)

Due to the number and diversity of items listed in the SEL, the ESG develops MSSLS to support critical responder mission areas. The MSSLS are compiled by ESG members and subject matter experts (SMEs) who draw appropriate items from all 21 sections of the SEL as needed. Each MSSL thus provides a “tailored SEL” for responders in a specific mission area. The MSSLS can be selected and viewed via a pull-down menu on the IAB website’s interactive SEL (<https://iab.gov/SELint.aspx>).

In addition to those MSSLS developed for mission critical areas, special MSSLS were developed and released for the Canadian Police Research Centre in order to harmonize equipment with our Canadian counterparts.

MEMBERSHIP

The ESG includes a wide range of members and SMEs from emergency response organizations, federal agencies, military, 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 is as follows:

- State and Local Organizations (50%) – Representing fire service, law enforcement, emergency medical services (EMS), medical first receivers, hazardous device operations, hazardous materials, search and rescue, and water operations.
- Federal Agencies (50%) – Representing the National Institute for Occupational Safety and Health (NIOSH), U.S. Coast Guard, U.S. Environmental Protection Agency, Federal Bureau of Investigation, U.S. Department of Agriculture Animal Plant Health Inspection Service, U.S. Army Research Laboratory, U.S. Army Chemical Materials Activity, U.S. Army Natick Soldier Research Development and Engineering Center, Naval Surface Forces, and the National Guard Bureau (NGB).

The ESG has wide representation from standards development, labor, and professional organizations such as the National Fire Protection Association (NFPA), American Society for Testing and Materials (ASTM) International, International Association of Fire Fighters (IAFF), and the National Bomb Squad Commander’s Advisory Board (NBSCAB). Each of these organizations has 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 R&D 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 the ESG.

FY 2014 HIGHLIGHTS AND 2015 INITIATIVES

- The ESG continued to serve as the lead IAB SubGroup for maintaining and updating the SEL, as well as supporting the DHS/FEMA NPD with the AEL. The 2014 edition of the SEL contains numerous updates, additions, and deletions as described in the SEL section of this Annual Report. Revisions to the SEL during FY 2014 included updating Section 07 in order to incorporate emerging technologies that have been identified as effective for public safety responders, border patrol, explosive ordinance disposal, and law enforcement.
- Considerable progress was made working with the DHS/FEMA NPD on AEL/SEL alignment and AEL content. There are currently no outstanding AEL content change requests.

- The ESG started its support to the NGB in developing MSSSLs as they relate to various units within the NGB.
- The SCSG Federal and Local/State Co-Chairs provided the ESG with written recommendations on overhauling the IAB standards adoption, standards list, and the SEL.
- The ESG participated in and supported the American National Standards Institute (ANSI) and its Director, Homeland Security Standards in support of IAB SCSG standards priority development efforts.
- The ESG hosted and facilitated the June 2014 SEL Strategic Review Meeting in Salt Lake City, UT that included representatives from the SCSG, T&E and IM&C SubGroups. The discussion regarding the target audience for the SEL helped to define an outreach mission and create a Target Audience Outreach Matrix. The display of the SEL on the IAB site was not intended to be the primary presentation of the SEL to the community yet the IAB will now assume the primary role of presentation. As a result of this review, a letter was drafted to the Leadership Team addressing key points to enhance, update, align and promote the IAB's version of the SEL as a result of changes and limitations in the current version of the Responder Knowledge Base.
- Presentations given at FY14 ESG Breakout Sessions during IAB Board Meetings:
 - » Advances in AVAcore Body Core Cooling Technology, Dr. Dennis Grahn and Dr. H. Craig Heller, Department of Biology, Stanford University
 - » Independent Testing of Hand Portable Biodetection Equipment, Dr. Rachel Bartholomew, Pacific Northwest National Laboratory
 - » Next Generation Lightweight Chemical Protective Ensemble, Mr. Mike Kienzle, W.I. Gore & Associates (In support of the U.S. Department of Defense, Combating Terrorism Technical Support Office (CTTSO)/Technical Support Working Group (TSWG) Broad Agency Announcement Requirement 2579)
 - » Tunable QCL Detection of Fire-Produced Hazardous Vapors and Gases, Dr. Kumar Patel, Pranalytica
 - » National Institute of Justice (NIJ) Standards Development Update, Ms. Debra Stoe
- SubGroup members participated and presented at the CTTSO - TSWG PPE Conference.
- The ESG Local/State Co-Chair attended and presented at the 2014 National Homeland Security Conference. The presentation objectives were to review the history and role of the IAB, describe the SEL and its use in developing homeland security grant program applications, identify how to access the SEL and the information it contains, and explain how alignment of SEL and AEL equipment items and information are kept up-to-date.
- Selected ESG members participated in and presented at the National Occupational Research Agenda (NORA) Public Safety Sector Council Meeting.
- The ESG Federal Co-Chair assisted IAB Program Office personnel in identifying individuals in other organizations having experience with social media which led to the IAB Social Media program and policy.

EQUIPMENT SUBGROUP 2015 PRIORITY INITIATIVES

- The ESG will continue to identify new detection technologies and equipment.
- The ESG members will participate on the NIJ CBRN Ensemble Standard Committee involving the revision to NIJ Standard-0116.00.
- The ESG and IAB members will continue to serve on the NFPA Correlating Committee for Fire and Emergency Service Protective Clothing and Equipment and the eight (8) Technical Committees under that standards development project.
- The ESG will work closely with the SCSG in revising the IAB process and procedure for formally recognizing product performance and certification, test methods, guidance, and training standards and linking those standards to the SEL equipment items.
- The MSSSLs will continue to be developed for additional public safety and emergency response critical mission areas.
- The ESG will leverage the expertise of the T&E SubGroup in identifying appropriate training requirements for SEL equipment items.
- The primary ESG work efforts will involve implementing the findings and recommendations developed at the June 5, 2014 SEL Strategic Review Meeting in Salt Lake City, UT.



STATE & LOCAL CO-CHAIR

DOUGLAS E. WOLFE

Special Operations Officer, Sarasota County (FL) Fire Department

Douglas Wolfe has served in the hazardous materials emergency response field for 30 years with the Sarasota County (FL) Fire Department and coordinated its Special Operations and Domestic Security programs. During his tenure in the field, Mr. Wolfe instructed nationally for numerous organizations, including the National Fire Academy, where he has served as SME 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 his role with the IAB, Mr. Wolfe served on the Florida State Emergency Response Commission and Hazardous Materials Training Task Force, as well as the Florida State Working Group for Domestic Security Equipment Subcommittee.

FEDERAL CO-CHAIR

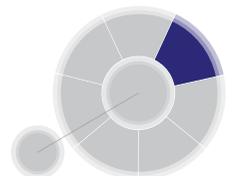
WILLIAM HASKELL

Program Manager, National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory

Bill Haskell is a Program Manager in the Technology Evaluation Branch at the NIOSH National Personal Protective Technology Laboratory. Mr. Haskell is the Co-Coordinator for the NIOSH Public Safety Sector Program and Co-Chair of the NORA Public Safety Sector Council. Mr. Haskell serves as the Chairman of the NFPA Correlating Committee for Fire and Emergency Services Protective Clothing and Equipment, and member of the NFPA Technical Committee for hazardous materials, electronic safety equipment, structural/proximity, special operations, emergency medical service, and wildland firefighting protective clothing and equipment. Mr. Haskell is a member of the ASTM International F23 Protective Clothing and Equipment Committee, E54 Homeland Security Committee, and the International Association of Chiefs of Police Homeland Security Committee. He is also a member of the Fire Protection Research Foundation’s Research Advisory Committee. Mr. Haskell holds a B.S. in Civil Engineering and an M.S. in Plastics Engineering from the University of Massachusetts at Lowell.

HMRS

HEALTH,
MEDICAL &
RESPONDER
SAFETY
SUBGROUP



HMRS

HEALTH, MEDICAL & RESPONDER SAFETY SUBGROUP



STATE & LOCAL CO-CHAIR

DR. SANDY BOGUCKI
Branford (CT) Fire Department

FEDERAL CO-CHAIR

DR. DUANE CANEVA
*Department of Homeland Security, Customs and
Border Protection*

The mission of the HMRS SubGroup is to provide guidance to the IAB on public health medical issues. Their guidance includes first responder/receiver public health, safety, and performance optimization; and developing best practices and standards for certifying equipment, supplies, and pharmaceuticals needed to respond to the full spectrum of hazards and threats. This guidance is developed from member knowledge, experience, review, and discussion of relevant material.

The HMRS SubGroup reviews and makes recommendations to the IAB on needs for new or modified equipment and the performance and operational standards relative to the SubGroup qualifications and expertise.



ROLES AND FUNCTIONS

- Identify gaps and needs for providing safe and effective medical care under emergency conditions.
- Evaluate the efficacy and appropriateness of existing and proposed health- and safety-related products, processes, practices, and information.
- Serve on working groups that address emergency public health, medical, performance, and responder safety.
- Develop recommendations about how to identify, mitigate, or eliminate emergency responder safety hazards, prevent injuries, and reduce disability and mortality.
- Identify and address factors in emergency response that cause physical, physiological, or psychological harm.
- Analyze threat scenarios and make recommendations about how to safely and effectively protect public health, medical, and responder personnel and victims.

INITIATIVES

- HMRS continues to work through the National Institute for Occupational Safety and Health's Emergency Responder Health Monitoring and Surveillance recommendations to provide an increased focus on health monitoring of first responders during incident response. This includes exploring novel technologies to identify physiological parameters that correlate with performance, safety, and long- and short-term health.

MEMBERSHIP

KNOX ADDRESS

Louisiana Poison Control

KELLY BURKHOLDER-ALLEN

Stautzenberger College

RICHARD BURTON

Placer County (CA) Health and Human Services

CAOIMHÍN CONNELL

Park County (CO) Sheriff's Office

RENEE FUNK

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

DARIO GONZALEZ

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

STEPHAN GRAHAM

U.S. Army Institute of Public Health

RANDALL GRIFFIN

DeWitt (NY) Fire District

EARL HALL

Powell County (MT)

DAN HANFLING

Fairfax County (VA) Fire and Rescue Department

KEN MILLER

Orange County (CA) Fire Authority and Health Care Agency Emergency Medical Services

FRANKLIN PRATT

Los Angeles County (CA) Fire Department

JEFFREY RACE

Pineville (NC) Fire Department

REED SMITH

Arlington County (VA) Fire Department

LAWRENCE TAN

New Castle County (DE) Emergency Medical Services

THOMAS WALSH

Mt. Erie (WA) Fire Department

HERBERT WOLFE

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

SUBJECT MATTER EXPERTS

ED DOLAN

Department of Homeland Security

ROBERT GOUGELET

Dartmouth University School of Medicine, Emergency Medicine

SUSAN JONES-HARD

Center for Homeland Defense and Security

GREGG LORD

Department of Health and Human Services, Emergency Care Coordination Center

PAUL MANISCALCO

International Association of Emergency Medical Services Chiefs

DAVID MARCOZZI

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

CARTER MECHER

Department of Veterans Affairs

CHRISTY MUSIC

Office of the Assistant Secretary of Defense for Homeland Defense and Americas' Security Affairs

LEWIS RADONOVICH

Department of Veterans Affairs, Center for Occupational Health and Infection Control

KARI SCANTLEBURY

Inova Fairfax Hospital

MICHAEL SCOTT

Kent (WA) Fire Department, Kent Fire Training Academy

MERRITT SCHREIBER

University of California, Irvine School of Medicine, Center for Disaster Medical Sciences

BOB SHANK

Ohio Funeral Directors Association

TIM STEPHENS

Emergency Services Coalition for Medical Preparedness

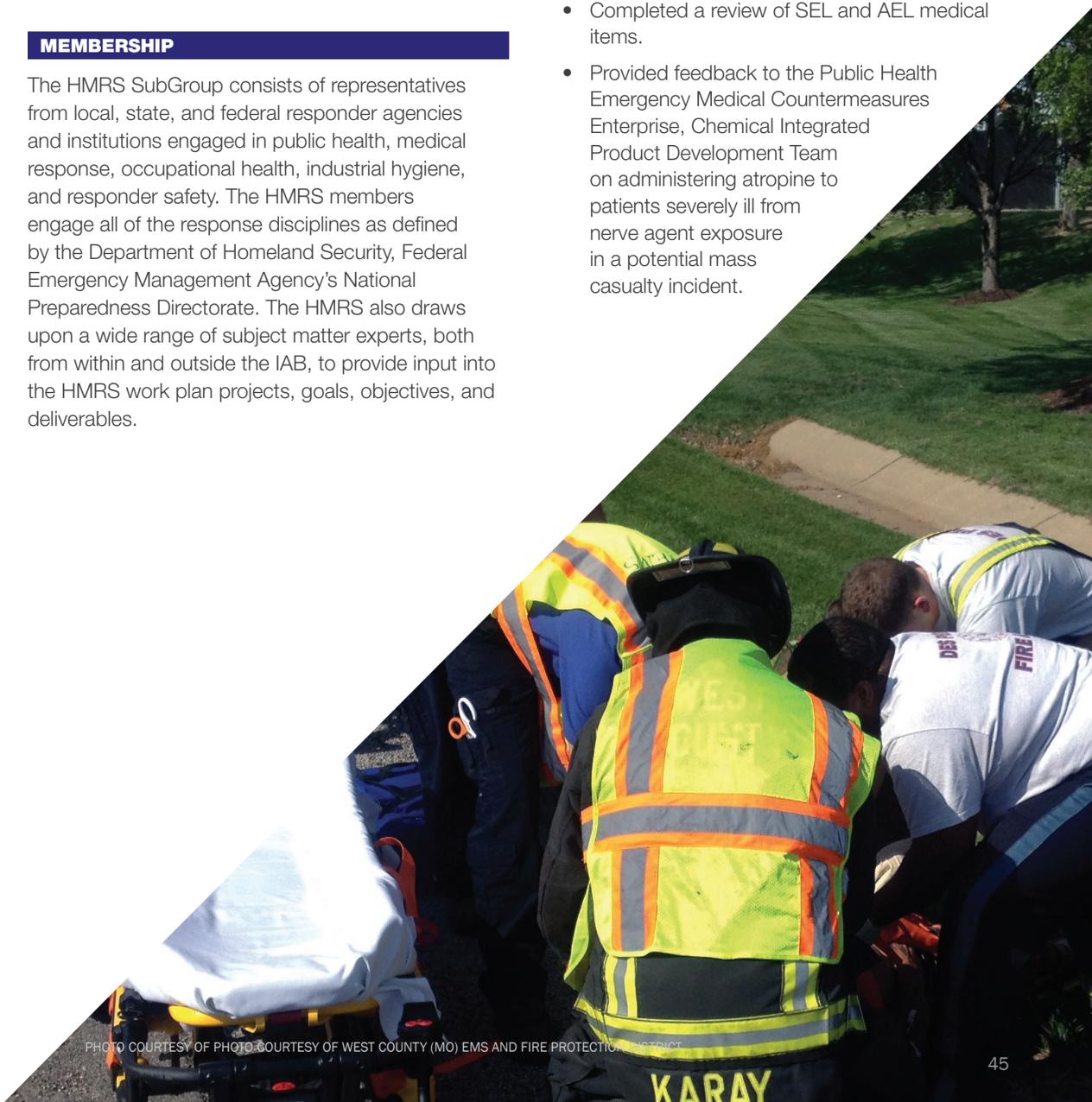
- The HMRS continues to explore issues impacting emergency responders including training and equipment for care under fire, individual first aid kits for law enforcement officers, and care of unconscious firefighters.
- The HMRS is addressing toxicology related issues facing first responders including calls for carrying naloxone auto-injectors, toxidromes related to increasing use of bath salts and novel illicit drugs, and the approach to excited delirium syndrome.
- The HMRS continues to apply the Tactical Emergency Casualty Care method to establish evidence-based approaches for adopting tactics, techniques, and procedures in the pre-hospital medical response environment.

MEMBERSHIP

The HMRS SubGroup consists of representatives from local, state, and federal responder agencies and institutions engaged in public health, medical response, occupational health, industrial hygiene, and responder safety. The HMRS members engage all of the response disciplines as defined by the Department of Homeland Security, Federal Emergency Management Agency's National Preparedness Directorate. The HMRS also draws upon a wide range of subject matter experts, both from within and outside the IAB, to provide input into the HMRS work plan projects, goals, objectives, and deliverables.

FY 2014 ACCOMPLISHMENTS

- Completed an initial review of current best practices for stress management programs and processes for emergency services sector personnel and developed recommendations for a way ahead. This will provide further guidance for promotion of acceptable practices in ensuring mental health issues are properly addressed within the emergency response community.
- Established a prioritized list of research and development issues impacting the health and safety of our nation's first responders.
- Continued efforts to establish effective long-term health monitoring processes and techniques for first responders.
- Completed a review of SEL and AEL medical items.
- Provided feedback to the Public Health Emergency Medical Countermeasures Enterprise, Chemical Integrated Product Development Team on administering atropine to patients severely ill from nerve agent exposure in a potential mass casualty incident.



STATE & LOCAL CO-CHAIR

DR. SANDY BOGUCKI

Fire Surgeon, Branford (CT) Fire Department

Dr. Sandy Bogucki is an Emergency Medicine Physician with more than 20 years of experience working in the first responder community and academia. In addition to her position as Fire Surgeon for the Branford, Connecticut, Fire Department, she is also the Emergency Medical Services Medical Director for 12 cities and towns and 21 provider agencies in the New Haven area, responsible for medical oversight of about 250 paramedics and 800 Emergency Medical Technicians. She is an Associate Professor in the Department of Emergency Medicine at the Yale University School of Medicine and teaches medical and public health preparedness and emergency response at the Yale School of Public Health.

FEDERAL CO-CHAIR

DR. DUANE CANEVA

Senior Medical Advisor, Department of Homeland Security, Customs and Border Protection

Dr. Duane Caneva is an Emergency Medicine Physician with more than 20 years of experience related to emergency medicine and disaster response. His operational experience includes service as an undersea medical officer with the U.S. Navy SEALs; senior medical officer with the U.S. Marines Chemical Biological Incident Response Force (CBIRF); and as the head of the Shock Trauma Platoon at Fallujah Surgical in Iraq. His real-world experience includes response with CBIRF to the U.S. Capitol Amerithrax incident and numerous mass casualty medical responses including two chemical mass casualties in Iraq.

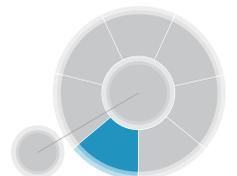
He has policy and program management experience, having served on staff of the Navy Surgeon General and on the White House National Security Staff, developing and implementing national and homeland security policy and strategy.

Dr. Caneva is board-certified in Emergency Medicine, received his medical degree from the University of Chicago, and holds a Master of Science in National Security Strategy from the National War College.

PHOTO COURTESY OF [unreadable]

IM&C

INFORMATION
MANAGEMENT &
COMMUNICATIONS
SUBGROUP



IM & C

INFORMATION MANAGEMENT & COMMUNICATIONS SUBGROUP



STATE & LOCAL CO-CHAIR

MARK HOGAN
City of Tulsa (OK)

FEDERAL CO-CHAIR

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



The mission of the Information Management and Communications (IM&C) 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 IM&C SubGroup's role is to develop a common or standardized operating picture for all the essential components of an emergency incident response. Building upon perhaps the greatest strength of the IAB, its emphasis on the practitioner, a large majority of the IM&C SubGroup's membership consists of active first responders from fire, law enforcement, emergency medical services (EMS), and emergency management agencies. These members of the first responder community work in conjunction with representatives from state and federal government and subject matter experts representing industry and academia to accomplish its goals through the quick, efficient, and beneficial exchange of information. The standards, equipment guides, and other work

products generated from the IM&C SubGroup are developed by first responders, for first responders. As a result, the unique quality of this effort is providing the information from the responder's perspective.

The IM&C SubGroup's scope includes the following practices and technologies:

- Combat gaps and challenges related to information collection, sharing, classification, categorization, storage, security, and dissemination that affect incident prevention and emergency preparedness and response.
- Develop decision support materials and interoperable communications technologies, policies, and strategies.

MEMBERSHIP

LEIF ANDERSON

Phoenix (AZ) Fire Department

DON BOWERS

Fairfax County (VA) Fire and Rescue Department

JAMES CRONKHITE

United States Northern Command

LEONARD EDLING

Merrionette Park (IL) Fire Department

JOHN FREEBURGER

Montgomery County (MD) Fire and Rescue Service

WALTER KAPLAN

United States Department of Health and Human Services, National Veterinary Response Team-2

CHRISTOPHER LOMBARD

Seattle (WA) Fire Department

VANCE MEADE

City of San Antonio (TX) Fire Department

GEORGE PERERA

Miami-Dade (FL) Police Department

CHRIS PITTMAN

Sacramento County (CA) Sheriff's Department

JEFFREY RODRIGUES

Cook County (IL) Department of Homeland Security and Emergency Management

WILLIAM SNELSON

United States Marshals Service

JOHN SULLIVAN

Los Angeles (CA) County Sheriff's Department

SUBJECT MATTER EXPERTS

JERALD DAWKINS

Oral Roberts University

TRENT DEPERZIA

Department of Homeland Security

MATT DEVOST

Georgetown University

SARAH IERLEY

Montgomery County (MD) Fire & Rescue Service

DAVID ISAACSON

National Protection and Programs Directorate, Infrastructure Protection, Emergency Services Sector

DAVID TRITCH

Ohio Task Force 1, Federal Emergency Management Agency Urban Search and Rescue

- Develop and integrate effective, interoperable communications and decision support technologies and practices to provide indications and warnings, and information/intelligence support for operations.
- Develop recommendations, strategies, and guides in the realm of cybersecurity for the efficient and secure delivery of data.
- Develop system and strategy improvements for intelligence and decision support, including collecting, administering, sharing, analyzing, and protecting information.

The primary means by which the IM&C SubGroup accomplishes its mission is by identifying needs and gaps in the responder information and communications environments, whether voice or data, in order to recommend and advocate mitigating solutions and standards. In after-action reports related to major incidents and drills throughout the nation, communications continues to be listed among the top issues requiring more work. "Interoperability" continues to be one of the most commonly used terms in the realm of emergency response, on all levels.

Federal policy makers and first responders alike benefit from a clear, reliable information flow between the two. Optimally, the communications process allows federal partners 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 the IM&C SubGroup's goal to provide yet another means to disseminate information to those outside the IAB who may not otherwise receive it.

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

The IM&C SubGroup continues to emphasize standardizing equipment and methods used for first responder communications by focusing on vital areas such as information management through standardized interfaces, skills and training of communications support personnel, cybersecurity, intelligence sharing and exchange, and common operating picture (COP).

IAB CYBER PLUGFEST 2013

The IM&C SubGroup joined with the non-profit PlugFest Consortium to conduct a Cyber Attack "PlugFest" wargame at the Fall IAB meeting in Alexandria, VA on October 29–30, 2013. The scenario involved a cyber attack on the Ports of Los Angeles and Long Beach, CA. The scenario was chosen to demonstrate the vulnerabilities of both port infrastructures and the emergency response community to cyber attacks. The PlugFest by design involves teams from academic, industry, and government entities to collaborate and design interoperable technology solutions to evolving and emerging threats.

The IAB Cyber PlugFest used real-world incidents and data to simulate attack vectors and kill chains. The scenario was developed with the support of subject matter experts, technologists, and cyber practitioners. This specific scenario involved:

- Denial of Service Attack on ships loading and unloading resulting in physical consequences: crude oil, chlorine, and Xylenol spills
- Intelligent Traffic Systems Hack compromising traffic signals to create gridlock in the hazardous material (HAZMAT) plume area from the first attack
- Emergency Alert System Hack sending "mandatory" evacuation notices, driving evacuations into the HAZMAT exclusion zone (a case of deception)
- Power System Compromise, turning off power to enhance public panic and amplify other consequences

The PlugFest challengers developed technology solutions to visualize the attacks and consequences (using standards and decision-based metrics using standards) to seek effective decision support tools. Specific goals for this event were the need to:

- Share information across systems and organizations

- Share real-time information with incident commanders and responders on scene
- Understand the impact of malicious individuals conducting coordinated cyber attacks on critical infrastructure

The scenario was supported by actual, anonymized cyber attack data (attacks directed against real targets) to provide realistic red team data and data signatures, and background. As a result, a fused, updated situational picture was provided to form a series of interactive operational dashboards (supported by PowerPoint and Excel) with alerting and simulation capabilities. Emergency management questions about the location of key events (e.g., plumes, traffic, impact on critical infrastructure) were prioritized for tactical, operational, and strategic perspectives.

Creative integration of data from multiple sources (including integrated crowd sourced sensors, public reports, weather, and traffic information) were provided to drive situational understanding and mission response planning. Inputs included bathymetry, cyber attack activity, power status, shelters, ship locations, traffic, traffic signal status, transportation infrastructure status, topography (geospatial information systems), weather, and imagery. Services developed to aid response include alerts, routing options, event management tools, course of action development tools, disaster response preparation and training, cybersecurity incident response options, and event impact analysis. Models supporting these services included fire, plume, traffic, demographic models, first responder deployment, and a cyber attack profile.

It was clear from the scenario, and the affects on the complex, interactive, critical infrastructures found in a major port complex, that cyber attackers can exploit vulnerabilities to massively disrupt a major urban region and its commerce and support infrastructures (e.g., oil, power, food) through a “keyboard.”

The IAB Cyber PlugFest 2013 enabled the IM&C SubGroup and PlugFest teams to find the right data ingredients and put them together through the PlugFest’s RI2P (Rapid Integration & Innovation Process). The IAB PlugFest Team was coordinated by Eric Westreich from the PlugFest Consortium and IM&C SubGroup member John P. Sullivan. PlugFest

Technology Team members included the Stephenson Disaster Management Institute at Louisiana State University, San Diego State University Visualization Lab, the C4I Center at George Mason University, LP3, ThreatSTOP, Software AG, Esri (ArcGIS), exactEarth, IBM, Layer 7 Technologies, Virtualagility, Geocortex, LizardTech, and simtable.com.

The IAB Cyber PlugFest 2013 provided an excellent opportunity to inform IAB members of emerging and evolving technologies and threats. Essentially, this involved investigating, testing, and educating through the collaborative use of agile verification and validation of technology and decision-makers. This knowledge can be expanded and exploited to inform science and technology (S&T) needs, standards, training, and doctrine development. The IAB is hopeful that PlugFest will become an annual event employing “plug and play” technologies and tools to understand threats, vulnerabilities, consequences, and courses of action for response to cyber threats, critical infrastructure, and emergency response capabilities.

C4ISR/Common Operational Picture/ Cybersecurity

The IM&C SubGroup acknowledges challenges raised by both IAB members and the community-at-large relative to information sharing and the development of a true COP. However, it must be noted there are two distinct dynamics in developing the COP. One challenge is resident in the technical requirements necessary for information sharing and, in many cases, technological capabilities and policy exist which reduce the technical challenge. Of greater concern are the socio-behavioral barriers to information sharing and this is where the IM&C SubGroup has chosen to focus efforts. Consequently, the group has developed a white paper that focuses on the behavioral and cultural information sharing challenges resident in the community while addressing how people and processes are instrumental in the evolutionary transition of data and information into knowledge thus contributing a vital component to the decision-making cycle. *The Information Sharing Challenges and the Common Operational Picture: Overcoming the Socio-Behavioral Paradigm and Creating a “Truly Common” Operational Picture* paper addresses these challenges at the individual, unit, and organizational level highlighting the close relationships between behaviors coupled with providing recommendations for mitigating information sharing challenges.



SAFECOM

Members of the IAB have been involved in the Department of Homeland Security's (DHS) SAFECOM Program efforts, almost since SAFECOM's beginning. The SAFECOM Program has been responsible for many significant, nation-wide efforts that have had profound, positive impacts on emergency responders, including the National Emergency Communications Plan, the development of the DHS All-Hazards Type III Communications Unit Leader and Technician courses, the SAFECOM Continuum, and more.

During FY 2014, SAFECOM went through a restructuring whereby they formed four standing committees. The committees closely follow the model for improving public safety emergency communications established by the SAFECOM Continuum, and are primarily responsible for coordinating:

- Education & Outreach Committee – This committee is responsible for managing issues and policy related to the marketing of SAFECOM's efforts, interfacing with associated user-groups, identifying trends/concerns of public safety communications needs, and more.
- Funding & Sustainment Committee – This committee is responsible for developing and maintaining guidance pertaining to helping responder communities identify and establish funding sources. They will also be one of the lead committees on the annual maintenance of DHS-OEC Annual Grant Guidance document.
- Governance Committee – This committee is responsible for managing issues and policy related to internal governance (membership, guiding documents, strategic planning, etc.), and external governance (guidance for forming state-wide, regional interoperability groups, etc.).
- Technology Policy Committee – This committee is responsible for monitoring trends, legislation, and efforts that have a direct impact on emergency responder communications. Examples of national efforts include: T-Band, P-25, FirstNet.

Each committee is chaired by a member of SAFECOM's Executive Committee and vice-chaired by a member of the larger Emergency Response Committee.

FIRSTNET – PUBLIC SAFETY ADVISORY COMMITTEE (PSAC)

The IAB has served on the FirstNet PSAC since its inception. The FirstNet PSAC is a legislatively mandated advisory group, consisting of a few emergency responder groups (police, fire, EMS, etc.) and agencies/associations representing emergency responder interests.

During FY 2014, both FirstNet and their PSAC saw considerable changes and progress toward the development of a nationwide public safety broadband network. After coming out of retirement to help launch the effort, Board Chairman Sam Guinn passed the torch to Susan Swenson. Also resigning/retiring this year was General Manager Bill D'Agostino who left his position as

an Executive Director at Verizon Wireless to address the effort. The Deputy General Manager, TJ Kennedy, currently holds an interim role as General Manager.

This past year FirstNet has been engaged in recruitment efforts, consequently, their staff of ~6 has enlarged to ~60. FirstNet has also been aggressively ramping up their State Consultation efforts—an initiative to determine what assets, resources, and needs exist throughout the U.S.

OTHER ACTIVITIES

The IM&C SubGroup has participated directly with the Federal Communications Commission (FCC) Emergency Response Interoperability Council Public Safety Advisory Committee (ERIC PSAC), the SAFECOM Emergency Response Council, and the DHS S&T First Responder Group (FRG) providing direct input, as well as reach-back capability, to the IAB and the first responder community. IM&C provided one pagers to the DHS S&T First Responders blog on the expiration of XP and narrow banding of the Emergency Services Sector (ESS) Spectrum.

STATE & LOCAL CO-CHAIR

MARK HOGAN

Chief of Security, City of Tulsa (OK)

Mark Hogan is the Chief of Security for the City of Tulsa and has 23 years of experience in critical infrastructure security and law enforcement. He is a member of the State, Local, Tribal, and Territorial Government Coordinating Council and a member of their Cyber Working Group. He chairs the Cyber Working Group for the ESS and is active in several current cyber-related issues at DHS.

Mr. Hogan has assisted in compiling and proofing handbooks used by Homeland Security for Fusion Centers and co-authored a series of best practices covering terrorism information and intelligence sharing, analysis and synthesis, and dissemination of information.

Mr. Hogan has been a reserve peace officer for 21 years, first serving in Wagoner County, Oklahoma, and currently serving as a reserve police officer in Broken Arrow, Oklahoma.

FEDERAL CO-CHAIR

MIKE TUOMINEN

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

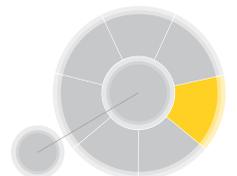
Mike Tuominen has more than 20 years of experience in incident communications, and serves at the national level as an operations specialist for all-risk incident communications involving both natural- and human-caused disasters. During such incidents, he fills the role of Communications Technician, Unit Leader, Coordinator, Duty Officer, or Technical Specialist. His duties include managing 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 is also 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 developing the all-risk Communications Unit Leader and Communications Technician courses. Past assignments include Hurricanes Katrina and Rita, 2005; technical assistance to the Republic of Ghana, 2005; Alaska, Northern California, Northern Rockies, Northwest, Southern, and Southwest Fires, 2005 through 2010; Haiti Earthquake, 2010; and North Dakota Flooding, 2010.

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S&T

SCIENCE &
TECHNOLOGY
SUBGROUP



S&T

SCIENCE & TECHNOLOGY SUBGROUP



STATE & LOCAL CO-CHAIR

DOUGLAS CARLEY

Grand Rapids (MI) Fire Department

FEDERAL CO-CHAIR

GABRIEL RAMOS

*Technical Support Working Group, Combating
Terrorism Technical Support Office*



The S&T SubGroup's mission is to identify interagency (federal, state, local, and tribal) research and development (R&D) requirements and innovative technologies (fieldable within six months to five years) for first responders that address chemical, biological, radiological, nuclear, and high-yield explosive focus areas that include but are not limited to: detection, individual protection, collective protection, medical support, decontamination, communications systems/information technology, deterrence and prevention, and security/situational awareness.

ROLES AND FUNCTIONS

The primary functions of the S&T SubGroup are to develop and update the IAB S&T first responder R&D requirements; coordinate IAB representation on federal requirements boards; record and prioritize requirements of individual SubGroups; report to SubGroups on federal requirement initiatives; and assess innovative government-developed and industry-developed technologies. The S&T SubGroup also identifies future technology needs for detection, individual protection, collective protection, medical support, decontamination, communications systems, information technology, and operational equipment.

ACCOMPLISHMENTS

During FY14, the S&T SubGroup accomplished the following:

- Followed-up on detailed review and prioritization of S&T needs and projects (with designated SubGroup Chairs serving as mission area leaders).
- Worked with Program Office to finalize the development of a new IAB First Responder R&D Priority Survey. Conducted two pilot surveys and numerous conference calls to adjudicate feedback.
- Administered a new web-based survey to prioritize R&D requirements from SubGroups.
- Coordinated an effort to research the use of social media resources in the IAB and

MEMBERSHIP

CRAIG ADAMS

Los Angeles (CA) Police Department

KENNETH BRENNAN

Federal Bureau of Investigation, Technical Hazards Response Unit

BRYAN COOKE

Fairfax County (VA) Police Department, Bomb Squad

WILLIAM DESO

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

VINCENT DOHERTY

Long Island University

JOHN DONNELLY, SR.

District of Columbia Fire and Emergency Medical Services

CHRISTINA EGAN

New York State Department of Public Health, Wadsworth Center

ANGELA ERVIN

Department of Homeland Security, Science & Technology Directorate

GERARD FONTANA

Boston (MA) Fire Department

DAVID LADD

Massachusetts Department of Fire Services

ADAM MILLER

Huntingdon County (PA) Emergency Management Agency

DANIEL MURRAY

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

DONALD OSTROWSKI

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DAVID TAFAOA

South Carolina Law Enforcement Division

SUBJECT MATTER EXPERTS

DONALD DENNING

Town of Shirley (MA)

RON SHAFFER

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

NANCY SUSKI

Lawrence Livermore National Laboratory

MALCOLM PEATTIE

UK Home Office, Centre for Applied Science and Technology

MIKE WITTEVEEN

Grand Rapids (MI) Fire Department



implement working tools (LinkedIn and Twitter) to exponentially increase the outreach and communications capability of the IAB.

- Conducted a statistical analysis of the new IAB R&D requirements survey results and delivered 2014 Research & Development Priority List for official publication.
- Coordinated input into federal R&D agencies to leverage IAB-prioritized requirements.
- Participated in First Responder of the Future Working Group conference calls and meetings.
- Continued updating the S&T Database on SharePoint.
- Provided commentary/input to BioWatch documents.
- Attended the following events:
 - » 2014 Biosurveillance Symposium
 - » 2014 Biodetection Technologies Conference
 - » Jack Rabbit II Experiment Planning Session (Department of Homeland Security/Chemical Security Analysis Center)
 - » National Homeland Security Conference

FY 2014 INITIATIVES

The S&T SubGroup has established a formal process to collect and prioritize IAB R&D requirements. This work continued in 2014 and involved 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 has worked with the IAB Program Staff to revise and update the requirements survey process to improve efficiency, data collection, and analysis of results. A new and highly effective survey process was implemented in 2014 as a result of development and piloting across the IAB leadership.

The SubGroup will: invite industry representatives and federal R&D labs/centers to deliver focused S&T briefings to the SubGroup; prepare S&T technical summaries of new and emerging technologies that will be published by the S&T SubGroup on the R&D Database; and coordinate visits to industry R&D facilities and federal R&D labs/centers.

The S&T SubGroup will continue work to support a demographic database and analysis of the IAB membership. New demographic data was gathered in 2014. The S&T SubGroup will also continue to

participate and contribute to the First Responder of the Future meetings/initiatives conducted by the IAB.

IDENTIFIED REQUIREMENTS (2014)

The following prioritized R&D requirements were identified by the SubGroups in 2014 as capability gaps that should receive special consideration as R&D initiatives.

2014 IAB R&D Priority List*

1. ENHANCE COMMUNICATIONS IN HOSTILE ENVIRONMENTS
2. 3-D TRACKING OF PERSONNEL
3. HANDHELD STANDOFF CHEMICAL AND EXPLOSIVE IDENTIFIER
4. HANDS-FREE RADIO INTERCOM
5. NOISE-FILTERING DIGITAL SPEAKER/MICROPHONE FOR SCBA FACEPIECE
6. VEHICLE-BORNE IMPROVISED EXPLOSIVE DEVICE (VBIED) RENDER SAFE TOOL
7. HANDHELD FIELD DEPLOYED BIOLOGICAL DETECTION
8. IMPLEMENTATION OF UNMANNED AERIAL VEHICLES (UAVS)
9. IMPLEMENTATION OF PROTECTIVE BALLISTIC GEAR FOR FIRE AND MEDICAL RESPONDERS
10. SAMPLING KIT FOR CLOTHING/EQUIPMENT CONTAMINATION IDENTIFICATION
11. DEVELOP MODEL PROCEDURES AND/OR LESSONS LEARNED FROM FIRST RESPONDERS TO ATYPICAL EMERGENCIES
12. FIELD DETECTION/ANALYSIS DEVICES FOR FIRE VAPORS GASES AND PARTICULATES IN POST-FIRE OPERATIONS AND INVESTIGATIONS
13. DEVICE FOR STANDOFF CASUALTY TRIAGE
14. VIRTUAL REALITY TRAINING SIMULATION
15. FEMALE BALLISTIC-RESISTANT BODY ARMOR RESEARCH AND TESTING
16. WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSOR PLATFORM THAT TRANSMITS DATA THROUGH INTEGRATED WIRELESS OR ANY EXISTING COMMUNICATION SYSTEM
17. PROACTIVE TRAINING RESOURCE (PTR) INITIATIVE
18. IMPROVED FILTERING FACEPIECE RESPIRATOR (FFR)
19. SENSOR HUB TO INTEGRATE PERSONAL AREA NETWORKS (PAN) DEVICES WITH LAND MOBILE RADIOS (LMR) AND OTHER NETWORKS
20. PROTECTIVE SHIELDS RESEARCH AND TESTING
21. EQUIPMENT/SUPPLY GUIDE FOR RELOCATING SPECIAL NEEDS EVACUEES



PHOTO COURTESY OF WEST COUNTY (MD) EMS AND FIRE PROTECTION DISTRICT

22. IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE
23. GUIDE FOR STRESS MANAGEMENT AFTER INCIDENTS
24. SMART RESPONSE VEHICLES
25. MODELING SIMULATOR & SIMULATOR SOFTWARE EVALUATION TOOL
26. EMERGENCY RESPONDER BODY WORN INTEGRATED ELECTRONICS SYSTEM

*SEE APPENDIX FOR A DETAILED DESCRIPTION OF EACH PRIORITY.

2014 IAB RESEARCH AND DEVELOPMENT PRIORITIES: BREAKDOWN BY SUBGROUP

Equipment SubGroup (ESG)

1. HANDHELD STANDOFF CHEMICAL AND EXPLOSIVE IDENTIFIER
2. VEHICLE-BORNE IMPROVISED EXPLOSIVE DEVICE (VBIED) RENDER SAFE TOOL
3. SAMPLING KIT FOR CLOTHING/EQUIPMENT CONTAMINATION IDENTIFICATION
4. FIELD DETECTION/ANALYSIS DEVICES FOR FIRE VAPORS GASES AND PARTICULATES IN POST-FIRE OPERATIONS AND INVESTIGATIONS
5. WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSOR PLATFORM THAT TRANSMITS DATA THROUGH INTEGRATED WIRELESS OR ANY EXISTING COMMUNICATION SYSTEM
6. IMPROVED FILTERING FACEPIECE RESPIRATOR (FFR)
7. SENSOR HUB TO INTEGRATE PERSONAL AREA NETWORKS (PAN) DEVICES WITH LAND MOBILE RADIOS (LMR) AND OTHER NETWORKS
8. IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE

Health, Medical, & Responder Safety (HMRS) SubGroup

1. DEVICE FOR STANDOFF CASUALTY TRIAGE
2. EQUIPMENT/SUPPLY GUIDE FOR RELOCATING SPECIAL NEEDS EVACUEES
3. GUIDE FOR STRESS MANAGEMENT AFTER INCIDENTS
4. EMERGENCY RESPONDER BODY WORN INTEGRATED ELECTRONICS SYSTEM

Information Management & Communications (IM&C) SubGroup

1. ENHANCE COMMUNICATIONS IN HOSTILE ENVIRONMENTS
2. 3-D TRACKING OF PERSONNEL
3. HANDS-FREE RADIO INTERCOM
4. NOISE-FILTERING DIGITAL SPEAKER/MICROPHONE FOR SCBA FACEPIECE

Science & Technology (S&T) SubGroup

1. DEVELOP MODEL PROCEDURES AND/OR LESSONS LEARNED FROM FIRST RESPONDERS TO ATYPICAL EMERGENCIES
2. VIRTUAL REALITY TRAINING SIMULATION
3. SMART RESPONSE VEHICLES

Standards Coordination SubGroup (SCSG)

1. FEMALE BALLISTIC-RESISTANT BODY ARMOR RESEARCH AND TESTING
2. PROTECTIVE SHIELDS RESEARCH AND TESTING

Strategic Planning SubGroup (SPSG)

1. HANDHELD FIELD DEPLOYED BIOLOGICAL DETECTION
2. IMPLEMENTATION OF UNMANNED AERIAL VEHICLES (UAVS)
3. IMPLEMENTATION OF PROTECTIVE BALLISTIC GEAR FOR FIRE AND MEDICAL RESPONDERS

Training & Exercises (T&E) SubGroup

1. PROACTIVE TRAINING RESOURCE (PTR) INITIATIVE
2. MODELING, SIMULATION & SIMULATOR SOFTWARE EVALUATION TOOL

STATE & LOCAL CO-CHAIR

DOUGLAS CARLEY

Lieutenant, Grand Rapids (MI) Fire Department

Doug Carley is a Fire Lieutenant with the Grand Rapids (MI) Fire Department. He joined the Fire Department in August 1985 and is currently assigned to Ladder Company #2. Prior to working with the Fire Service he spent four years as a Hull Maintenance Tech in the U.S. Navy serving on the aircraft carrier USS Carl Vinson. In 1987, he was assigned as Radiological Officer for the City of Grand Rapids. In 1987, he was certified as a HAZMAT Technician and in 1993 certified as a HAZMAT Specialist. He served on the Grand Rapids HAZMAT Team from 1994–2009. He has served on a variety of local and state Homeland Security boards helping to provide direction and expertise on HAZMAT-related issues. He also served as a Team Leader for one of Michigan's Regional Response Teams and as the equipment chair for all the state's Regional Response Teams. Mr. Carley has been a member of the IAB since 2007.

FEDERAL CO-CHAIR

GABRIEL RAMOS

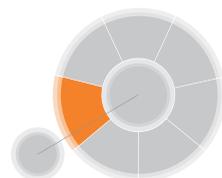
Deputy Director, Technology Division
Combating Terrorism Technical
Support Office, Technical Support
Working Group

Gabriel Ramos is the Deputy Director of the Technology Division Directorate of the Combating Terrorism Technical Support Office, providing management and technical oversight for the execution of the Technical Support Working Group rapid R&D program. He has 28 years of experience developing and evaluating Combating Terrorism capabilities for the Department of Defense and the federal interagency community. Mr. Ramos has a B.S. in Chemical Engineering from the Polytechnic University, Brooklyn, N.Y. and is also a graduate of the U.S. Army School of Engineering Logistics Product/Production Engineering Program. Mr. Ramos has served as the IAB federal co-chair of the S&T SubGroup since February 2003.

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SCSG

STANDARDS
COORDINATION
SUBGROUP



SCSG

STANDARDS COORDINATION SUBGROUP



STATE & LOCAL CO-CHAIR

MARTIN HUTCHINGS

*Sacramento County (CA) Sheriff's Department,
National Bomb Squad Commanders Advisory Board*

FEDERAL CO-CHAIR

CASANDRA W. ROBINSON

*Standards Coordination Office, National Institute of
Standards and Technology*



The mission of the SCSG is to identify and coordinate standards development needs and activities within the IAB, with external organizations, and with the emergency responder community. The objective is to promote local, tribal, state, and federal preparedness by developing and implementing standards for emergency responder needs associated with all-hazards incidents, especially those involving chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) events.

ROLES AND FUNCTIONS

The SCSG supports and coordinates the IAB's efforts to identify and address standards requirements within the emergency responder community. The IAB SubGroups identify standards to be developed or revised. The SCSG assists with the following:

- Participating in standards development and revision processes.
- Identifying existing standards, performance requirements, and test methods that could streamline the development of new standards or be modified to meet the needs of emergency responders.
- Identifying and prioritizing standards requirements and related interoperability and compatibility issues.
- Catalyzing the development of IAB priority standards by private-sector standards development organizations.
- Identifying and informing emergency responders about relevant standards activities, comment periods, and programs.
- Tracking and reviewing the progress of standards activities of interest to the IAB and serving as a feedback loop to the IAB to ensure collaboration and prevent duplication of efforts.
- Recommending and promoting the use of standards and conformity assessment requirements.



MEMBERSHIP

CRIS CALDWELL

California Department of Corrections and Rehabilitation, Office of Correctional Safety, Emergency Operations Unit

CHARLES CORDOVA

Seattle (WA) Fire Department

MATTHEW DUGGAN

Boca Raton (FL) Police Services Department

ALIM FATAH

National Institute of Standards and Technology

JEFF FINN

Fairfax County (VA) Police Department, SWAT

KAREN HOUSE

Joint Project Manager Guardian

LISA LYON

U.S. Army, Maneuver Support Center

THOMAS NOLAN

Upper Merion Township (PA) Police Department

TIM REHAK

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

GREG SACKMAN

Seattle (WA) Police Department

MARK STOLOROW

National Institute of Standards and Technology, Law Enforcement Standards Office

JONATHAN SZALAJDA

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

BRIAN WASHBURN

Santa Clara County (CA) Sheriff's Office

SUBJECT MATTER EXPERTS

JASON ALLEN

Intertek Testing Services Cortland

GREGORY CADE

National Fire Protection Association

STEVEN CORRADO

Underwriters Laboratories

MICHELLE DEANE

American National Standards Institute

PAT GLEASON

Safety Equipment Institute

PATRICIA KNUDSON

Phoenix (AZ) Police Department

DANIEL KOWALSKI

Cincinnati (OH) Police Department

RICK LAKE

American Society of Testing and Materials International

MATT MCLAUGHLIN

U.S. Army Training and Doctrine Command

DAVID OTTERSON

National Law Enforcement and Corrections Technology Center - National

NICHOLAS ROBERTS

Unified Police Department of Greater Salt Lake (UT)

DANIEL SHIPP

International Safety Equipment Association

MARCIE WACKER

The International Association of Women Police

- Drafting and disseminating studies, white papers, and other reports on standards, interoperability issues, and compatibility issues.
- Identifying potential conflicting requirements and facilitating reconciliation of the issues.

MEMBERSHIP

The SCSG includes representatives from federal, state, and local agencies, as well as subject matter experts (SMEs) from private standards development, certification, and testing organizations.

PARTNERSHIPS

The success of the IAB's standards efforts rely on its partnerships with regulatory agencies, federal agencies funding standards development, standards development organizations, and the responder community. 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 members and SMEs represent many federal and private agencies (see membership list) and have working relationships with many others, such as the following:

- Department of Homeland Security (DHS) System Assessment and Validation for Emergency Responders (SAVER) Program
- International Association of Chiefs of Police
- International Association of Fire Chiefs
- International Association of Women Police
- National Sheriffs Association

FY 2014 ACCOMPLISHMENTS

During FY14, the SCSG accomplished the following:

- Supported and coordinated the IAB's efforts to identify and prioritize standards development requirements derived from the responder community.
- Successfully piloted a process for catalyzing the development of IAB priority standards and initiated work on six of the eight FY13 priorities.
- Assisted the ESG with the Standardized Equipment List (SEL) item content and divided the IAB-recognized standards list into categories to feed the list.
- Completed FACC-identified work plan items to develop procurement guidance, needs and

requirements documents for helmets, and needs and requirements documents for shields.

- Continued current initiatives to support development of standards relevant to the responder community.

IAB STANDARDS DEVELOPMENT PRIORITIES

In FY14, 11 requirements for new standards were identified and prioritized by the IAB membership via a survey. The survey responses were statistically analyzed, and a prioritized list was developed and vetted by the membership to establish the IAB Standards Development Priorities List. This list is published on the IAB website at www.iab.gov.

FY14 IAB STANDARDS DEVELOPMENT PRIORITIES

Tier 1

- Product standard for personal protective equipment for emergency medical services providers
- Standard test methods for body armor designed for females
- Standard test method for mask fit machines

Tier 2

- Standard test methods for localization and tracking systems
- Product standard for body worn video cameras used by public safety practitioners
- Product standard for duty gloves worn by responders in a law enforcement and corrections role
- Standard test methods for robot operator evaluations "Standard test methods in a box"

Tier 3

- Product standard for conducted energy devices (less lethal)
- Product standard for chemical munitions (less lethal)
- Product standard for impact munitions (less lethal) fired from a launching system
- Product standard for distraction devices (e.g., flash bangs)

Additionally, the SCSG maintains a list of standards that have been recognized or referenced by the IAB.

STATUS OF FY13 PRIORITY STANDARDS

The SCSG worked with the American National Standards Institute's (ANSI) Homeland Defense and Security Standards Coordination Collaborative to engage federal agencies and Standards Developing Organizations (SDOs) in addressing the eight FY13 priority standards, and a status for each priority is provided below:

- The Fire Protection Research Foundation initiated a project to look into the feasibility of adding blast overpressure and chemical-biological protection to the Standard for Public Safety Bomb Suits, NIJ Standard-0117.00.
- ASTM International is forming a task group composed of IAB members to develop a standardized equipment training program format to provide manufacturers and vendors with guidance for developing training courses, instructions, and materials for end users.
- ASTM International has begun development of a performance standard for protective helmets that will include performance requirements and test methods. This standard is based on officer needs and requirements documented in the IAB publication, United States Criminal Justice Officer Needs and Requirements for Protective Helmets, April 2014.
- ASTM International has begun development of a standard test method for ballistic performance of protective shields. Additional requirements for shields were captured by the SCSG in the report, Protective Shields Standards: Addressing the Needs and Requirements of United States Public Safety Officers. The SCSG will coordinate work with appropriate SDOs to address those requirements.
- ASTM International is planning to address the need for standardized methods for assessing robot operator capabilities. They have a suite of robot test methods describing test environments and specific procedures for assessing robot capabilities, and a subset of those test methods has been identified that responders will perform, and data will be collected. This information will be used to develop a standardized operator assessment methodology.
- Engagement with stakeholders, including bomb technicians, federal agencies, and SDOs, in a discussion about the requirement for an explosive containment vessel standard led to the conclusion that the small market and limited number of products available precludes development of a standard. The DHS SAVER program published selection and procurement guidance for explosive containment vessels, and the SCSG believes that this guidance sufficiently meets this need.
- Underwriters Laboratories (UL) and the National Fire Protection Association (NFPA) are working together to address tactical operation video cameras. The UL is developing the performance standard, and NFPA is developing a selection, care, and maintenance guide.
- The need for a standardized test method to assess the performance of respirator fit test equipment is not yet being addressed, and the SCSG will keep this as a priority that needs attention.

IAB-ADOPTED STANDARDS LISTING

The IAB adopted Standards List located at the end of the SEL includes standards officially adopted by the IAB. The IAB initially began to adopt and list standards as a resource for the responder community. IAB members with relevant expertise and knowledge reviewed each standard and recommended that they be adopted and listed by the IAB. The list of standards continues to be relevant to the SEL and is maintained by the SCSG.

What does IAB adopted mean:

IAB adopted is a designation for a standard that is part of the definition of a SEL item and that means one or more of the following:

- The standard is applicable to the responder community.
- The standard is used and deemed to be of value and fit-for-purpose by the responder community and industry.
- The standard may be a useful resource for procurement officials.
- The standard was developed following the principles of openness, balance, consensus and due process.

Annual Review:

- The SCSG annually reviews and updates the IAB Adopted Standards List to ensure all listed standards are the most current version.
- As a part of the annual review, the SCSG determines whether any standards are out of date, withdrawn, or no longer relevant. Those identified as such, are submitted to the ESG with a recommendation to remove them from the IAB Adopted Standards List. Once approved for removal, they are withdrawn from the Adopted Standards List.
- If any standards are determined to be in questionable condition, those standards are identified, and the issues are described. The SCSG submits the standard and description of issues to the ESG for consideration and to assess the impact to the SEL. The SCSG and ESG, in collaboration, determine a path forward.

SCSG-LED DEVELOPMENT OF IAB PUBLICATIONS

The SCSG undertook development of two publications requested by the FACC, and each of the publications, available on the IAB website, are described below:

- *United States Criminal Justice Officer Needs and Requirements for Protective Helmets*, April 2014. In FY13, the IAB identified the need for a new standard to define performance requirements and test methods for protective helmets worn by United States law enforcement and corrections officers, including protection against bullet threats and blunt trauma. In FY14, a team of officers and SMEs developed this document and provided it to ASTM International to use as the starting point to develop the standard.

- *Protective Shields Standards: Addressing the Needs and Requirements of United States Public Safety Officers*, October 2014. In FY13, the IAB identified the need for a protective shields standard to address ballistic threats and fragments/shrapnel from explosions. Tactical officers, bomb technicians, fire fighters, patrol officers, and corrections officers purchase and carry hand-held shields to be used in the course of their duties. Many manufacturers claim that these shields are capable of protecting against specific firearm rounds, blunt impacts, and fragments, but there currently is no U.S. standard by which to demonstrate shield performance. In FY14, a team of officers developed this document and will provide it to relevant standards development organizations to use as a starting point for development of one or more standards.

CURRENT INITIATIVES

SCSG members and SMEs contribute to numerous standard development efforts supporting the responder community. The following are standards activities to which the SCSG is currently contributing:

- **ASTM International E54 Committee on Homeland Security Applications:** This committee addresses issues related to standards and guidance materials for homeland security applications with specific focus on infrastructure protection, PPE, decontamination, security controls, threat and vulnerability assessment, and CBRNE sensors and detectors. The committee has approximately 450 members, has published 119 standards, and is currently developing many new standards. Many SCSG representatives are also members of this ASTM committee and are working on standards for body armor, protective shields, protective helmets, response robots, and equipment training programs.
- **ASTM International F23 Committee on Protective Clothing and Equipment:** This committee develops standard specifications, test methods, practices, guides, terminology, and classifications for protective clothing and PPE designed and constructed to protect the user from potential occupational hazards and/or provide a barrier to prevent the user from being exposed to a source of contamination. The committee has approximately 260 members and has various technical subcommittees that maintain jurisdiction over 44 published standards. These standards play a preeminent role in the protective clothing industry and address issues relating to human factors and physical, chemical, biological,

flame, thermal, ballistic and radiological hazards. The F23 Committee has also established a subcommittee to address the issues associated with the interoperability of personal protective equipment.

- NFPA Technical Committees: SCSG members participate on many NFPA committees, each of which addresses a specific responder need, including Respiratory Protection; Electrical Safety Equipment; Wildland Firefighting; Urban Search and Rescue; Structural and Proximity Fire Fighting; PPE; Hazardous Materials, Protective Clothing, and Equipment; Flash Fire Protective Garments; Emergency Medical Services, Protective Clothing, and Equipment; and Hazardous Materials Response Personnel. The SCSG has requested that NFPA consider developing new standards in response to requests from other IAB Committees.
- NIJ: SCSG members are participating in current initiatives by NIJ to revise their standards for ballistic-resistant and stab-resistant body armor, bomb suits, and CBRN protective ensembles, and this participation helps to ensure coordination between NIJ and the efforts of other standards development organizations. Additionally, NIJ has begun the process of moving select standards to appropriate private-sector SDOs.
- NPPTL: The National Personal Protective Technology Laboratory (NPPTL) was created as the division of the NIOSH charged with the mission of preventing disease, injury, and death for the millions of working men and women relying on PPE. The NPPTL addresses the following:
 - » The CBRN protection requirements for the NIOSH respirator approval process and national protective clothing standards
 - » Pandemic influenza preparedness and the equipment necessary to sustain operations in the event of an outbreak
 - » Nanotechnology and the effectiveness of equipment against nanoparticles as a program emphasis
 - » Mine emergencies and effective equipment for all mine workers
- International Organization for Standardization (ISO) Technical Committees: The SCSG has representation on ISO Technical Committees that develop international standards specifying requirements to ensure that certification bodies operate certification programs in a competent, consistent and impartial manner, thereby facilitating the acceptance of certified products. These ISO standards can be used as criteria documents for accreditation or designation by governmental authorities and others.
 - » ISO/IEC 17026, Conformity assessment– Model scheme for certification of manufactured products
 - » ISO/IEC 17065, Conformity assessment– Requirements for bodies certifying products, processes, and services
 - » ISO/IEC 17067, Conformity assessment– Fundamentals of product certification and guidelines for product certification schemes
- International Safety Equipment Association (ISEA): ISEA is the association for PPE, technologies, and systems that enable people to conduct work in hazardous environments, including equipment for head, eye and face, respiratory, hearing, hand and fall protection; high visibility apparel and headwear; environmental monitoring instruments; emergency eyewash and shower equipment; first aid kits and protective apparel. As an ANSI-accredited standards developing organization, ISEA is secretariat for 13 PPE product standards and in 2014 published a new American National Standard for PPE conformity assessment.

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.



STATE & LOCAL CO-CHAIR

MARTIN HUTCHINGS

Reserve Deputy Sheriff, Sacramento County (CA) Sheriff's Department, National Bomb Squad Commanders Advisory Board

Martin Hutchings retired after 29 years as a Sergeant with the Sacramento County (CA) Sheriff's Department and continues to represent the Sheriff's Department on the IAB as a Reserve Deputy Sheriff. Mr. Hutchings 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. Hutchings 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 five years, since retirement, he has worked part-time as an Explosive/Bomb Technician SME in support of the National Institute of Standards and Technology (NIST), Law Enforcement Standards Office. Mr. Hutchings has worked on many committees to support bomb squads including: the NIJ Law Enforcement PPE and the Bomb Technician Bomb Suit Standard Committees; National Accreditation, and Certification Committee for U.S. Bomb Squads; DHS, Science & Technology Domestic Improvised Explosive Device Subcommittee; and the DHS Explosive Standards Working Group.

FEDERAL CO-CHAIR

CASANDRA W. ROBINSON

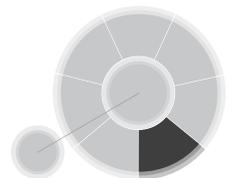
Physical Scientist, Standards Coordination Office, National Institute of Standards and Technology

Casandra Robinson is a physical scientist in the NIST Standards Coordination Office. She is responsible for leading the development of documentary standards and standards-related policy activities and coordinating with NIST technical units, other federal agencies, industry, and other stakeholders in the development of standards/conformity assessment needs and requirements. She serves on the ASTM International, E54 Committee on Homeland Security Applications as the Vice Chair for E54.04, Personal Protective Equipment Subcommittee. Prior to joining NIST, she was a program manager with the Department of Energy's Savannah River National Laboratory. For the previous five years, she served as the standards and conformity assessment lead for the NIJ's Standards and Testing Program and supported development of performance standards for public safety equipment. She has a Bachelor of Science in Electrical Engineering from Clemson University and a Master of Science in Industrial and Systems Engineering from the University of Alabama.

PHOTO COURTESY OF ARLINGTON COUNTY (VA) FIRE DEPARTMENT

SPSG

STRATEGIC
PLANNING
SUBGROUP





SPSG

STRATEGIC PLANNING SUBGROUP



STATE & LOCAL CO-CHAIR

JEFF DULIN

Charlotte (NC) Fire Department

FEDERAL CO-CHAIR

RAY MOLLERS

*Emergency Medical Services (EMS) Program
Manager, Office of Health Affairs, Department of
Homeland Security*

The mission of the Strategic Planning SubGroup (SPSG) is to identify, monitor, evaluate, and coordinate IAB feedback on strategic national plans, programs, and policy/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/multidisciplinary response to major incidents.
- Develop and maintain a prioritized list of organizations and initiatives of interest/influence to the IAB, and develop an engagement plan.
- 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 IAB Leadership Team.



MEMBERSHIP

MICHAEL BIASOTTI

New Windsor (NY) Police Department

AMY DONAHUE

University of Connecticut

CHERYL GAUTHIER

*Massachusetts Department of Public Health,
Bioterrorism Response Laboratory*

JOHN GIBB

Salem (NY) Volunteer Fire Department

ROBERT INGRAM

Fire Department, City of New York (FDNY)

JOHN KOERNER

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Las Vegas (NV) Office of Emergency Management

DAVID MCBATH

New York State Police

J. CLAY MCGUYER

National Guard Bureau, U.S. Army CRBN School

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*Metro Transit Police Department, National Bomb
Squad Commanders Advisory Board*

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Fire Department, City of New York (FDNY)

LAURIE HOLIEN

Oregon Office of Emergency Management

ARTURO MENDEZ

*New York City (NY) Police Department,
Counterterrorism Bureau*

ROBERT TUOHY

Homeland Security Studies and Analysis Institute

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.
- Evaluate and develop opportunities for enhanced IAB participation with international and private emergency response stakeholders.
- Participated in the DHS stakeholder engagement meeting on First Responder Management of Improvised Explosive Devices and Mass Shooting Incidents.
- Provided representatives to a Full Scale Active Shooter Exercise held in London, UK.
- Developed IAB white paper on the National Protection and Programs Directorate, Infrastructure Protection (IP) Standard Information Needs for future IP projects.
- Reviewed and provided input on the new National Infrastructure Protection Plan (NIPP).
- Established a relationship with IP Emergency Services Sector (ESS) on conceptualization and development of a suite of tools and methods for measuring and assessing ESS resilience.

FY 2014 PROJECTS AND ACCOMPLISHMENTS

- Provided recommendations to the Federal Emergency Management Agency (FEMA) Response Directorate, CBRNE Branch on the FEMA RadResponder Tool and the FEMA 72 Hr. Improvised Nuclear Device Playbook.
- Participated in Project Responder 4, a Department of Homeland Security (DHS) Science and Technology SubGroup initiative to identify emergency responder Enduring & Emerging Capability Needs by providing recommendations and feedback to the project.
- Developed an IAB Outreach Strategy Plan for enhanced coordination and marketing of the IAB.
- Participated on the DHS Office of Infrastructure Protection, Emergency Services Coordinating Council.
- Developed a white paper about the IAB's view regarding the *Top Homeland Security Issues* for the near future.



STATE & LOCAL CO-CHAIR

JEFF DULIN

**Deputy Fire Chief, Charlotte (NC)
Fire Department**

Jeff Dulin joined the Charlotte Fire Department in 1983 and has held the rank of Deputy Chief since 2001. He currently oversees the Training Division, Communications Center, Emergency Medical Services (EMS) Liaison, Special Operations and the Emergency Management/Homeland Security Division for Charlotte and Mecklenburg County. Deputy Chief Dulin serves as the point of contact for the Charlotte Urban Area Security Initiative. He has deployed to federal disasters as an Incident Management Team member including a four-week deployment to Gulfport, Mississippi following Hurricane Katrina, where he worked in the Emergency Operations Center. Deputy Chief Dulin's educational background includes an associate's degree in Fire Science from Central Piedmont Community College, a bachelor's degree in Fire Administration from the University of Maryland, and a master's in Homeland Security from the Naval Postgraduate School. He has taught Incident Command Systems for over 29 years and is certified in all Incident Management Team positions. For the last seven years, he has worked with the United Kingdom's Chief Fire Officers Association in developing the UK National Disaster Response Program. One of Deputy Chief Dulin's initiatives in Charlotte and the State of North Carolina centers on the need for information sharing systems needed for common operating pictures among agencies. He most recently served on the 2012 Democratic National Committee's Executive Steering Committee and was the Deputy Operations Chief for the entire event.

FEDERAL CO-CHAIR

RAY MOLLERS

**Emergency Medical Services
Program Manager, Office of Health
Affairs, Department of Homeland
Security**

Ray Mollers is an EMS Program Manager for the DHS, Office of Health Affairs (OHA), Workforce Health and Medical Support Division, Medical First Responder Coordination Branch. In his role he is responsible for projects such as developing a Model Interstate Compact for EMS Personnel Licensure Portability, addressing EMS Domestic Preparedness Gaps, and coordinating with the Federal Interagency, State and Local Officials, and Non-Governmental Organizations on EMS issues. Before joining OHA, Mr. Mollers served as a Senior Security Specialist for the DHS Office of IP, Emergency Services Branch, where he was responsible for developing, managing, and coordinating all federal activities related to implementing protective and resiliency program strategies for ensuring the security of Emergency Services Sector critical elements as required in the NIPP. In addition, Mr. Mollers has served as a Senior Military Analyst for DHS IP, Homeland Security Infrastructure Threat and Risk Analysis, Critical Infrastructure Red Team and also as a Medical Advisor for the U.S. Coast Guard's Counter Terrorism (CT) program. Mr. Mollers holds a Health Science degree from Campbell University; he has Health Administration, Masters in Science education with Central Michigan University, and is a Retired U.S. Army Special Forces Medic/Nationally Registered Emergency Medical Technician Paramedic.

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T&E

TRAINING
& EXERCISES
SUBGROUP

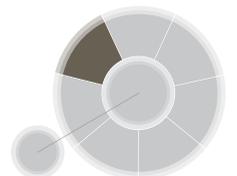


PHOTO COURTESY OF MONTGOMERY COUNTY (MD) FIRE AND RESCUE SERVICE

T&E

TRAINING & EXERCISES SUBGROUP



STATE & LOCAL CO-CHAIR

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

FEDERAL CO-CHAIR

CAROL MINTZ
*Department of Homeland Security, Federal
Emergency Management Agency, National Training
and Education Division*

The mission of the Training and Exercises (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 specifically for the responder community.



ROLES AND FUNCTIONS

- Serve as an advocate for the emergency preparedness community to identify performance improvement needs or requirements related to Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) Emergency Support Functions that could be addressed through the application and use of T&E initiatives.
- Provide subject matter expertise to support the development of T&E programs.
- Advocate for standardized national guidance for responder and equipment T&E programs.
- Collaborate with stakeholders to provide end-user guidance and operational lessons learned to support T&E program development and improvements.
- Facilitate implementing T&E programs and standards that support developing and assessing individual competencies and organizational capabilities.

MEMBERSHIP

The T&E SubGroup consists of representatives from local, state, and federal responder agencies and institutions engaged in responder T&E development and delivery. A goal of the SubGroup is to engage all of the response disciplines, as defined by the DHS FEMA National Preparedness Directorate. The T&E SubGroup also draws upon a wide range of Subject Matter Experts (SMEs), both within and outside the IAB.

MEMBERSHIP

ARMANDO BEVELACQUA

Valencia Community College

RICHARD BROOKS

Cecil County (MD) Department of Emergency Services

EDWARD DADOSKY

Cincinnati (OH) Fire Department

TRACY FRAZZANO

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Harrisburg (PA) Area Community College

JEROME POPIEL

U.S. Coast Guard, 9th District

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Delaware Emergency Management Agency

CYNTHIA VANNER

Rhode Island Department of Health, Bioterrorism Response and Special Pathogens Laboratory

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

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CTK Consulting

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Department of Homeland Security, Domestic Nuclear Detection Office

PAM L'HEUREUX

York County (ME) Emergency Management

JOEL LESON

International Association of Chiefs of Police

TONY MUSSORFITI

Fire Department, City of New York (FDNY) (Retired)

JAMES REMINGTON

National Institute of Health, National Institute of Environment Health Services

EUGENE RYAN

Cook County (IL) Department of Homeland Security & Emergency Management



INITIATIVES AND PROGRESS

The IAB membership and federal partners recognize that, in addition to the core mission of recommending appropriate responder equipment and technical performance standards for equipment, a crucial need exists for 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 workplace and mission performance/safety.

The following initiatives were addressed by the T&E SubGroup in FY 2014:

- Provided input to the National Fire Academy on developing training and lessons learned support materials related to the Operation Jack Rabbit catastrophic release project in support of the Transportation Safety Administration and the Technical Support Working Group (TSWG).
- Provided technical review and assistance to U.S. Department of Homeland Security, Science & Technology on the development and beta testing of the First Responder Simulation Project.
- Advocated the development of a recommended practice for equipment training, which was a key element of the best practices white paper previously developed in cooperation with the ESG. The SCSG included this item in the annual standards survey and the project is now being undertaken by the American Society for Testing and Materials for developing a consensus standard. The best practice document will provide guidelines for evaluating manufacturer- and vendor-provided training to ensure that it effectively meets user needs, and is intended to assist purchasers in becoming educated consumers of manufacturer- and vendor-provided training for equipment acquired from the Approved Equipment List/Standardized Equipment List (SEL). The white paper is available on both the IAB website (www.iab.gov), and the Lessons Learned Information Sharing (LLIS)-Responder Knowledge Base.
- Continued development of a web-based tool to assist response organizations in selecting models, simulations, and simulators. The tool also offers the purchaser a list of questions to ask potential vendors, applicable to the selected technology, to assist the purchasing agency in determining whether a particular product meets its training and operational requirements. This e-tool is available on the IAB website (www.iab.gov) in the IAB documents section.
- Categorized and updated training requirements for equipment included in the SEL 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 development and sustainment.
- For each SEL item, maintained, and updated the 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 Hazardous Material technician
 - ◆ Specialized personal protective clothing and personal protective equipment (PPE) employed by Special Weapons and Tactics officers, Explosive Ordnance Disposal teams, or Crime Scene Technicians.
 - » **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).
- Provided input to the SCSG on developing, adopting, and implementing appropriate and relevant training standards.
- Provided input to the National Guard Bureau, Combating Weapons of Mass Destruction and

the Training and Education Joint Staff Directorate. Provided SME guidance on enhancing civilian public safety participation and support in National Guard exercises for increased interoperability and building working relationships.

- Continued outreach to the emergency response community, including participation in the FEMA National Training Conference.

ONGOING COMMITMENTS

- Continue to be a national, interdisciplinary sounding board for T&E needs, doctrines, and programs. This task is essential in focusing funds and resources on relevant, operationally sound T&E programs.
- Provide input on developing, adopting, and implementing appropriate and relevant T&E standards and requirements for the response community.
- Enhance responder safety by sustaining marketing and information programs pertaining to developing, implementing, and sustaining respiratory protection programs and PPE use requirements.
- Explore opportunities to improve the delivery of equipment-specific training through recommended instructional design measures.
- Identify critical performance-based T&E needs by engaging the response community.
- Support the emergency preparedness community in developing training standards, with an emphasis on matching training requirements to responder equipment.
- Review and provide input to improve the operational applicability of T&E doctrine and programs that impact the emergency preparedness community.
- Promote instructional systems design-based models, such as analysis, design, development, implementation, and evaluation for T&E.
- Participate on the governance board for the DHS S&T First Responder Group Virtual Training Simulation Program and Pilot, and provide input regarding program development.
- 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.

PRIORITIES FOR FY 2015

- Analyze the process and trigger points by which incident/exercise lessons learned and after action reports can be leveraged to better identify training gaps, and more effectively impact future training programs. This includes sustaining relationships with Department of Defense and both public- and private-sector initiatives already existing in this area.
- Continue developing and refining the modeling, simulations, and simulators e-tool. In phase two, the tool will provide users with example scenarios and/or tasks from which they choose, which link to the most appropriately related technology. In phase three, the tool will allow vendors to enter information on their particular technology solution(s) based on the questions previously developed for purchasers to ask. Purchasers will also be able to rate how a technology solution worked in their particular situation. Finally, this stage will also include some rough order of magnitude costing information.
- Participate in developing the Law Enforcement PPE Standards and Training process, as requested by the National Institute of Justice.
- Address the requirements of the FACC as they relate to the T&E mission.
- Develop a method to gather emerging T&E 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 T&E programs is ongoing, driven by threat, capability, technology, and personnel. The T&E SubGroup will identify and prioritize T&E requirements based on these factors. The T&E SubGroup will work closely with all other 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 T&E SubGroup strongly recommends that all emergency responder equipment purchased include the identification of initial and sustainment requirements for competency-based training on the application, operation, care 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, which can be accessed by visiting <https://www.firstrespondertraining.gov/rtdc/state/>.

The IAB T&E SubGroup endorses the exercise policy, methodology, and terminology as cited in the Homeland Security Exercise and Evaluation Program.

Exercises serve to validate plans and training, and as such, are a critical component in the cycle of preparedness.

STATE & LOCAL CO-CHAIR

GREGORY G. NOLL, CSP, CEM

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 Chairperson for the National Fire Protection Association Technical Committee on Hazardous Materials/Weapons of Mass Destruction Emergency Response. A retired member of the U.S. Air Force Reserve with 29 years of service, Mr. Noll has served as an SME for various Department of Defense hazardous materials and counter terrorism response training programs.

Mr. Noll has 44 years of experience in the fire service and emergency response community, and is the co-author of nine 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, for his leadership and contributions to further and enhance the hazardous materials emergency response profession.

FEDERAL CO-CHAIR

CAROL MINTZ

**Department of Homeland Security,
Federal Emergency Management
Agency, National Training and
Education Division**

Carol Mintz serves as a Training Program Specialist with DHS/FEMA National Preparedness Directorate where she is responsible for multiple grants, contracts and programs. The grants and contracts fund training for state, local, territorial and tribal first responders, emergency managers, elected and appointed officials, and the private-sector. In addition, she serves in the National Response Coordination Center during national disasters and was a Brookings Fellow.

Ms. Mintz has experience in the private sector, where she served as Director of National Training for a private firm. She previously served as a hazardous materials specialist for the International Association of Fire Fighters and as a government liaison representing the interests of businesses and local governments in Washington, D.C. Ms. Mintz holds an M.S. from Cleveland State University and a B.A. from John Carroll University. She served on the Governor's Task Force on Homeland Security in Ohio and on the board of several non-profit organizations.

PHOTO COURTESY OF BEVERLY JENSEN, WWW.BEVERLYGILLJENSEN.COM

SEL

SUMMARY

FOREWORD

The Standardized Equipment List (SEL) is provided to the responder community by the InterAgency Board for Equipment Standardization and Interoperability (IAB). 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 SEL master is maintained online in order to keep pace with maturing and emerging technologies. It is available in interactive format on the IAB website, 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.

IAB EQUIPMENT SUBGROUP

The IAB’s 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 of maintaining the SEL. While the ESG has multiple missions and priorities as described in the Annual Report, its highest priority is the continuation of the SEL.

INTERACTIVE SEL UPGRADE

Until this year, the IAB relied on the Responder Knowledge Base (RKB) to provide linkages between SEL items and documents such as standards, test methods, and performance reports. Since the shutdown of the RKB, no comparable resource has emerged. In order to address some of the lost functionality, the IAB has implemented several enhancements to the interactive SEL page at <https://iab.gov/SELint.aspx>, including:

- Conversion of all listed references to live links, allowing direct access to the source documents
- Addition of an explanatory “mouseover” paragraph for each reference
- Addition of an interface to DHS SAVER documents that allows users to check the availability of related SAVER documents with a single click
- Installation of tooltips on all field headings to explain the purpose of the field and any associated codes
- Implementation of a new addressing scheme that allows outside websites to link directly to individual SEL items

Additional features, such as a new field for procurement guidance, are being considered for 2015.

SEL SUMMARY

ELIMINATION OF ANNUAL REPORT CD-ROM

Until this year, the most current SEL was distributed on CD-ROM in conjunction with the IAB Annual Report. However, several factors led to the reevaluation of that strategy:

- The increasing reliance on, and almost universal availability of Internet-based reference
- The fact that due to the dynamic nature of SEL information, the CD-ROM version was almost always outdated by the time it was published
- Improvements to the interactive online SEL
- Using the online SEL as the sole reference copy not only provides the community with the latest information, but also decreases the production and distribution cost of this annual report

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 FEMA's Grant Programs Directorate (GPD). 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). 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. CBRNE Operational and Search and Rescue Equipment
4. Information Technology
5. Cyber Security Enhancement Equipment
6. Interoperable Communications Equipment
7. Detection
8. Decontamination
9. Medical
10. Power
11. CBRNE Reference Materials
12. CBRNE Incident Response Vehicles
13. Terrorism Incident Prevention Equipment
14. Physical Security Enhancement Equipment
15. Inspection and Screening Systems
16. Animals and Plants
17. CBRNE Prevention and Response Watercraft
18. CBRNE Aviation Equipment
19. CBRNE Logistical Support Equipment
20. Intervention Equipment
21. Other Authorized Equipment

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 above).
- 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.”

2014 CHANGES

The 2014 SEL includes 724 items, 51 of which have been changed or added in this edition. There were three deletions in this edition. Two were pharmaceutical items for which alternatives were available with fewer side effects. The third was a heat alarm system for vehicles used for canine transport. In discussions with FEMA, the latter item was deleted in favor of changes to the two canine items such that the alarm systems were included in the descriptions

(along with protective garments, training and handling accessories, etc.).

Four new items were added, three of which were in response to the emergence of Ebola as a domestic threat. The three Ebola-related items were:

- 01AR-03-PAPM: Respirator, Powered Air-Purifying (PAPR), Medical Response
- 01EM-02-GARI: Garment, Emergency Medical, Single-Use, Interim
- 01EM-04-FTWI: Footwear, Emergency Medical, Interim

The PAPR item was added because full CBRN PAPRs were deemed too expensive to recommend for medical response, and much of their protective capability was superfluous for the medical mission. The garment and footwear items were added because no commercial products certified to meet the requirements of NFPA 1999-2013 are currently available. These two items are marked as “interim” and when certified products are available, they will be deleted.

The fourth new item for 2014 is 07RD-04-LASR, a laser-based standoff radiation detection technology capable of elemental detection.

The net increase for 2014 is one item. The 47 changes to existing items occurred mostly in the Personal Protective Equipment and Medical Sections. While a few changes were made to titles and descriptions, most updates were in the features and operating considerations. The impact by section is summarized in the following table:

SEL SUMMARY

CONTINUED

2014 SEL Section Impact Summary				
Section Title	Changes	Additions	Deletions	
1. Personal Protective Equipment	19	3		
2. Explosive Device Mitigation and Remediation Equipment	1			
3. Operational and Search and Rescue Equipment	1		1	
4. Information Technology	6			
5. Cyber Security Enhancement Equipment				
6. Interoperable Communications Equipment				
7. Detection	2	1		
8. Decontamination	1			
9. Medical	12		2	
10. Power				
11. CBRNE Reference Materials				
12. CBRNE Incident Response Vehicles				
13. Terrorism Incident Prevention Equipment				
14. Physical Security Enhancement Equipment				
15. Inspection and Screening Systems				
16. Animals and Plants	4			
17. CBRNE Prevention and Response Watercraft				
18. CBRNE Aviation Equipment				
19. CBRNE Logistical Support Equipment				
20. Intervention Equipment	1			
21. Other Authorized Equipment				

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:

- **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).
- **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).
- **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 reqt" 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. This concept has evolved into a set of "mini-SELs" tailored to specific mission areas. They

SEL SUMMARY

CONTINUED

are called “Mission-Specific SubLists” (MSSLs), and provide an easy way to examine the IAB’s recommendations for a specific mission area such as a dive team.

This edition adds two new Mission Specific SubLists. Development and updates will continue in 2014. Current SubLists include:

Law Enforcement: Aviation

Law Enforcement: Bomb Squad

Law Enforcement: Dive Team

Law Enforcement: Forensics Technician

Law Enforcement: K9

Law Enforcement: Mobile Field Force

Law Enforcement: Mounted Patrol*

Law Enforcement: SWAT/Tactical Team

Mass Care / Shelter

Medical: Point of Dispensing

Medical: Basic Life Support

Medical: Advanced Life Support

Medical: Tactical Emergency Casualty Care

Medical: Pre-Hospital

Medical: Hospital

Medical: Patient Care, Infectious Disease**

Medical: Public Health

Medical: Disaster Stockpile

Mortuary Operations

National Guard: HRF Search and Extraction

REL: Full Canadian Recommended Equipment List

REL: LOS-1, Multi-Agency Intervention

REL: LOS-2, Scout/Reconnaissance Mission

REL: LOS-3, Suspicious Powder Response

REL: LOS-4, Evac and Perimeter Control

REL: LOS-5, Emergency Washdown

*New for 2014

** New for 2014, added in response to request for PPE recommendations for Ebola Virus Disease

SUMMARY

The 2014 SEL represents the collective efforts of the InterAgency Board 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.



IAB

APPENDIX

This R&D survey was vetted through the IAB membership. The research and development items were assessed based on the following criteria: mission performance, life safety of first responders and civilians, strengthening response systems, and anticipation of purchase by communities in need.

To learn more about the IAB and survey, please visit www.iab.gov.

1.	ENHANCE COMMUNICATIONS IN HOSTILE ENVIRONMENTS	Portable network extension of current radio capabilities into areas where coverage is prohibited by environment/terrain (e.g., tunnels, canyons, large structures, ships etc.).
2.	3-D TRACKING OF PERSONNEL	Continue technology development for tracking operating personnel in a 3-D environment until these systems are fielded.
3.	HANDHELD STANDOFF CHEMICAL AND EXPLOSIVE IDENTIFIER	Instrument capable of detecting and identifying chemical substances (e.g. chemical warfare agent and toxic industrial chemical) and explosives from outside of exposure or contamination zone, at standoff distances. This item must be intrinsically safe, able to withstand temperature and humidity changes, and must be ruggedized for field use.
4.	HANDS-FREE RADIO INTERCOM	Portable radio/accessory combination that allows for hands-free, intercom style communications via portable radios among a small groups in close proximity ($\leq 30'$), simultaneous ability to listen to and talk on command channel when keying a microphone.
5.	NOISE-FILTERING DIGITAL SPEAKER/MICROPHONE FOR SCBA FACEPIECE	Portable radio/accessory that allows for hands-free, intercom style communications between small groups located in close proximity (up to 1/16th of a mile) while being able to simultaneously monitor and transmit with a push-to-talk button on a priority channel or talk group.
6.	VEHICLE-BORNE IMPROVISED EXPLOSIVE DEVICE (VBIED) RENDER SAFE TOOL	Method for and equipment that will effectively and quickly enter/examine/diagnose/render safe a potential vehicle-borne improvised explosive device.

2014 IAB RESEARCH & DEVELOPMENT PRIORITY LIST

7.	HANDHELD FIELD DEPLOYED BIOLOGICAL DETECTION	Continue developing and deploying handheld bio detection equipment for first responders.
8.	IMPLEMENTATION OF UNMANNED AERIAL VEHICLES (UAVS)	Develop and implement UAVs for local law enforcement/fire departments, to include research and development of laws, policies, procedures, testing and selecting of appropriate technology, training, equipment maintenance, etc.
9.	IMPLEMENTATION OF PROTECTIVE BALLISTIC GEAR FOR FIRE AND MEDICAL RESPONDERS	Ballistic personal protective equipment for non-law enforcement first responders.
10.	SAMPLING KIT FOR CLOTHING/ EQUIPMENT CONTAMINATION IDENTIFICATION	Identify practical approaches to field sampling to allow for the identification and detection of contaminants and deem if items (e.g., body armor, radios, etc.) can be decontaminated for reuse.
11.	DEVELOP MODEL PROCEDURES AND/OR LESSONS LEARNED FROM FIRST RESPONDERS TO ATYPICAL EMERGENCIES	Identify lessons learned for the integration of police, fire, and EMS responses capabilities to complex emergencies.
12.	FIELD DETECTION/ ANALYSIS DEVICES FOR FIRE VAPORS GASES AND PARTICULATES IN POST-FIRE OPERATIONS AND INVESTIGATIONS	Develop hand-held or “man portable” device for use by personnel exposed to dangerous carcinogens, toxic gases and particulates after fire is extinguished as well as command and support personnel exposed in area surrounding fire.
13.	DEVICE FOR STANDOFF CASUALTY TRIAGE	Develop portable device that provides the capability for stand-off casualty triage that is needed and locates patients that are still viable.
14.	VIRTUAL REALITY TRAINING SIMULATION	Develop device that allows first responders to train in a virtual environment.

15.	FEMALE BALLISTIC-RESISTANT BODY ARMOR RESEARCH AND TESTING	Test methods and performance requirements specific to body armor designed for female wearers.
16.	WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSOR	Platform that Transmits Multiple, wearable sensors that can be integrated into a single platform with wireless communication capability. Platform could be a vest with plug-and-play detector ports and a common power source and controlled via software wirelessly connected to a laptop in the support zone. Detectors should also provide visual and audio alarms to alert the wearer.
17.	PROACTIVE TRAINING RESOURCE (PTR) INITIATIVE	Compendium resource that accepts all types of emergency response reports (AAR, lessons learned, IPs, threats), identifies strengths and challenges, generates a PTR that identifies trends and facilitates targeted guidance, training or protocols.
18.	IMPROVED FILTERING FACEPIECE RESPIRATOR (FFR)	New generation form-fitting respiratory protective equipment for particulate materials, including biologicals, exposures. Re-evaluate current nomenclature to describe consistent protection and determine method for achieving improved face seal.
19.	SENSOR HUB TO INTEGRATE PERSONAL AREA NETWORKS (PAN) DEVICES WITH LAND MOBILE RADIOS (LMR) AND OTHER NETWORKS	Develop equipment and protocols to route Personal Area Network (PAN) data (e.g., location, physiologic status, voice) from multiple connected devices from different manufacturers.
20.	PROTECTIVE SHIELDS RESEARCH AND TESTING	Develop standard for protective shields to address ballistic threats and fragments/shrapnel from explosions. Protective shields need to be evaluated to a performance standard so responders have confidence that the shield will perform as expected, development of such standard will require research and testing.

2014 IAB RESEARCH & DEVELOPMENT
PRIORITY LIST
 CONTINUED

21.	EQUIPMENT/ SUPPLY GUIDE FOR RELOCATING SPECIAL NEEDS EVACUEES	Equipment and supply guide for the transport and relocation of individuals in nursing homes, homecare, or with special needs, with emphases on safety, performance & planning standards, and sources for collaboration and reference.
22.	IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE	Revise person-worn cooling devise that maintains core body temperature at acceptable levels and addresses issues regarding perspiration collection.
23.	GUIDE FOR STRESS MANAGEMENT AFTER INCIDENTS	Validate current stress and incident management and mental health methods or techniques because current methods vary in their focus and effectiveness.
24.	SMART RESPONSE VEHICLES	Develop an intelligent emergency response system that uses a networked approach to enable emergency response vehicles to safely respond to emergencies while reducing response times.
25.	MODELING SIMULATION & SIMULATOR SOFTWARE EVALUATION TOOL	Develop software tool that will allow users to search for a model, simulation, or simulator appropriate for their particular operational and/or training requirements and receive recommendations based on the criteria developed, the user's constraints, and ranking of importance.
26.	EMERGENCY RESPONDER BODY WORN INTEGRATED ELECTRONICS SYSTEM	Develop body worn electronics system that integrates enhanced communication, locations and tracking, situational awareness and environmental sensing, physiological status and monitoring, and respiratory protective equipment status capabilities. This system would require the development of a PAN appropriate for emergency response operations.

TIER 1

- Product standard for personal protective equipment for emergency medical services providers
- Standard test method for body armor designed for females
- Standard test method for mask test machines

TIER 2

- Standard test methods for localization and tracking systems
- Product standard for body worn video cameras used by public safety practitioners
- Product standard for duty gloves worn by responders in law enforcement and corrections role
- Standard test methods for robot operator evaluations “Standard test methods in a box”

TIER 3

- Product standard for conducted energy devices (less lethal)
- Product standard for chemical munitions (less lethal)
- Product standard for impact munitions (less lethal) fired from a launching system
- Product standard for distraction devices (e.g., flashbangs)

TIER 1

Product standard for personal protective equipment for emergency medical services providers

EMS providers respond to incidents involving injured or ill patients that must be treated and transported to the hospital. Those responders need protection against blood-borne pathogens, but because many incidents today involve hostile operatives, EMS providers also need protection against ballistics and other hazards. These responders need PPE that has been demonstrated to meet their operational requirements and to also meet performance standards similar to those for law enforcement.

Standard test method for body armor designed for females

There are currently no test methods for assessing body armor designed for females. Test methods are needed to assess: (1) Ballistic protection in terms of projectile penetration resistance and backface deformation; (2) Effect of air gaps behind armor; (3) Effects of panel flexing on ballistic performance of shaped armor; (4) Coverage area, especially on the sides; and (5) Ergonomics of shaped armor.

Standard test method for mask test machines

Standard test methods are needed to assess the performance of respirator fit test machines. Responders who wear respirators are concerned that current testing is not sufficient and have questions such as when fit test equipment is used, it gives a result, but what does that result mean? And when routine calibration is done, what is the equipment calibrated to? There are existing standards for programs and respirator fit methods but not for the fit test equipment.

TIER 2

Standard test methods for localization and tracking systems

The capability to determine/estimate the location of an individual or an object inside a building, tunnel, mine, or similar environment has wide applicability in the responder community and is of interest to firefighters, law enforcement, emergency medical personnel, and the military. Standard test methods are needed to allow performance of available systems to be assessed so that users are able to determine whether a given system meets their needs.

2014 IAB STANDARDS DEVELOPMENT PRIORITY LIST

Product standard for body worn video cameras used by public safety practitioners

The field deployment of body-worn video camera systems by public safety practitioners (e.g., patrol, corrections, SWAT and other tactical responders) offers significant advantages in keeping officers safe, enabling situational awareness and providing evidence for trial. A major issue with the use of body-worn video cameras is a lack of product standards, standard test methods, and operational standards. Without such standards in place, practitioners lack adequate information to select the proper system that meets their requirements. Specifications that need to be addressed in a product standard include the following: Battery life, run time; Video quality; Night recording; Recording limits; Camera focal width; Audio recording; Camera placement; Radio integration capability; Downloading and storage of data; Propriety software; Evidence requirements; and Encryption.

Product standard for duty gloves worn by responders in law enforcement and corrections role

There is a need to develop a single standard containing performance requirements and test methods for protective gloves worn by law enforcement and corrections officers while on duty.

Although there is an NIJ protocol for testing gloves, it was published in 1999, is out of date, and does not specify performance requirements. At least the following criteria should be addressed:

- Dexterity and ergonomic requirements of officers. Pathogen, chemical, cut, tear, puncture (including needle stick) and abrasion resistance.

Standard test methods for robot operator evaluations “Standard test methods in a box”

This item is a continuation and expansion of previously

identified IAB standards requirements for response robot standard test methods, including FY2013 IAB priority for training, Standard for Robot Operator Self-evaluation and Training Program. Many robot test methods have been published that can be adapted for use in operator training and evaluation programs.

The requirement for FY 2014 is two-fold:

- Continue and expand test method development to address robots for vehicle-borne improvised explosive device (VBIED) response, for air deployment, and for water deployment. Both civilian bomb squads and military explosive ordnance disposal (EOD) specialists are currently focused on robots for responding to VBIEDs and have expressed a need for aerial observation robots and water-deployed robots.
- Develop a standard describing (1) scenario-based drills for operator evaluation (based on published and developing robot test methods) and (2) instructions for building/configuring standardized apparatus to be used in performing the drills. The drill descriptions should have the necessary elements (e.g., performance checklists, time constraints, data sheets) to accurately evaluate robot operator capabilities in terms of situational awareness; maneuvering; terrain and obstacle negotiation; and manipulator strength, reach and dexterity with an emphasis on VBIED applications. The instructions for building/configuring each apparatus would contain a bill of materials and tools, drawings, and assembly guidance so that each apparatus could be built and configured with the same result by any user of the standard. The instructions should also include guidance for packaging the apparatus in a portable container that can be easily shipped to civilian and military locations for training and evaluation. The resulting apparatus and packaging are referred to as “test methods in a box.”

2014 IAB STANDARDS DEVELOPMENT PRIORITY LIST CONTINUED

TIER 3

Product standard for conducted energy devices (less lethal)

Performance requirements and test methods need to be developed to address the performance of conducted energy devices (CEDs) used by public safety practitioners. Three types of CEDs used by law enforcement and corrections are: (1) Hand-held, (2) Shield/baton, and (3) Belt/band/sleeve. While many studies have been performed on specific technologies to evaluate efficacy and, to some degree, evaluate the safety of these devices, there currently exists no standardized way to evaluate product performance prior to being marketed to agencies. Buyers must evaluate performance based on manufacturer claims and individual product performance demonstrations.

Product standard for chemical munitions (less lethal)

Performance requirements and test methods need to be developed to address the performance of chemical munitions and their delivery systems. Several types of chemical munitions are currently in use, including OC (Oleoresin capsicum) spray (i.e., pepper spray), CS (Orthochlorobenzalmalonitrile) spray (i.e., tear gas), and smoke. Several forms of chemical agents are currently in use; solid, liquid, foam, and micro-pulverized. Standard should address: Performance requirements; safety mechanisms to protect the user; flash fire potential; dispersion methods; and resistance to dropping, impact, and extreme temperature.

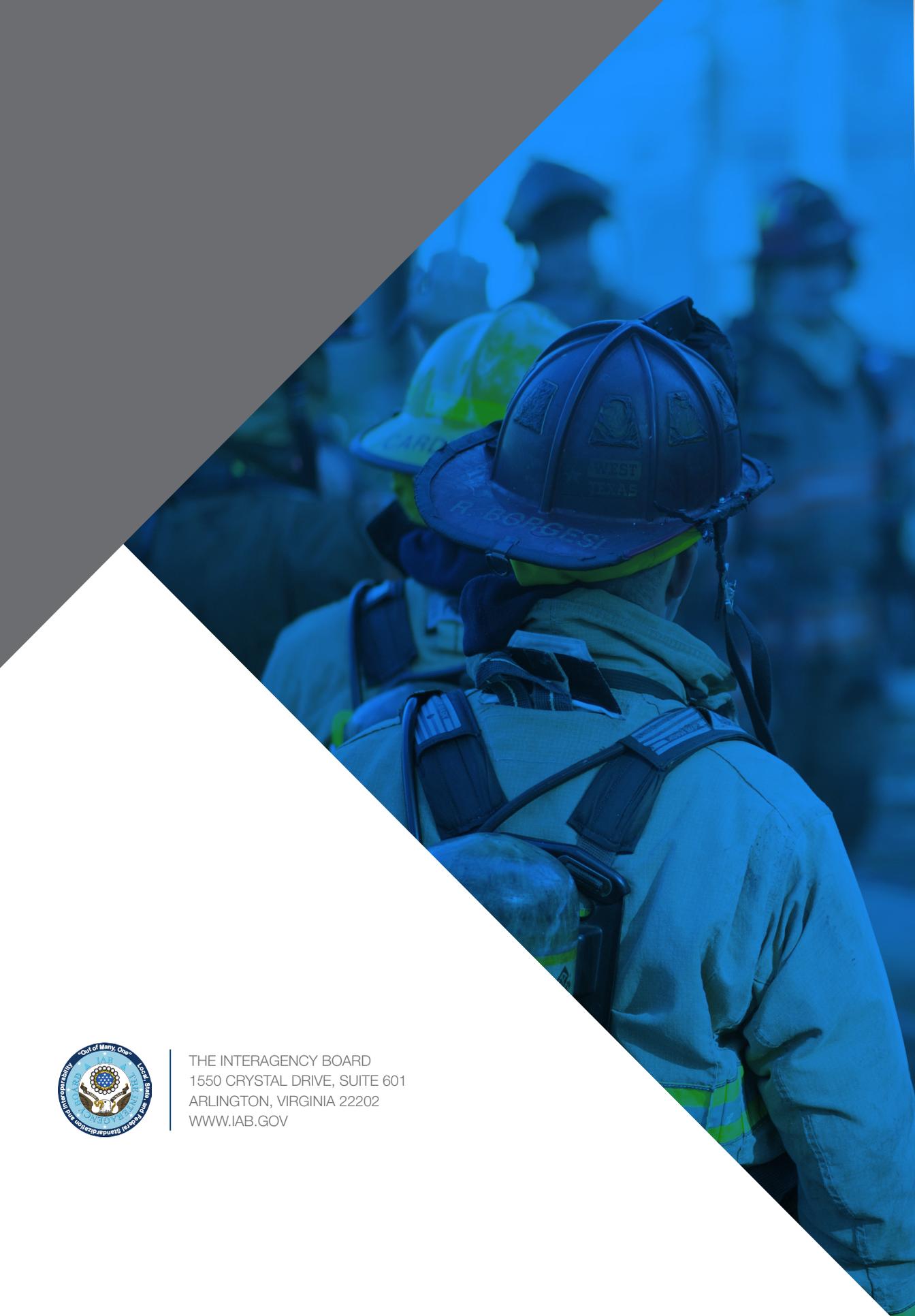
Product standard for impact munitions (less lethal) fired from a launching system

Performance requirements and test methods need to be developed to address the performance of impact munitions, such as polyurethane projectiles, wooden batons, foam batons, and bean bags, fired from a launching system. Standards should address: Intended use; appropriate launching system; projectile type, materials, and number in cartridge; accuracy; kinetic energy upon impact; effective image; muzzle velocity; and potential hazards.

Product standard for distraction devices (e.g., flash bangs)

A product standard needs to be developed for noise flash diversionary devices (NFDDs), also known as distraction devices, flashbangs, or stun grenades, used by law enforcement and corrections. Distraction devices may be divided into two categories: (1) Those that produce light and sound and (2) Those that produce light and sound and eject either chemicals (OC/CS) and/or projectiles (rubber pellets). Standards should address; construction, fuse type, candela, acoustic sound, fuse delay, emitted flash duration, heat, fragmentation due to function, projectiles, collateral effects, and safety considerations.





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