

# STRENGTHEN PREPARE RESPOND

THE INTERAGENCY BOARD  
FY 2016 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.

PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.



PHOTO BY K. KELLEHHALS, VIRGINIA BEACH FIRE DEPARTMENT

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# IAB CHAMPIONS

PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT



- Alsip (IL) Fire Department*
- American National Standards Institute*
- ANSER Homeland Security Practice*
- Arizona State Police, Department of Public Safety, Bomb Squad*
- Arlington County (VA)*
- Arlington County (VA) Fire Department*
- Arlington County (VA) Police Department*
- Ascension Parish (LA) Sheriff's Office*
- ASTM International*
- Bellevue (WA) Fire Department*
- Bentonville (AR) Fire Department*
- 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 Maritime Academy, Maritime Safety & Security Center*
- Carrollton (TX) Fire Rescue*
- Cecil County (MD) Department of Emergency Services*
- Centers for Disease Control and Prevention*
- Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry*
- Charleston County (SC) Sheriff's Office*
- City of Las Vegas (NV) Office of Emergency Management*
- City of Ottawa, Security and Emergency Management*
- City of Plantation (FL) Fire Department*
- City of San Antonio (TX) Fire Department*
- City of Tulsa (OK)*
- Clayton (DE) Fire Company*
- Columbus (OH) Division of Fire*
- Cook County (IL) Department of Homeland Security & Emergency Management*
- County of Los Angeles (CA), Department of Public Health*
- Department of Defense, Homeland Defense and Global Security*
- Department of Defense, Joint Program Executive Office for Chemical and Biological Defense*
- Department of Defense, Joint Program Executive Office for Chemical and Biological Defense, Joint Project Manager Guardian*
- Department of Health & Human Services, Office of the Assistant Secretary for Preparedness & Response, CBRNE Branch*
- Department of Health & Human Services, Office of the Assistant Secretary for Preparedness and Emergency Operations*
- Department of Health & Human Services, Office of the Assistant Secretary for Preparedness & Response, National*
- City of Las Vegas (NV) Office of Emergency Management*
- Disaster Medical System, National Veterinary Response Team 2*
- Department of Homeland Security, Domestic Nuclear Detection Office*
- Department of Homeland Security, Federal Emergency Management Agency, CBRNE Programs*
- 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 Integration Center*
- Department of Homeland Security, Federal Emergency Management Agency, National Training and Education Division*
- Department of Homeland Security, Federal Emergency Management Agency, Office of Policy & Program Analysis*
- Department of Homeland Security, Federal Emergency Management Agency, U.S. Fire Administration*
- 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, Office of Infrastructure Protection*

*Department of Homeland Security, National Protection and Programs Directorate, Office of Infrastructure Protection, Emergency Services Sector-Specific Agencies*

*Department of Homeland Security, Science & Technology Directorate*

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

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

*Department of Homeland Security, Science & Technology Directorate, Transportation Security Laboratory*

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

*Department of State*

*Department of Veterans Affairs*

*DeWitt (NY) Fire District*

*District of Columbia Fire and Emergency Medical Services*

*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*

*Fire Department, City of New York, Office of Medical Affairs*

*Forsyth County (NC) Emergency Services*

*Grand Rapids (MI) Fire Department*

*Homeland Security Studies and Analysis Institute*

*Huntingdon County (PA) Sheriff's Office*

*Indian Nation Fire & Emergency Management*

*International Association of Chiefs of Police*

*International Association of Emergency Managers*

*International Association of Emergency Medical Services Chiefs*

*International Association of Fire Chiefs*

*International Association of Fire Fighters*

*International Association of Women Police*

*International Personnel Protection, Inc.*

*International Safety Equipment Association*

*Intertek, HP White Laboratory*

*Joint Improvised-Threat Defeat Agency*

*Kentucky Army National Guard*

*Lake County Technical College*

*Lawrence Livermore National Laboratory*

*Las Vegas (NV) Fire & Rescue*

*London (UK) Fire Brigade*

*Long Island University*

*Los Angeles (CA) Fire Department*

*Los Angeles (CA) Police Department*

*Los Angeles (CA) County Sheriff's Department*

*Louisiana Poison Center*

*Massachusetts Department of Fire Services*

*Massachusetts Department of Public Health, Bioterrorism Response Laboratory*

*Merrionette Park (IL) Fire Department*

*Miami-Dade (FL) Police Department*

*Montclair (NJ) Police Department*

*Montgomery County (MD) Fire and Rescue Service*

*Montgomery County (MD) Police Department*

*Mt. Erie (WA) Fire Department*

*National Bomb Squad Commanders Advisory Board*

*National Fire Protection Association*

*National Guard Bureau*

*National Guard Bureau, Combating Weapons of Mass Destruction, J39*

*National Institutes of Health, National Institute of Environmental Health Sciences*

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

*National Institute of Standards and Technology, Standards Services Group*

*National Tactical Officers Association*

*Naval Hospital Twentynine Palms (CA)*

*Naval Postgraduate School, Center for Homeland Defense and Security*

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

# IAB CHAMPIONS



*New York State Association of Chiefs of Police*

*New York State Department of Public Health, Wadsworth Center*

*New York State Police*

*North County Crime Analysis Center*

*Oldham County (KY) Emergency Management*

*Park County (CO) Sheriff's Office*

*Pennsylvania Emergency Management Agency*

*Phoenix (AZ) Fire Department*

*Phoenix (AZ) Police Department*

*Pineville (NC) Fire Rescue Department*

*Placer County (CA) Health and Human Services*

*Port Authority of New York and New Jersey*

*Powell County (MT)*

*Prince George's County (MD) Fire & EMS Department*

*Ramsey County (MN) Sheriff's Department*

*Rhode Island State Department of Health Laboratory*

*Sacramento County (CA) Sheriff's Department*

*Safety Equipment Institute*

*Salem (NY) Volunteer Fire Department*

*Salt Lake County (UT) Sheriff's Office*

*San Marino (CA) Police Department*

*Santa Clara County (CA) Sheriff's Office*

*Santa Clara County (CA) EMS Agency*

*Sarasota County (FL) Fire Department*

*Sarasota County (FL) Sheriff's Office*

*Seattle (WA) Fire Department*

*Snohomish County (WA) Fire District #7*

*South Carolina Law Enforcement Division*

*South Central (PA) Regional Task Force*

*Story County (IA) Sheriff's Office*

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

*Toledo-Lucas County (OH) Health Department*

*Town of Hempstead (NY) Department of Conservation and Waterways*

*Town of Shirley (MA)*

*Underwriters Laboratories*

*Unified Police Department of Greater Salt Lake (UT)*

*United States Army Chemical Materials Activity*

*United States Army Research Laboratory*

*United States Army Training and Doctrine Command, Maneuver Support Center of Excellence*

*United States Capitol Police*

*United States Coast Guard, Seventh District*

*United States Coast Guard, Ninth District*

*United States Environmental Protection Agency*

*United States Forest Service, National Interagency Fire Center*

*United States Marshals Service*

*United States Northern Command, North America Aerospace Defense Command*

*University of California, Irvine, Center for Disaster Medical Sciences*

*University of Cincinnati*

*University of Connecticut*

*University of Tulsa*

*Upper Merion Township (PA) Police Department*

*Victoria County (TX) Sheriff's Office*

*Virginia Beach (VA) Fire Department*

*Virginia Department of Emergency Management*

*Walker County (GA) Emergency Services*

*West County (MO) EMS & Fire Protection District*

*Yale Department of Emergency Medicine*

# IAB

THE  
**INTER  
AGENCY  
BOARD**

MISSION:

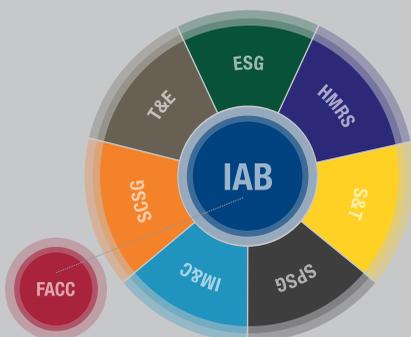
**STRENGTHENING** THE  
NATION'S ABILITY TO  
**PREPARE** FOR  
AND  
**RESPOND SAFELY  
AND EFFECTIVELY**  
TO EMERGENCIES,  
DISASTERS,  
AND CBRNE  
INCIDENTS

— THE —  
**INTER  
AGENCY  
BOARD**

The **InterAgency Board (IAB)** is a voluntary, collaborative panel of emergency preparedness and response practitioners whose members are from a wide array of professional disciplines. The IAB includes members from all levels of government and operational, technical, and support organizations. It provides a structured forum for the exchange of ideas among local, state, and federal response communities to improve national preparedness and promote interoperability. 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 high-yield explosive (CBRNE) issues.

The IAB also provides subject matter expertise to inform the development of emergency preparedness and response policy, doctrine, and practice.

THE REMAINDER OF THIS SECTION ARTICULATES THE 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 (FACC)
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 (SPSS)
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 establish a repository of field perspective, operational knowledge, and technical expertise. The IAB will provide emergency responder insight to support development of policy, doctrine, practice, standard, research and development programs, and training and exercise programs that affect emergency preparedness response interoperability, compatibility, and standardization.

## VALUES

The IAB is comprised of a very diverse body of emergency preparedness and response experts, unified by a set of core values. The core values frame the IAB's goals, shape its decisions, and guide its actions. These values are:

**Ground truth.** The IAB provides a communication channel to receive direct feedback from responders currently practicing in the field on the front lines of emergency response at all levels of government. The IAB offers responder's view of what they really do, what they really need, and how federal programs and policies affect them.

**Independence.** The IAB plays the role of an honest broker when aggregating the diverse views of responders. The IAB is unencumbered by particular professional or agency agendas because the IAB's goals and objectives are set by consensus of a representative membership of federal, state, and

local emergency response communities. The broadly representative membership is, therefore, able to voice the perspectives of responders nationwide without undue influence from any one discipline, organization, or professional association.

**Credibility.** The IAB convenes experts knowledgeable about emergency preparedness and response issues—particularly related to equipment—including requirements, standards, performance, operability, interoperability, and compatibility. This expertise 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 agencies make decisions about equipment by providing insight about performance and operational, training, and maintenance requirements.

**Diversity.** The IAB is a forum that brings diverse agencies and perspectives together. The IAB membership 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.** IAB-hosted events allow people the opportunity to exchange information and work together to solve problems. The IAB fosters a culture of professional openness because, when acting as members of the IAB, players may interact freely, honestly, and without fear of retribution. Enhanced collaboration reduces redundancy, resolves conflicts, and thus improves the safety, efficiency, and effectiveness of programs.

**Proactive orientation.** The IAB identifies local, national, and global trends that affect the response community and seeks to understand the implications of policy and operational choices. This allows the IAB to develop resources on how to 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

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

### 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 to prevent injuries and reduce mortality.
- Develop a medical concept of operations comprised of planning for, managing, and recovering from incidents that cause 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 needs and gaps in available information technology needed to support responders.
- Identify needs and gaps in information management, including collection, administration, analysis, visualization, and dissemination of information that affects incident prevention and emergency preparedness and response.

- Identify needs and gaps in decision support material used for interoperable communications technologies, policies, and strategies.
- Participate in efforts to improve systems and strategies for information management.
- Educate emergency responders about the National Strategy for Information Sharing and Safeguarding, which provides strategic guidance on how to collect, receive, and share essential elements of information.

### 4. SCIENCE AND TECHNOLOGY

- Identify innovative government and industry-based technologies.
- Promote the transition of technologies.
- Participate in requirements development processes.
- Promote research, development, testing, and evaluation (RDT&E) agendas to meet emergency responder needs.

### 5. STANDARDS COORDINATION

- Identify and document standards applicable to emergency preparedness and response.
- Prioritize standards requirements and related interoperability and compatibility issues.
- Draft and disseminate studies, white papers, and other reports on standards, interoperability issues, and compatibility issues.
- Identify potential conflicting requirements and facilitate reconciliation of these issues.
- Participate in standards development and revision processes.
- Identify improvements to existing standards, performance requirements, and test methods.
- Recommend standards, equipment development, training, practices, or policies.

- Inform responders about relevant standards development activities, comment periods, and programs to increase awareness and/or community participation.
- Recommend and promote the adoption and appropriate application of standards.

### 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 best 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.
- Advocate for standardized national guidance to support responder and equipment training and exercises.
- 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.

# STRUCTURE

The IAB is organized into a Leadership Team, an Executive 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, who represent the SubGroup's interests on the Executive Committee. The SubGroups are staffed with members and Subject Matter Experts (SMEs) in that group'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 2016. Elections are conducted during the summer meeting, every June. For the current list of IAB Leadership Team and Co-Chairs, please visit the IAB public website at [www.interagencyboard.org](http://www.interagencyboard.org).

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## 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.

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## STATE & LOCAL CHAIR

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

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## STATE & LOCAL DEPUTY CHAIRS

*Sandy Bogucki*, Branford (CT) Fire Department

*John Incontro*, San Marino (CA) Police Department

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## 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.

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## FEDERAL CHAIR

*Michael Walter*, Department of Homeland Security, Office of Health Affairs, BioWatch Program

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## 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.

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## STATE & LOCAL CO-CHAIR

*Lisa Lanham*, Sarasota County (FL) Sheriff's Office

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## FEDERAL CO-CHAIR

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

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## HEALTH, MEDICAL, & RESPONDER SAFETY SUBGROUP

The HMRS SubGroup provides safety guidance 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.

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## STATE & LOCAL CO-CHAIR

*Jeffrey Race*, Pineville (NC) Fire Department

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## FEDERAL CHAIR

*Renée Funk*, Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry

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## INFORMATION MANAGEMENT & COMMUNICATIONS SUBGROUP

The IM&C SubGroup develops and advocates protocols and technologies for effective, timely, accurate, and secure information management and communications capabilities. The SubGroup considers CBRNE incidents



and all phases of an operation. This SubGroup identifies gaps in responder information and communication capabilities and recommends mitigating solutions and standards.

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**STATE & LOCAL CO-CHAIR**

*Mark Hogan, City of Tulsa (OK)*

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**FEDERAL CO-CHAIR**

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

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**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 data for the annual Research & Development Priority List.

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**STATE & LOCAL CO-CHAIR**

*Adam Miller, Huntingdon County (PA) Sheriff's Office*

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**FEDERAL CO-CHAIR**

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

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**STANDARDS COORDINATION SUBGROUP**

The SCSG coordinates standards projects within the 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.

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**STATE & LOCAL CO-CHAIR**

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

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**FEDERAL CO-CHAIR**

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

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**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 the IAB's position, and maintains a prioritized list of organizations of interest to the IAB to develop a strategic engagement plan.

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**STATE & LOCAL CO-CHAIR**

*Carolyn Levering, City of Las Vegas (NV) Office of Emergency Management*

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**FEDERAL CO-CHAIR**

*Daniel Schultz, Department of Homeland Security, Office of Infrastructure Protection, Emergency Services Sector Specific Agency (SSA)*

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**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.

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**STATE & LOCAL CO-CHAIR**

*Edward Dadosky, University of Cincinnati*

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**FEDERAL CO-CHAIR**

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

# LETTER FROM THE CHAIR

As the incoming InterAgency Board (IAB) Chair, I would like to give a special thanks to John Delaney for his six years of service on the IAB Leadership Team, including the past two years as the IAB Chair. Additionally, I would like to recognize the contributions of all past leadership members. Their dedication to the IAB and their passion for its mission are appreciated and valued by the current IAB leadership and membership, and I look forward to our continued collaboration on IAB projects and initiatives.

The IAB's mission is to strengthen the Nation's ability to prepare for and to respond safely and effectively to emergencies, disasters, and chemical, biological, radiological, nuclear, and explosive (CBRNE) incidents. Today, this mission is more complex than in the early days of the IAB. Attacks on police, civil unrest, wildfires, and widespread addiction were not as prominent then as they are now. These incidents have significant impacts on our communities and tax public safety resources.

Incidents today routinely cross disciplinary lines and have raised citizens' expectations of local, state, and federal response capabilities. Public safety responses to local incidents now include emergency management, public health, and state and federal partners in addition to police, fire, and emergency medical services. Assets such as the National Guard Civil Support Teams, the Federal Bureau of Investigation, and U.S. Customs and Border Protection are increasingly integrated into local planning meetings. Additionally, our Nation's Fusion Centers are routinely involved in intelligence sharing with local partners. Interagency cooperation across all tiers of response is vital as we all work in a common mission space.

Members of the IAB are fully cognizant of this interdependency and are positioned to take a very active role in all phases of planning, research, and response. The members and subject matter experts of the IAB volunteer their time and efforts to identify issues that will improve this holistic approach to addressing the needs of all responders. The IAB is comprised of members with direct experience in this Nation's most devastating incidents. With that experience, the IAB is determined to make our Nation better and safer as we move forward.

As you read this Annual Report, please know that I speak for the members of the IAB in offering our assistance to the entire first responder community at all levels of government and to entities within the research, development, and standards arena that also work on their behalf.

The IAB leadership team looks forward to continuing this work in the year ahead and we thank our federal partners, members, and subject matter experts for their time, dedication, and support to our mission.

Best regards,



Gerard Fontana  
Incoming IAB Chair  
Chief of Operations, Boston (MA) Fire  
Department



PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.



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**JOHN DELANEY**  
**IAB CHAIR**

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**Captain II, Arlington County (VA) Fire Department**

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John Delaney has been in the fire service for more than 25 years; the past 20 years as a member of the Arlington County Fire Department (ACFD), Arlington, Virginia, where 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 builds operational capabilities that will be required for atypical threats. These threats include active shooter, explosive, and fire-as-a-weapon. The program focuses on the development of multiagency, integrated police and fire service 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 (WMD) response team, which was comprised of more than 150 firefighters, 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. Events included 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. He provided WMD, hazardous materials, and technical rescue response expertise as a member of numerous local, regional, and national initiatives and committees focusing on first responder and homeland security matters. 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



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**SANDY BOGUCKI**  
**IAB DEPUTY CHAIR**

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Branford (CT) Fire Department

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Sandy Bogucki, M.D., Ph.D. has been a Connecticut-certified firefighter and a sworn member of the Branford Fire Department for 20 years. She currently serves as Fire Surgeon and Medical Director. She has published extensively on firefighter health and safety, EMS and emergency preparedness topics. Dr. Bogucki currently serves as EMS Medical Director for the 12 towns and 23 provider agencies (325 paramedics and over 800 emergency medical technicians [EMTs]) in the New Haven area. She holds several positions of leadership in the fire service and EMS communities. She is a principal member of the National Fire Protection Association, serving on the Fire Service Occupational Safety and Health National Fire Protection Agency 1500 Technical Committee and chairing the NFPA 1582 Task Group. She served on the Board of Visitors for the National Fire Academy, and conducted on-site investigations of firefighter

line-of-duty deaths for National Institute for Occupational Safety and Health (NIOSH). She serves on the editorial board of Prehospital Emergency Care. Dr. Bogucki also completed two terms on the Board of Directors of the National Association of EMS Physicians, and 16 years on the Board of Directors of the National Registry of EMTs, including serving as Chairman of the Board from 2007 to 2009. Dr. Bogucki is currently the co-Principal Investigator on a grant from the Centers for Medicare and Medicaid Services evaluating the use of EMS providers to facilitate medical follow up and access to community resources for elderly patients who fall. She is an Associate Professor in the Department of Emergency Medicine and the School of Public Health at Yale, with a Master's Degree from the Tulane University School of Public Health, a Ph.D. from Texas A&M, and M.D. from Yale.



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**JOHN INCONTRO**  
**IAB DEPUTY CHAIR**

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San Marino (CA) Police Department

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Chief John N. Incontro began his law enforcement career in 1976 as a Cadet with the Glendale Police Department. In 1979, John joined the Los Angeles Police Department (LAPD). His tenure with the LAPD included significant experience in patrol operations, administrative duties, training and special operations. One significant assignment was his selection as Acting Director of the Department of General Services, Security Services Division, following the terrorist attacks on September 11, 2001. From October 2014 until December 2014, John served as a Captain with the LAPD and held command assignments leading Patrol and Training Division operations in Pacific and Mission Areas, and leading the elite Metropolitan Division and Emergency Services Division. Following his retirement from the LAPD, he was appointed the Chief of Police for the San Marino Police Department in December 2014.

John has been an instructor and presented at several conferences in the areas of leadership, use of force, crowd management, tactics, school safety and other policing subjects to numerous agencies and organizations. Those groups have included the Department of State and Department of Homeland

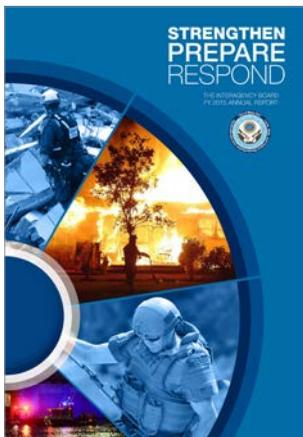
Security, along with various other State and local agencies. He has been an instructor for over 20 years in the Los Angeles Police Department's Leadership Program and in the Los Angeles Fire Department Leadership Program.

John is currently a member of the Federal InterAgency Board and serves as a Deputy Co-Chair. He is a member of the Homeland Security Committee for the International Association of Chiefs of Police. Additionally, he is a member of Rotary International, San Marino Chapter, the California Police Chiefs Association and the Los Angeles County Police Chiefs Association.

While working for the LAPD, Incontro obtained his Bachelor of Science degree from California State University, in Los Angeles (CA), and a Master of Science degree in Leadership and Management from the University of La Verne, in La Verne (CA). He has completed the Police Executive Research Forum's Senior Management Institute for Police, the Federal Bureau of Investigation's National Academy, Sherman Block Supervisory Leadership Institute and the Los Angeles Police Department's Leadership Program.

# FY 2016 HIGHLIGHTS

(OCTOBER 2015 – SEPTEMBER 2016)



Published the IAB Annual Report, Research & Development Priority List, Standards Development Priority List, and the Standardized Equipment List (SEL). The SEL is a voluntary guideline of equipment recommended by the IAB for preparing for and responding to chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) and all-hazards events, and the list is 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:

- » *Recommended Actions Related to Reducing the Known Risk of Cancer in Fire Fighters* (June 2016)
- » *Training Trigger: Integrated Response Operations in Active Shooter/Hostile Events* (June 2016)
- » *Conformity Assessment Guidance for Public Safety Equipment* (April 2016)
- » *Evaluation of the Downed Firefighter* (April 2016)
- » *Preparedness Activities for High Threat Events Requires Additional Study* (April 2016)
- » *Training Trigger: Highly Pathogenic Avian Influenza* (April 2016)
- » *Training Trigger: Administration of Naloxone* (February 2016)
- » *Prevalence of Untreated Severe Mental Illness in U.S. Communities Places Unmanageable Burden on First Responders and Law Enforcement* (October 2015)

Presented the following previously identified and prioritized standards for development to various federal, standards development, and first responder organizations:

1. Performance standard for protective helmets
2. Performance standard for protective shields
3. Performance standard for tactical operation video cameras
4. Performance standard for body-worn cameras
5. Standard(s) for robot operator self-evaluation and training program
6. Performance standard for protective gloves
7. Standard test method(s) for body armor designed for females
8. Standard test method(s) for localization and tracking systems

For an update on the status of these standards, please reference the “Previously Identified IAB Standards Development Priorities” section of the Standards Coordination SubGroup on pg. 69.

Assembled special project groups from IAB membership to respond to priority first responder concerns:

- » Carcinogens and Cancer Rates in First Responders
- » Civil Disturbance Strategy
- » Future of Community EMS
- » Guidance for Non-Law Enforcement Ballistic Protection
- » Mental Health & Wellbeing of First Responders
- » National Bioterrorism Emergency Response/ Big Cities Project
- » Unmanned Aerial Vehicles/Unmanned Aircraft System (UAVs/UAS)

## OCTOBER | NOVEMBER | DECEMBER

### OCTOBER 2015

Provided a review and feedback on the DHS Emergency Services Sector Specific Agency (ES-SSA) one-pager on Security for Emergency Response Vehicles and Equipment.

### NOVEMBER 2015

Assisted the Federal Aviation Administration in releasing their final report on new registration program for recreational unmanned aircraft.

Provided expertise on the System Assessment and Validation for Emergency Responders (SAVER) Chemical, Biological, Radiological, and Nuclear (CBRN) Air-Purifying Respirators focus group.

### DECEMBER 2015

Participated in the 2015 Personal Protective Equipment (PPE) Workshop with an IAB booth and subject matter expert attendance as well as a speaker presentation.

## JANUARY | FEBRUARY | MARCH

### JANUARY 2016

Hosted the Active Shooter/Hostile Event (ASHE) Summit II to share new information, focus on integrated response, and prepare detailed implementable operating guidelines that are scalable for municipalities of various sizes and resources.

### FEBRUARY 2016

Produced and coordinated an internal IAB survey on external information sharing and outreach.

# FY 2016 HIGHLIGHTS

## CONTINUED

### MARCH 2016

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Provided review and feedback on the U.S. Department of Health and Human Services (HHS), Assistant Secretary for Preparedness and Response (ASPR), Biomedical Advanced Research and Development Authority (BARDA), Primary Response Incident Scene Management (PRISM) decontamination guidance.

Drafted and coordinated an internal IAB survey on training and exercises needs.

Drafted and coordinated an internal IAB survey on initial response for incident characterization in regard to bioterrorism.

Participated in the Combating Terrorism Technical Support Office (CTTSO), Technical Support Working Group (TSWG) Chemical Protective Clothing Ensembles survey.

Participated in the CTTSO/TSWG Next Generation CBRN Evidence Bag survey.

### APRIL | MAY | JUNE

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#### APRIL 2016

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Participated in the American Society for Testing and Materials (ASTM International) Task Group on Protective Gloves survey.

Participated in the National Incident Management System (NIMS) revision and engagement request.

Provided review and comment on the Federal Communications Commission (FCC) Integrated Public Alert and Warning System.

#### MAY 2016

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Provided presentation at the Canada & United States Security Simulation Technologies Group.

Participated in a panel at the Law Enforcement and Public Safety Technology Forum.

Participated in a panel at the A. Michael Mullane 2016 Health & Safety Symposium.

Provided a presentation on the ASHE work of the IAB at the 2016 National Preparedness Symposium.

### JULY | AUGUST | SEPTEMBER

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#### JULY 2016

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Provided feedback and information to the National Sheriffs' Association on 1033 recalled equipment challenge examples.

Provided assistance to DHS on a request for ambush-style attack best practices.

Published the IAB *Active Shooter/ Hostile Event (ASHE) Guide*.

(Available on [www.interagencyboard.org](http://www.interagencyboard.org))



#### AUGUST 2016

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Recognized as a partner of the National Institute for Occupational Safety and Health/National Personal Protective Technology Laboratory (NIOSH/NPPTL) N95 Day 2016.

#### SEPTEMBER 2016

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Participated in the Jack Rabbit II chlorine release field trials at Dugway Proving Ground.

Participated in the DHS SAVER Program FY 2017 Projects Survey.



PHOTO COURTESY OF SARASOTA COUNTY SHERIFF'S OFFICE

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

- » American Society for Testing and Materials – Committee Meetings
- » Committee for Tactical Emergency Casualty Care
- » Department of Homeland Security, Domestic Nuclear Detection Office Executive Steering Committee
- » Department of Homeland Security, Domestic Nuclear Detection Office Working Group
- » 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
- » Department of Justice, Federal Interagency Law Enforcement Equipment Working Group
- » 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)
- » First Responder Technology Coordinating Council
- » International Association of Chiefs of Police Conference
- » International Association of Fire Chiefs – Hazmat Conference
- » Jack Rabbit II Experiment Planning Session
- » National Bomb Squad Commanders Advisory Board
- » National Governor’s Association Civil Disturbance conference call
- » National Public Safety Telecommunications Council
- » National Fire Protection Association, Technical Committee on Non-Structural Firefighting Self-Contained Breathing Apparatus
- » National Homeland Security Conference
- » State, Local, Tribal and Territorial Government Coordinating Council
- » TSWG Personal Protective Equipment Conference
- » TSWG Radiological Dispersal Device (RDD) Workshop
- » Virginia Hazmat Conference

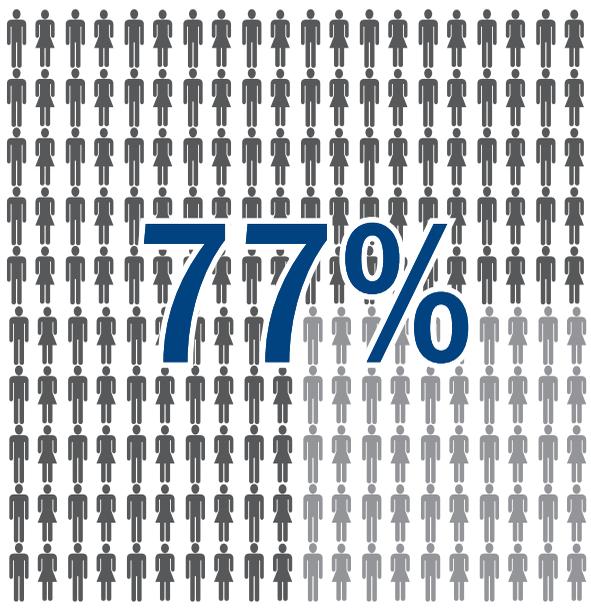


PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

Every year, the IAB conducts the annual demographics survey to capture in-depth information about participants. The results of the 2016 IAB Demographics Survey are shown in this section.

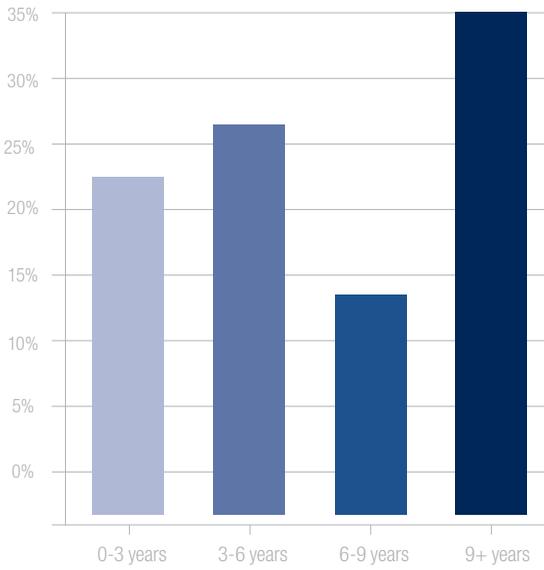
# DEMO GRAPHICS

The IAB is comprised of approximately 200 dedicated professionals. Roughly 77 percent of IAB participants have first responder backgrounds.



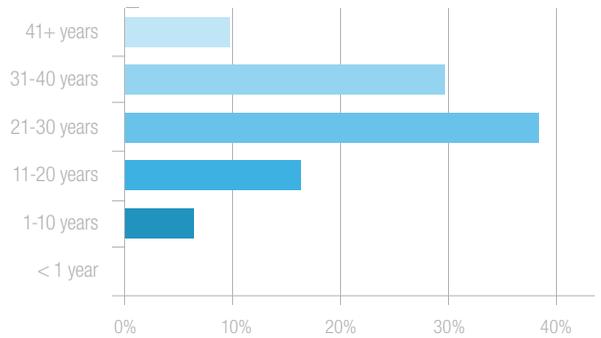
## LENGTH OF SERVICE WITH THE IAB

The majority of participants have served the IAB for three or more years.



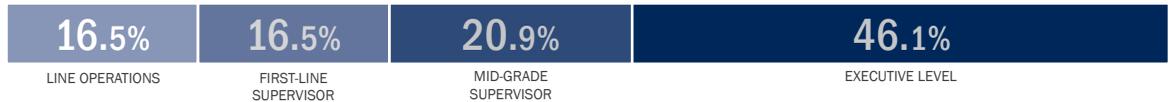
The majority of first responders have been in service for more than 21 years and work in jurisdictions with populations greater than 1 million.

### ACTIVE FIRST RESPONDER LENGTH OF SERVICE



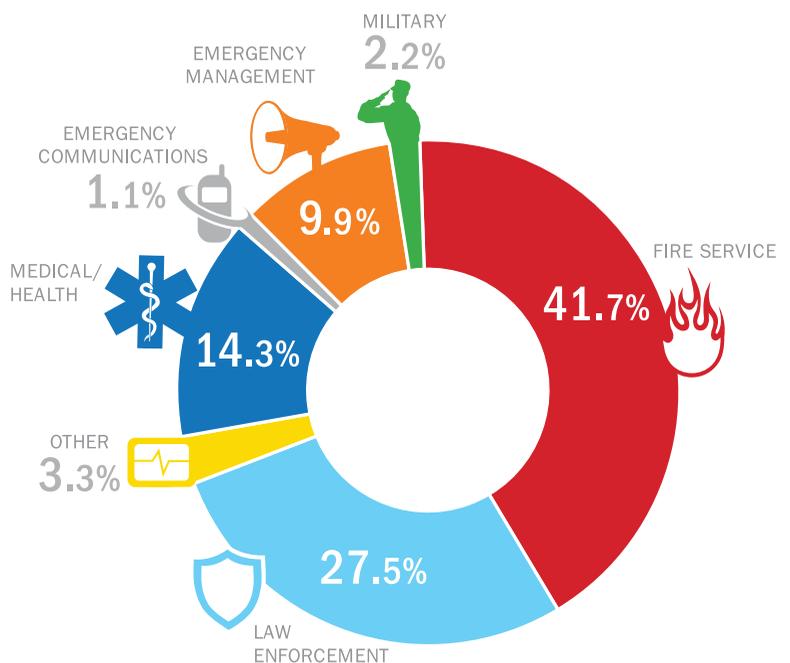
### ACTIVE FIRST RESPONDER OPERATIONAL LEVEL

More than 50 percent of IAB participants hold mid-grade to executive level jobs, which includes Chief, Deputy Chief, or Emergency Manager positions.



### ACTIVE FIRST RESPONDER DISCIPLINE BREAKDOWN

State, local, and federal responders from various disciplines, as defined by the Homeland Security Presidential Directives, are represented in the breakdown below. Roughly 68 percent of IAB participants work in fire service or law enforcement.



\*Other includes: Intelligence, Transport ALS, and Multi-Discipline (Emergency Management, All-Hazard Incident Management Teams )

**NON-FIRST RESPONDER PRIMARY PROFESSIONAL ROLE DISCIPLINE BREAKDOWN**

The 23 percent of IAB participants who are not first responders provide invaluable expertise in a wide array of disciplines.



GOVERNMENTAL

46.2%



VOLUNTEER

3.9%



BUSINESS AND INDUSTRY

3.8%

\* Other includes: Public Health, Training, and Crime Analysis



PROFESSIONAL ASSOCIATIONS

15.4%



ACADEMIA

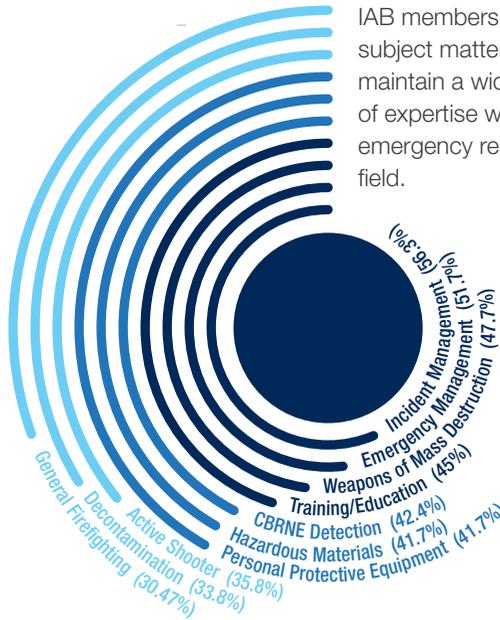
19.2%



OTHER

11.5%

**GENERAL AREAS OF EXPERTISE (ENTIRE IAB COMMUNITY)**

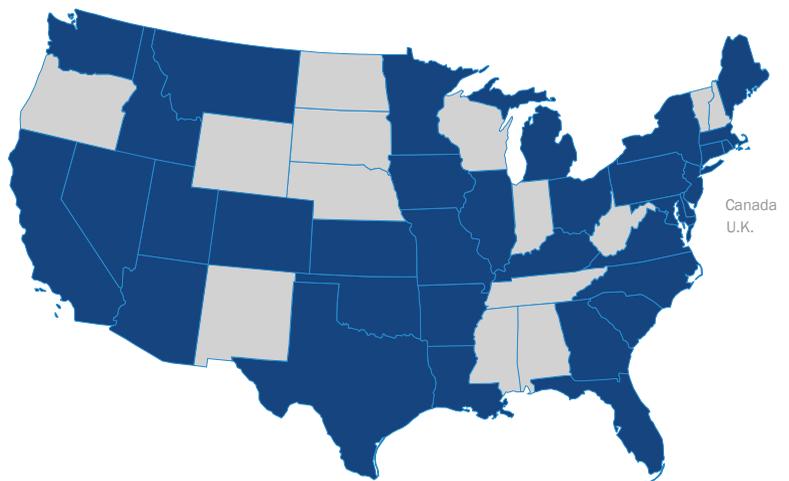


IAB members and subject matter experts maintain a wide range of expertise within the emergency response field.

\*Others include: Biological Materials, Communications, Confined Space Rescue, Disaster Recovery, Radiological Materials, Pre-hospital Emergency Medical Care, Search and Rescue, and Tactical Operations

**IAB PARTICIPATION (MEMBERS/SMES)**

IAB participants are located across the nation, Canada, and the U.K. in order to best represent diverse populations, departments, and perspectives.



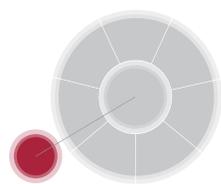


PHOTOS BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT  
PHOTO COURTESY OF DC FIRE & EMS



# FACC

FEDERAL  
AGENCY  
COORDINATING  
COMMITTEE



FACC



# FACC

FEDERAL  
AGENCY  
COORDINATING  
COMMITTEE



**CHAIR**

**MICHAEL WALTER**

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



PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

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.



PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.

## 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, DHS Office of Health Affairs

Office of Health Affairs (OHA) BioWatch served as the FACC Chair of the IAB during FY 2016. 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

### SEAN CRAWFORD

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

### COOPER HANCOCK

Federal Emergency Management Agency,  
National Integration Center

### WILLIAM HASKELL III

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

### BRIAN KAMOIE

Federal Emergency Management Agency,  
Grant Programs Directorate

### KAREN HOUSE

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

### DONALD LAPHAM

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

### PHILIP MATTSON

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

### RAYMON MOLLERS

Department of Homeland Security, Office  
of Health Affairs, Medical First Responder  
Coordination Branch

### MILTON NENNEMAN

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

### GARY ROGERS

Federal Emergency Management Agency

### DANIEL SCHULTZ

Department of Homeland Security, Office  
of Infrastructure Protection, Emergency  
Services Sector Specific Agency

### MARGARET SOBEY-SANTOS

Joint Program Executive Office for Chemical  
and Biological Defense

### DEBRA STOE

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



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 2016, 19 FACC priorities were submitted by 7 FACC member organizations, 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. Twelve of the priorities are considered successfully completed. The successfully completed priorities include, but are not limited to, completing a Conformity Assessment Decision Tool; identification of requirements for an Emergency Services Sector self-assessment tool; providing subject matter expertise by reviewing and commenting on agency documents, papers, and processes; updating the adopted and referenced standards and the prioritized standards development requirements lists; attending and participating in both CTTSO Requirements Meetings and Technical Program Reviews; participation on standards development organization committees in developing emergency responder PPE performance and certification standards; and identification of benefits of implementation of NIST Framework for Improving Critical Infrastructure Cybersecurity via the DHS Critical Infrastructure Cyber Community C3 Voluntary Program.

The federal priorities that were not completed have been removed for various reasons, placed on hold, or carried over to the FY 2017 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 2017.

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### FEDERAL GOVERNMENT AGENCIES

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#### **Department of Defense (DOD), Chemical and Biological Defense Program (CBDP)**

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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 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 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.

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#### **Department of Defense, Combating Terrorism Technical Support Office (CTTSO), Technical Support Working Group (TSWG)**

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The mission of CTTSO is to identify and develop capabilities to combat terrorism and irregular adversaries and to deliver these capabilities to DOD components and interagency partners through rapid research and development, advanced studies and technical innovation, and provision of support to U.S. military operations. The CTTSO is charged with providing a forum for interagency and international users to discuss mission requirements to combat terrorism, prioritize these requirements, fund and manage solutions, and deliver capabilities. The CTTSO accomplishes these objectives through rapid prototyping of novel solutions developed and field tested before the traditional acquisition systems are fully engaged. This low-risk approach encourages interdepartmental and interagency collaboration, thereby reducing duplication, eliminating capability gaps, and stretching development dollars.

The CTTSO accomplishes its mission in three ways. First, CTTSO takes operational requirements from warfighters, incorporates policy priorities of the DOD civilian leadership, and rapidly identifies, develops, and delivers advanced capabilities for Special Operations Forces and General Purpose Forces to improve the capacity of the DOD to combat terrorism and irregular adversaries. Second, CTTSO collaborates with and supports related requirements of non-DOD U.S. government agencies and state/local/tribal governments to understand those users' priorities and requirements to share expertise, and to develop mutually beneficial capabilities. Third, CTTSO works with partner country ministries of defense under bilateral arrangements to conduct cooperative research and development, which allows the U.S. DOD to leverage foreign experience, expertise, and resources in the fight against terrorists and their infrastructure.

The mission of the TSWG is to identify, prioritize, and coordinate interagency and international research and development (R&D) requirements for combating terrorism. Through the DOD's Combating Terrorism Technical Support Office and funding provided by other agencies, the TSWG rapidly develops technologies and equipment to meet the high-priority needs of the combating terrorism community, and addresses joint international operational requirements through cooperative R&D with major allies.

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### **Department of Defense, Homeland Defense and Global Security (HD&GS)**

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The Homeland Defense and Global Security office is responsible for policy guidance on homeland defense activities for the DOD. The Assistant Secretary of Defense (ASD), HD&GS, 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, homeland preparedness, and coordinates the transfer of dual-use technologies in support of homeland security. The ASD HD&GS 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.

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

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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.

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

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FEMA's PNP 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)



NATIONAL GUARD PHOTO BY WAI CO, LEE, KREPSTEKIES

PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT

PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

- 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 FY 2013 and 2014, 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.

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

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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.

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

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The OHA is DHS's principal authority for all medical and health matters; providing 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.

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

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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 S&T manages an integrated S&T program—guided by a risk-diverse, multi-tiered,

invested strategy based primarily on the stated needs of customers—and balances it 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.

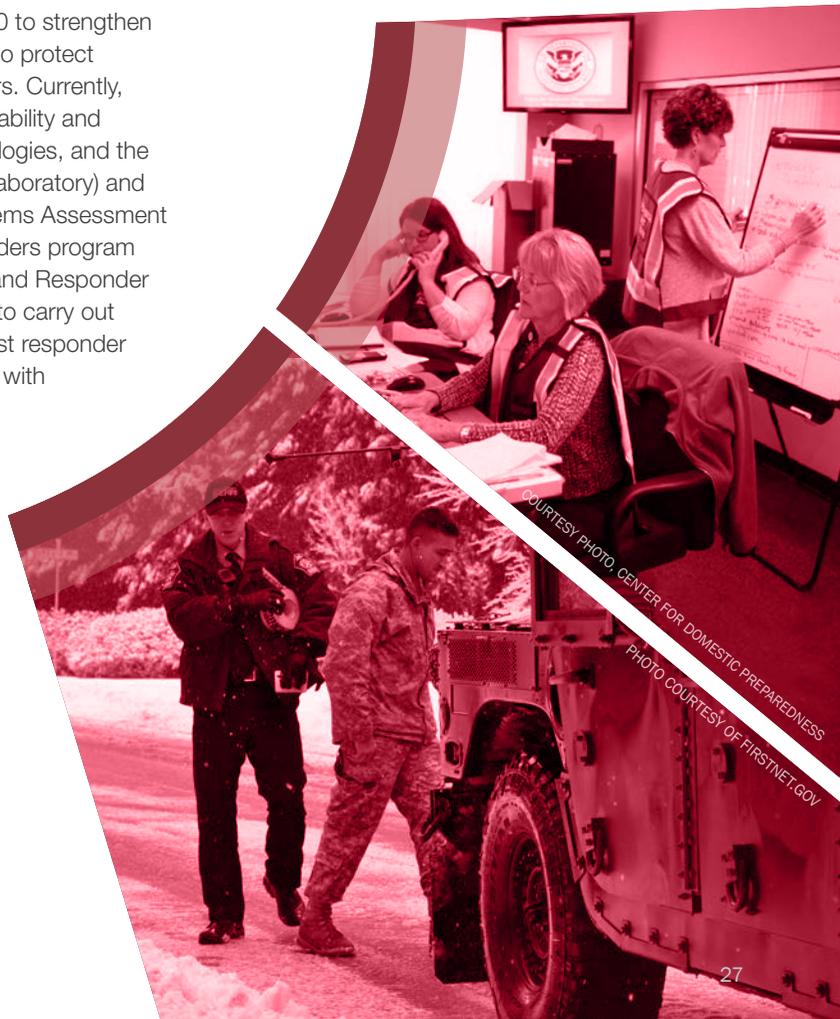
### **Department of Homeland Security, Science and Technology Directorate (S&T), Support to the Homeland Security Enterprise and First Responders Group (FRG)**

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. One mission of NIJ is to conduct research to support the development of voluntary performance standards for public safety equipment. The 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.



COURTESY PHOTO, CENTER FOR DOMESTIC PREPAREDNESS  
PHOTO COURTESY OF FIRSTNET.GOV

In 2014 and 2016, respectively, NIJ published Standard revisions:

- *Criminal Justice Restraints NIJ Standard-1001.00*
- *Public Safety Bomb Suit Standard-0117.01*

New Standards soon to be published:

- Duty Holster
- Criminal Justice Offender Tracking System
- In-Car Video Systems
- License Plate Readers
- Interview Room Video

Revised Standards soon to be published:

- CBRN Protective Ensemble
- Walk-Through and Hand-Held Metal Detectors
- Stab Body Armor
- Ballistic Body Armor

Through a collaboration between NIJ and ASTM International, public safety professionals (e.g., law enforcement, corrections, forensics agency, and emergency management) can get free access to relevant ASTM standard specifications, guides, practices and test methods. This is part of a larger effort in which NIJ and ASTM International are working together to develop standards and test methods that address the needs of the public safety community. More information can be found at [www.nij.gov/standards](http://www.nij.gov/standards).

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

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The NIOSH mission is to maintain national and world leadership in preventing work-related illness and injuries. The efforts of NIOSH 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 management for the NIOSH PPT Cross-Sector Program. This 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 address 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**

**Michael Walter**

**BioWatch Program Manager,  
Office of Health Affairs,  
U.S. Department of  
Homeland Security**

**Dr. Michael V. Walter** is the BioWatch Program Manager within the Department of Homeland Security's (DHS) Office of Health Affairs (OHA). He is responsible for management of the only national-level environmental surveillance system designed to detect aerosolized biological warfare agents. His duties include monitoring the performance of 30 analytical laboratories; aiding state and local public health departments in preparation of response plans for use in the event of a biological attack; and scheduling and conducting exercises to test those preparations.

Dr. Walter is responsible for the selection and deployment of future technologies for all operational aspects of the program. He is also responsible for fostering partnerships between BioWatch and the state and local public health community as well as other Federal Agencies, such as the Centers for Disease Control and Prevention (CDC), Environmental Protection Agency (EPA), and Department of Defense (DOD).

He was recognized as "One of the Faces of Homeland Security" by Secretary Napolitano in 2011.

Dr. Walter joined OHA in September 2009. Prior to joining the BioWatch Program, Dr. Walter was Staff Senior Scientist and headed the Technology Special Project Team for the U.S. Department of Defense Joint Program Executive Office for Chemical and Biological Defense. He has also held positions with the Central Intelligence Agency (CIA), the Naval Surface Warfare Center, and Texaco, Inc.

Dr. Walter has more than twenty years of experience in microbiology/biological warfare research. He has an extensive background in sampling and detection for aerosolized microorganisms, as well as in the management and development of design, test, evaluation, and quality assurance for related systems and programs. He also has significant experience in laboratory assay development and testing.

Dr. Walter is the recipient of eight publication and innovation awards. He is the author of numerous abstracts and patents; his scientific articles have been published in a number of journals including *Applied and Environmental Microbiology* and the *Canadian Journal of Microbiology*. He received his Ph.D. in Microbiology from the University of North Dakota.



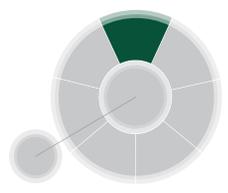
PHOTOS COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS



ESG

# ESG

EQUIPMENT  
SUBGROUP



ESG

PHOTO COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS

PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

# ESG

## EQUIPMENT SUBGROUP



### STATE & LOCAL CO-CHAIR

LISA LANHAM  
*Sarasota County (FL) Sheriff's Office*



### FEDERAL CO-CHAIR

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



PHOTO COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS



PHOTO COURTESY OF SARASOTA COUNTY SHERIFF'S OFFICE

The mission of the Equipment SubGroup (ESG) is to develop, maintain, and update the IAB Standardized Equipment List (SEL) to address the standardization and interoperability of emergency 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—the largest IAB SubGroup—addresses standardization and interoperability issues relating directly to protective, operational, and support equipment for emergency responders. The ESG responsibilities include maintaining 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 Training and Exercises (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), and Grant Programs Directorate (GPD).

## 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
- 6 INTEROPERABLE COMMUNICATIONS

## MEMBERSHIP

### ERIC ASHBURN

*Walker County (GA) Emergency Services*

### TAUSEEF BADAR

*Naval Hospital Twentynine Palms (CA)*

### CHRISTINA BAXTER

*TSWG Combating Terrorism Technical Support Office*

### DAVID BERNZWEIG

*Columbus (OH) Division of Fire*

### RICHARD BYTNER

*New York State Police*

### JERRY DIEHL

*Arizona State Police, Department of Public Safety*

### TIMOTHY DORSEY

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

### JASON FINLEY

*Kentucky Army National Guard*

### ERIC IMHOF

*California Maritime Academy, Maritime Safety & Security Center*

### 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*

### PETER STEVENSON

*U.S. Environmental Protection Agency*

### STEVEN TOWNSEND

*Carrollton (TX) Fire Rescue*

### FOREST WILLIS

*U.S. Coast Guard, Seventh District*

### DOUG WOLFE

*Sarasota (FL) Fire Department*

## SUBJECT MATTER EXPERTS

### EDWARD BAILOR

*United States Capitol Police (Retired)*

### RICH DUFFY

*International Association of Fire Fighters (Retired)*

### DONALD HEWITT

*Proconsul, Inc.*

### MICHAEL MARINO

*Prince George's County (MD) Fire & EMS Department*

### PATRICK MORRISON

*International Association of Fire Fighters*

### BARRY SMITH

*DHS S&T Transportation Security Laboratory*

### JEFF STULL

*International Personnel Protection, Inc.*

### DAVID TREBISACCI

*National Fire Protection Association*

NATIONAL GUARD PHOTO BY PHOTO BY SGT. WES PARRELL



PHOTOS BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

- 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
- 19 CBRNE LOGISTICAL SUPPORT
- 20 INTERVENTION
- 21 OTHER AUTHORIZED

### MISSION SPECIFIC SUBLISTS (MSSL)

Due to the number and diversity of items listed in the SEL, the ESG develops MSSLs to support critical emergency 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. Each MSSL provides a “tailored SEL” for emergency responders in a specific mission area. The MSSLs can be viewed on the IAB website at [www.interagencyboard.org](http://www.interagencyboard.org).

In addition to those MSSLs developed for mission critical areas, special MSSLs have been developed and released for the Canadian Police Research Centre in order to harmonize equipment with the IAB’s Canadian counterparts.

### MEMBERSHIP

The ESG includes a wide range of members and SMEs from emergency response and standards development organizations, federal agencies, and the military. This facilitates system-wide improvements of the SEL, as well as advocacy of and participation in equipment performance and certification standards development. The ESG is composed of:

- State and Local Organizations (50%) – Representing fire service, law enforcement, emergency medical services (EMS), state national guard, 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. Environmental Protection Agency, U.S. Army Research Laboratory, U.S. Army Chemical Materials Activity, Naval Surface Forces

Professional organizations are widely represented in ESG, including 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 organization 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, 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 together in a cooperative manner has been, and continues to be, essential to the success of the ESG.

### FY 2016 HIGHLIGHTS AND 2017 INITIATIVES

- The ESG continued to serve as the lead SubGroup for maintaining and updating the SEL, as well as supporting the DHS/FEMA NPD with the AEL. The 2016 edition of the SEL contains numerous updates as described in the SEL section of this Annual Report. Considerable progress was made working with the DHS/FEMA NPD on AEL/SEL alignment and AEL content. ESG will continue to advocate the inclusion of wildland firefighting gear and marking cartridges.
- ESG members hosted a presentation by Alakai Defense Systems on their “manpack” detection system in Sarasota, Florida.
- ESG members completed an information paper on the terrorist threat of wildland fires and submitted it to the FEMA GPD Office with the objective of having NFPA wildland firefighting protective clothing and equipment added to the AEL.
- ESG members viewed Trackimo software presented by Jim Prandine in Sarasota, Florida.

- ESG members/SMEs presented at and attended the TSWG Personal Protective Equipment Workshop held in Ft. Lauderdale, Florida.
  - » Current detection technology and their capabilities, Barry Smith, DHS
  - » Chem Image, Chuck Gardner
  - » W.L. Gore & Associates, Inc., Michael Kienzle
  - » CBRNE World, A. Schinzel
  - » Airboss Chemical Glove, Christina Baxter
  - » Avon Equipment, James Wilcox, Independent Testing of Handheld Portable Biodetection Equipment, Rich Ozanich, Pacific Northwest National Laboratory (PNNL)

#### **EQUIPMENT SUBGROUP 2017 PRIORITY INITIATIVES**

- ESG will continue to identify new detection technologies and equipment by attending the Fire Department Instructors Conference (FDIC) and the International Association of Chiefs of Police (IACP) conference.
- ESG and IAB members/SMEs will continue to serve on the NFPA Correlating Committee for Fire and Emergency Service Protective Clothing and Equipment and the eight Technical Committees.
- ESG will continue to work closely with the Standards Coordination SubGroup (SCSG) in revising the IAB process and procedure for formally recognizing product performance and certification standards, test methods, guidance, training standards and procurement guidance linking SEL equipment items.
- The MSSSLs will continue to be developed for additional public safety and emergency response critical mission areas.



THIS BUGGY BOUGHT WITH SEIZED DRUG MONEY ★

PHOTO COURTESY OF SARASOTA COUNTY SHERIFF'S OFFICE

**STATE & LOCAL CO-CHAIR**

**Lisa Lanham**

**Manager, Sarasota County (FL)  
Sheriff's Office**

**Lisa Lanham** began her career in law enforcement at the Polk County, Florida, Sheriff's Office in 1991. In 1994, she became a crime scene investigator for that agency. In 1996, she was hired by the Sarasota County, Florida, Sheriff's Office as a crime scene investigator. During her career she has completed over 700 hours of specialized training in forensic science including agro-terrorism, response to biological incidents and response to terrorist bombings. Ms. Lanham is a blood spatter expert who has instructed in-service and mutual aid training on the subject of forensic science. In 2012, she was promoted to Manager of the Property/Evidence Unit and continues in that position, supervising eight employees. Ms. Lanham is a graduate of Hodges University, and holds an A.S. in Interdisciplinary Studies and a B.S. in Legal Studies. Prior to her law enforcement career, she served in the United States Marine Corps.

**FEDERAL CO-CHAIR**

**William Haskell III**

**Program Manager, NIOSH,  
National Personal Protective  
Technology Laboratory**

**William 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 National Occupational Research Agenda's Public Safety Sector Council. He serves as the Chairman of the NFPA Correlating Committee for Fire and Emergency Services Protective Clothing and Equipment, and is a 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 IACP Homeland Security Committee. He is also the Chairman 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.



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PHOTOS BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

HMRS

# HMRS

HEALTH,  
MEDICAL &  
RESPONDER  
SAFETY  
SUBGROUP

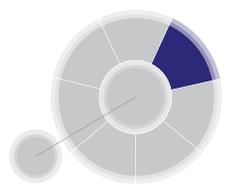


PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT



HMRS

# HMRS

## HEALTH, MEDICAL & RESPONDER SAFETY SUBGROUP



### STATE & LOCAL CO-CHAIR

**JEFFREY RACE**  
*Pineville (NC) Fire Department*

### FEDERAL CO-CHAIR

**RENÉE FUNK**  
*Centers for Disease Control and Prevention,  
Agency for Toxic Substances and Disease Registry*

The mission of the Health, Medical, and Responder Safety (HMRS) SubGroup is to provide guidance to the IAB on medical and public health and safety issues potentially impacting our nation's first responders and first receivers. This 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. HMRS 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.



PHOTO COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS



PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

**ROLES AND FUNCTIONS**

- Identify gaps and needs for providing safe and effective pre-hospital medical care under emergency conditions.
- Evaluate the efficacy and appropriateness of existing and proposed health and safety 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 and recommend mitigation strategies.
- Analyze threat scenarios and make recommendations about how to protect public health, medical, and emergency responder personnel, and victims safely and effectively.

**INITIATIVES**

- The Ebola outbreak this year has highlighted the need for preparedness and response for any emerging infectious diseases that might enter the U.S. Address issues such as: decontamination of ambulances, conducting active monitoring, infectious disease training particularly for law enforcement officers, as well as many other issues.
- Work through the National Institute for Occupational Safety and Health to provide feedback on their new

## MEMBERSHIP

### KNOX ADDRESS

Louisiana Poison Center

### KELLY BURKHOLDER-ALLEN

Toledo-Lucas (OH) County Health Department

### RICHARD BURTON

Placer County (CA) Health and Human Services

### DUANE CANEVA

U.S. Department of State

### CAOIMHÍN CONNELL

Park County (CO) Sheriff's Office

### DARIO GONZALEZ

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

### RANDALL GRIFFIN

DeWitt (NY) Fire District

### EARL HALL

Powell County (MT)

### DAN HANFLING

Fairfax County (VA) Fire and Rescue Department

### KEN MILLER

Santa Clara County (CA) Emergency Medical Services Agency

### RAYMON MOLLERS

Department of Homeland Security, Office of Health Affairs, Medical First Responder Coordination Branch

### FRANKLIN PRATT

Los Angeles County (CA) Immunization Program

### 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, Centers for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry

## SUBJECT MATTER EXPERTS

### MARK ANDERSON

Bellevue (WA) Fire Department

### SUSAN JONES-HARD

Center for Homeland Defense and Security

### PAUL MANISCALCO

International Association of Emergency Medical Services Chiefs

### DAVID NEUBERT

Town of Hempstead (NY) Dept. Conservation and Waterways

### ANDREW ROWLEY

Forsyth County (NC) Emergency Services

### MERRITT "CHIP" SCHREIBER

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



Disaster Science Responder Research (DSSR) Program. The goal of the DSRR is to develop a framework that allows for disaster-related research to be started quickly, regardless of the disaster scenario, without interfering with the response itself. Scientific study can provide better understanding and reduction of responder health effects from disasters and can lead to improvements in the effectiveness of emergency responses.

- Review Anthrax Vaccine White Paper in light of FDA approval of anthrax anti-toxin products.
- 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.
- Apply the Tactical Emergency Casualty Care (TECC) 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. HMRS members engage all of the response disciplines as defined by the Department of Homeland Security (DHS), Federal Emergency Management Agency's (FEMA) National Preparedness Directorate. HMRS also draws upon a wide range of expertise through their subject matter experts (SMEs).

## FY 2016 ACCOMPLISHMENTS

- Participated in special projects including reviewing and evaluating the BioWatch Concept of Operations development, Fire Retardant Chemical and the Impact on Firefighter Cancer Rates, First Responder of the Future Project, National Mass Fatality Management, National Bioterrorism Responder Strategy, and Responding to the Mentally Challenged.
- Completed a position paper on "Preparedness Activities for High Threat Environments". The HMRS SubGroup recommends further review and analysis of the causes of death from active shooter and high threat incidents that have occurred in the United States, with continued refinement of the systems of care and preparation for these types of events.
- Completed a position paper on "Mental Health and Well Being of First Responders".
- Completed a paper on "Law Enforcement TECC Training and Individual First Aid Kits (IFAK)". Mission-appropriate aspects of tactical emergency casualty care (TECC) and the use of IFAK should be part of basic training and equipment issued for all local emergency responders.
- Completed a paper on "Prevalence of Untreated Severe Mental Illness in U.S. Communities Places Unmanageable Burden on First Responders and Law Enforcement". It is essential that first-response agencies advocate strongly—in their own communities and on the state and national levels—for a comprehensive, functional, proactive mental health treatment and addiction recovery system.
- Completed a paper on "Evaluation of the Downed Firefighter". By improving awareness and appreciating the physiologic effects and pathologic risks encountered during structural and wildland firefighting activities, the emergency medical community can provide better care, leading to improved outcomes. This paper goes over evaluation, testing and therapies for the hospital and pre-hospital considerations.
- Completed a review of SEL and AEL medical items.



**STATE & LOCAL CO-CHAIR**

**Jeffrey Race**

**Safety Officer/Firefighter/EMT,  
Pineville (NC) Fire Department,  
Commanding Officer/Captain,  
FDNY EMS Special Operations/  
Haz Tac Battalion, Retired**

**Captain Jeff Race** (FDNY Ret.) is currently President of the Pineville Fire Department, Pineville, NC. His 36 years of EMS/Fire experience includes both 1993 and 2001 World Trade Center Terrorist attacks, numerous HazMat/Rescue, aircraft, marine, rail, mass casualties and structural incidents. His experience with planned events includes National Special Security Event Presidential visits and United Nations Assemblies, New Year's Eve and sporting events on top of the annual 1.6 million EMS responses and 45,000 fires of NYC's 303 square miles. Captain Race developed the FDNY Haz Tac Battalion, where Emergency Medical Technicians (EMTs) and paramedics are trained in hazardous materials medical management, and the FDNY Rescue Paramedic program. He operated and later supervised responses to many of the anthrax threats in New York City.

Mr. Race remains active/certified in North Carolina as a firefighter/EMT. He received his original paramedic certification at Davenport University in Grand Rapids (MI) where he focused on EMS Systems Management. He continues leading, training educating and collaborating on first responder initiatives and on certifications in a multitude of areas both locally and nationally.

**CAPT Renée Funk** U.S. Public Health Service, is the Deputy Associate Director in the Emergency Preparedness and Response Office (EPRO), Office of the Director, National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC).

Dr. Funk received her Doctorate of Veterinary Medicine from Iowa State University and her Masters of Public Health and Tropical Medicine from Tulane University. She recently completed her Masters of Business Administration from Georgia State University. She is a Diplomate of the American College of Veterinary Preventive Medicine.

Dr. Funk is a recognized expert in occupational health for emergency responders and public health surveillance. She leads the Emergency Responder Health Monitoring and Surveillance Interagency Workgroup. She co-leads the Worker Safety and Health desk in CDC's Emergency Operations Center. Dr. Funk recently deployed to Sierra Leone for the Ebola response as a Safety Officer protecting the health and safety of over 100 deployed CDC staff.

**FEDERAL CO-CHAIR**

**CAPT Renée Funk**

**Deputy Associate Director,  
Emergency Preparedness and  
Response Office, National  
Institute for Occupational  
Safety and Health**



PHOTO COURTESY OF FIRSTNET.GOV



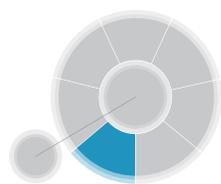
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IM&C

# IM&C

INFORMATION  
MANAGEMENT &  
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SUBGROUP

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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 the processes, protocols, and technologies that enable effective, timely, accurate, secure, and resilient information management and communications capabilities, while addressing the full range of all-hazards incidents.



## ROLES AND FUNCTIONS

The role of the IM&C SubGroup is to develop a common or standardized operating picture for the essential components of an emergency incident response. Building upon the IAB's greatest strength—its emphasis on the practitioner—the IM&C SubGroup largely comprises members who are active first responders from fire, law enforcement, emergency medical services (EMS), and emergency management agencies. These members of the first responder community work with federal, state, and local government representatives, as well as subject matter experts (SMEs) representing science, industry, and academia, to accomplish 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. This unique effort results in information from the first responder's perspective.

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

- Combat the 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

### ROY BOYD

Victoria County (TX) Sheriff's Office

### AMY DONAHUE

University of Connecticut

### LEONARD EDLING

Merrionette Park (IL) Fire Department

### JOHN FREEBURGER

Montgomery County (MD) Fire and Rescue Service

### DAVID ISAACSON

Department of Homeland Security Emergency Services Sector-Specific Agencies

### WALTER KAPLAN

Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response, National Disaster Medical System

### 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

### ROBERT RICKER

Alsip (IL) Fire Department

### JEFFREY RODRIGUES

Cook County (IL) Department of Homeland Security Emergency Management

### WILLIAM SNELSON

United States Marshals Service

### JOHN SULLIVAN

Los Angeles (CA) County Sheriff's Department

## SUBJECT MATTER EXPERTS

### JERALD DAWKINS

University of Tulsa

### JEANNINE HENDERSON

NORAD-USNORTHCOM J6

### DOUG WIEDMAN

Sacramento County (CA) Sheriff's Department

### CHRIS WRIGHT

Reliant



- Develop and integrate effective, interoperable communications and decision-making support technologies and practices to provide indications, warnings, and information/intelligence support for all-hazard 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 emergency 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 can 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 timely disseminated information regarding such issues as grant programs, technology trends, resources, and ongoing R&D. 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 of these groups are developing wide-reaching, long-term solutions while 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 outside efforts, projects, and programs, it is the emphasis on involving actual responders that makes the IAB and IM&C SubGroup unique.

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

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### Pen Testing

Members of the IM&C SubGroup working with DHS have drafted scenarios and are awaiting DHS staff to pen test police, fire, and 911 machines in three localities. This will provide a baseline for security needs within the Emergency Services Sector (ESS) and help other state and local governments understand their risks. Because this effort has been delayed, DHS has been requested to reprioritize this work so that they execute it in the near future.

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### FIRST RESPONDER THREAT ASSESSMENT AND TESTING

A significant finding in communicating the value of the Cybersecurity Continuum was a lack of understanding of the threat posed to our First Responder Community. In order to address this shortcoming, IM&C solicited support from the DHS National Cybersecurity and Communications Integration Center’s National Cybersecurity Assessment and Technical Services Team to perform a Risk and Vulnerability Assessment (RVA) exercise. The group devised a series of validation tests to better understand the threat profile of first responders, and leveraging the RVA group could derive actionable real-world guidance to addressing these threats.

Three municipalities have engaged the RVA services. Two of the three have fully completed the engagement, with the third to be completed by the end of the summer. Findings for the two completed RVAs were presented and discussed at the most recent IM&C meetings. Based on those conversations, the IM&C is actively developing a white paper that will summarize the engagements, discuss potential threat profiles, and present remediation guidance and activities.

The goals of the white paper are to provide guidance to the first responder community on the potential impact a cyber-attack may have on their ability to perform their function. Key to this communication is to provide multiple perspectives from the viewpoint

of a small community (<20K people and having 2 IT resources none of which are dedicated to security) to a large municipality (>1M people having more than 40 IT security resources).

Several key issues have been identified and will be examined including, System Hardening, Proper Segmentation, Governance and Communication, Unintentional Insider Threat, and Monitoring. Those participating entities will be providing additional insight into remediation activities completed and their relative impact to their cybersecurity posture.

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### **FURTHERING SYSTEM SECURITY THROUGH ISOLATION**

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First Responder IT Systems are highly specialized and include significant confidentiality, integrity and availability considerations. Securing devices related to these systems is challenging due to their geographically diverse and interoperability requirements. Leveraging traditional security detection devices poses security risks—vulnerability scanners are not equipped to properly assess vulnerabilities within the networked system and patch management is difficult due to bandwidth, mobility, and availability requirements. Also, first responder vendors aren't developing devices with security in mind. This effort seeks tools and technology devices to harden First Responder systems at the end point and during transmission, develop detective devices to identify anomalous network and host-based activity, and evaluate techniques and technology to assist first responder IT professionals to more effectively secure first responder IT systems.

Current efforts to secure these environments consist of general control guidance based on the Cybersecurity Framework. Identify, Detect, Respond, and Recover provide general statements without any direct guidance on how to accomplish it. The challenge is that controls need to be clearly defined before they can be controlled. Current first responder IT systems are flat, lack proper monitoring controls, and are plagued with system maintenance challenges regarding updating and patching.

This gap exists in Police, Ambulatory, Fire, and 911 IT systems across the U.S. The problem is exacerbated with the increasing reliance on technology. New IT systems are being introduced into the environment. Mobility and Internet of Things will further increase the attack surface and risk posed to these systems.

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### **FIRSTNET & IAB**

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Today, first responders rely on more than 10,000 separate, incompatible, and often proprietary land mobile radio networks for wireless data. This makes it difficult, and at times impossible, for emergency responders from different jurisdictions to share information, especially during major emergencies.

Congress made history by allocating valuable spectrum and up to \$7 billion in funding for the construction of the FirstNet public safety broadband network. To create a nationwide network, all 56 U.S. states and territories must have a radio access network that is connected to the FirstNet core network. To contain costs, FirstNet is tasked with leveraging existing telecommunications infrastructure and assets. This includes exploring public/private partnerships that can help support and accelerate the creation of this new advanced wireless network.

The Middle Class Tax Relief and Job Creation Act of 2012 created the First Responder Network Authority (FirstNet) as an independent authority within the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) to provide emergency responders with the first nationwide, high-speed, broadband network dedicated to public safety. FirstNet was required to establish a Public Safety Advisory Committee (PSAC). FirstNet established the PSAC in February 2013 consisting of members representing all disciplines of public safety as well as state, territorial, tribal, and local governments—including the InterAgency Board (IAB). The mission of the PSAC is to assist FirstNet in carrying out its duties and responsibilities. The IAB's IM&C subgroup has been a key member and participant in the FirstNet PSAC.

During the last year, the IAB was represented in participation in four (4) key FirstNet-PSAC project committees:

1. Quality, Priority, and Preemption
2. Public Safety Grade (served as committee chair)
3. Local Control
4. Identity, Credentialing, and Access Management (served as committee chair)

#### **1. Quality, Priority, and Preemption (QPP)**

Quality of Service, Priority, and Preemption (QPP) are three characteristics that describe a public



PHOTO COURTESY OF SARASOTA COUNTY SHERIFF'S OFFICE

safety entity's anticipated experience on the FirstNet network. Quality of Service means that public safety personnel maintain appropriate access to critical communication resources at all times. Priority means that public safety personnel receive access to those resources first, ahead of other users. Preemption means that higher priority personnel are able to utilize all available resources within the network, even if services to lower priority personnel are denied.

This QPP framework:

- A. Establishes and manages, both statically and dynamically, QPP capabilities within the network;
- B. Allows public safety users to have different services, applications, and usage profiles;
- C. Allows public safety users to have default QPP properties; and
- D. Allows the modification of those properties by FirstNet and/or local public safety entities, as needed.

Related to this, FirstNet sought advice regarding a technology-independent framework for implementing a prioritization and preemption policy for use on the FirstNet network. As an initial step in the development of that policy, FirstNet worked with the PSAC to provide an analysis and recommendations regarding a framework for creating such a policy. FirstNet believes that, because technological factors affecting the prioritization of traffic can change over time, it was critical to initially formulate a desired framework and ultimate policy that assumed no technological limitations and is independent of any one technology.

To help guide the approach, FirstNet worked with the PSAC using the following process:

- A. Define basic usage patterns.
- B. Select a set of incidents with multiple stages in each incident.
- C. Analyze the usage patterns for each incident stage, why the communication and prioritization needs change by stage, and the key decision points that were made in order to implement such change.

Once the PSAC had undertaken the above analyses, they helped develop a proposed overall operational framework and recommended set of rules to help form the basis of a priority and preemption network policy.

## 2. Public Safety Grade (PSG)

In order to provide a network that delivers consistent and effective access to first responders, especially during large incidents such as natural disasters, a prioritization framework should be developed to address the implementation of PSG elements within the NPSBN. To that end, FirstNet sought advice from the PSAC regarding an initial FirstNet-proposed methodology and framework for implementing PSG elements in the NPSBN with respect to priority needs, critical infrastructure protection, and geographic and human threats to the NPSBN.

This request had three components:

- A. FirstNet requested that the PSAC review and provide feedback on FirstNet's prioritization proposal based on a three-pronged tiering structure.
- B. FirstNet requested that the PSAC review and provide feedback on FirstNet's proposed critical infrastructure definitions.
- C. FirstNet requested that the PSAC review and provide feedback on FirstNet's proposal for structuring the application of hardening guidelines specific to geographic and localized natural threats (such as flooding, wind, ice, storm surge, etc.).

## 3. Local Control

With the understanding that automated processes may only go so far in supporting emergency incident communications needs, FirstNet, through the PSAC, started to determine how a 'local control' interface may operate in support of the network. The purpose of the Local Control Task Team has been to further define and refine the operational requirements of the local control application that FirstNet will provide and to assemble the materials needed to better define the processes that support those operations that are not expected to be supported by the local control application directly.

## 4. Identity, Credentialing, and Access Management (ICAM)

The purpose of the FirstNet – PSAC Task Team is to investigate each of the primary elements of ICAM; raise open questions in each element; and provide answers to further refine the requirements of those elements.

The task team was given a couple goals and considerations in the effort:

**Goals** – create authentication guidelines that meet the needs of public safety users and ensure efficient and secure access to mission critical applications

**Considerations:**

- A. Different public safety users and roles
- B. Users complete shift (not just standalone authentication)
- C. Ease of use
- D. Levels of assurance
- E. Authentication levels for applications

January 13<sup>th</sup> of this year (2016) FirstNet released its RFP to identify a vendor to help build out the national network. Responses were due May 31<sup>st</sup> (2016) and it is anticipated that an apparent, successful vendor will be announced by the end of the year.

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**SAFECOM**

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As has been mentioned in past annual reports, members of the IAB have been involved in the SAFECOM Program (<https://www.dhs.gov/safecom>) efforts, almost since SAFECOM's beginning in 2001. 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 (NECP), the development of the DHS All-Hazards Type III Communications Unit Leader and Technician courses (COML/COMT), the SAFECOM Continuum, and more.

During this past year, IAB IM&C members have been heavily involved in activities of the following SAFECOM committees:

- Governance Committee
- Education and Outreach Committee
- Communications Unit

**FY 2016 ACCOMPLISHMENTS**

During FY 2016, the IM&C SubGroup accomplished the following major items:

- Position paper on cloud computing and cybersecurity concerns.
- NIST Framework.
- Ongoing engagement with FirstNet.
- Ongoing work through SAFECOM on DHS/OEC Communications Unit courses.

**CURRENT INITIATIVES**

During FY 2017, the IM&C SubGroup will continue to work on the following initiatives:

- Review two DHS S&T documents, Information Sharing Continuum and Capability Maturity Model.
- Explore geomagnetic storms and craft a preparedness statement paper.





**STATE & LOCAL CO-CHAIR**  
**Mark Hogan**  
Director of Asset Management,  
City of Tulsa (OK)

**Mark Hogan** is the Chief of Security for the City of Tulsa and has 26 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 activities at DHS.

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

Mr. Hogan has been a reserve police officer for 24 years, first serving in Wagoner County (OK), and currently serving in Broken Arrow (OK).



**FEDERAL CO-CHAIR**  
**Mike Tuominen**  
Branch Chief, U.S. Forest Service,  
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 radios; high-frequency and satellite radios and telephones; 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.

PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

PHOTO COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS



PHOTO COURTESY OF CENTER FOR DOMESTIC PREPAREDNESS

# S&T

SCIENCE &  
TECHNOLOGY  
SUBGROUP

S&T

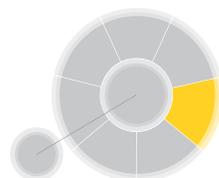




PHOTO BY K. KELLERWALS, VIRGINIA BEACH FIRE DEPARTMENT

S&T



# S&T

## SCIENCE & TECHNOLOGY SUBGROUP



### STATE & LOCAL CO-CHAIR

**ADAM MILLER**  
*Huntingdon County (PA) Sheriff's Office*

### FEDERAL CO-CHAIR

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

The Science & Technology SubGroup's mission is to identify interagency (federal, state, local, and tribal) research & 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 (CBRNE) focus areas including: detection, individual protection, collective protection, medical support, decontamination, communications systems/information technology, deterrence and prevention, and security/situational awareness.



PHOTO COURTESY OF FIRSTNET.GOV

PHOTO BY K. KELLERHALS, VIRGINIA BEACH FIRE DEPARTMENT

### 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 FY 2016 the S&T SubGroup accomplished the following:

- Followed up on detailed review and prioritization of S&T needs and projects.
- Conducted an R&D requirements write-up training session with SubGroup representatives.
- Worked with the IAB Program Office and leadership to implement an alternate approach to administering the IAB First Responder R&D Priority Survey. After administering the new web-based survey, results were used to prioritize R&D requirements from SubGroups and Focus Area Disciplines.

## 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*

### **DONALD DENNING**

*Town of Shirley (MA)*

### **WILLIAM DESO**

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

### **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*

### **ANGELA ERVIN**

*Department of Homeland Security,  
Science & Technology Directorate*

### **GERARD FONTANA**

*Boston (MA) Fire Department*

### **GEORGE HOUGH**

*Fire Department, City of New York (NY)*

### **DAVID LADD**

*Massachusetts Department of Fire Services*

### **DANIEL MURRAY**

*Seattle (WA) Fire Department*

### **MILTON NENNEMAN**

*Department of Homeland Security,  
Science & Technology Directorate*

### **DAVID TAFAOA**

*South Carolina Law Enforcement Division*

### **MICHAEL WALTER**

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

### **MIKE WITTEVEEN**

*Grand Rapids (MI) Fire Department*

## SUBJECT MATTER EXPERTS

### **MICHELLE NUNEVILLE**

*Arlington County (VA) Police Department*

### **NANCY SUSKI**

*Lawrence Livermore National Laboratory*



- Continued coordinating an effort to explore resources available to empower and increase incident collaboration via electronic means; conducted a gap analysis on current systems (including social media analytics); and met with stakeholders at DHS to explore building a persistent nationwide system that would become available.
- Conducted a statistical analysis of the new IAB R&D requirements survey results and delivered 2016 Research & Development Priority List for official publication.
- Coordinated input to federal R&D agencies, Federally Funded Research and Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs) to leverage IAB-prioritized requirements.
- Provided review and input to IAB white papers and other work product documents.
- Expanded outreach to national labs and centers of excellence to increase the partnership and innovation capacity of the S&T SubGroup.
- Participated in First Responder of the Future Working Group conference calls and meetings.
- Attended the following events:
  - » International Association of Fire Chiefs (IAFC) hazardous materials (HAZMAT) Conference in Baltimore
  - » Supported the Incident Command/Law Enforcement Terrorism Risk Assessment Mini Group with Interdiction Modeling
  - » Supported DHS S&T First Responders Resource Group on various initiatives throughout the year
  - » E54.01 Task Group on WK46895 – New Specification for Hand Portable Biodefense Instruments for Homeland Security Applications

## FY 2016 INITIATIVES

The S&T SubGroup has established and continued to refine a formal process to collect and prioritize IAB R&D requirements. This was further developed to obtain new requirements from all IAB first responder disciplines as listed below. The S&T SubGroup has worked with the IAB Program Office to revise and update the requirements survey process to improve efficiency, data collection, and analysis of results, and to broaden the requirements prioritization by first responder disciplines as follows:

- Communications
- Emergency Management
- Fire
- HAZMAT
- Explosive Ordnance Disposal (EOD)
- Law Enforcement
- Medical

This new process was further refined in 2016 to focus on responders' most relevant disciplines. Based on the survey results, the SubGroup intends to 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 in the R&D Database; coordinate visits to industry R&D facilities and federal R&D labs/centers; increase the number of novel and emerging technologies presented to the IAB; and expand the interconnectivity between the S&T SubGroup and other groups generating and advancing innovative research into responder needs.

The S&T SubGroup will continue to support a demographic database and analysis of the IAB membership. New demographic data was gathered in 2016. The S&T SubGroup will also continue to participate and contribute to the First Responder of the Future Special Project and Project Responder 5.

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## IDENTIFIED REQUIREMENTS (2016)

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The following prioritized R&D requirements were identified by the discipline groups (communications, EOD, fire service, hazmat, health & medical, and law enforcement) as capability gaps that should receive special consideration as R&D initiatives. For additional information on the 2016 R&D Priorities below, please reference the Appendix on pg. 101 for a short description on each priority item.

## 2016 IAB Research and Development Priority List

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1. INDOOR 3-D TRACKING OF PERSONNEL
2. LAW ENFORCEMENT USE OF UNMANNED AIRCRAFT SYSTEMS (UAS)
3. HANDHELD STANDOFF CHEMICAL & EXPLOSIVE IDENTIFIER
4. 3-D X-RAY
5. OUTDOOR 3-D TRACKING OF PERSONNEL
6. HME NEUTRALIZATION
- 7.\* DEVELOPMENT OF PERFORMANCE REQUIREMENTS & TEST METHODS FOR BALLISTIC-RESISTANT BODY WORN ARMOR FOR WOMEN (TIE)
- 7.\* NOISE FILTERING DIGITAL SPEAKER/MICROCLIMATE FOR SCBA FACEPIECE (TIE)
9. PORTABLE, RUGGEDIZED, RAPID BIODETECTION AND IDENTIFICATION KIT
10. IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE
11. MISSION CRITICAL VOICE OVER LTE
12. META-ANALYSIS OF PREVENTABLE CAUSES OF DEATH OF LAW ENFORCEMENT
13. WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSORS
14. ROBOTIC X-RAY INTEGRATION
15. INEXPENSIVE, PORTABLE RUGGEDIZED POINT-OF-CARE LAB TESTING DEVICE
16. COST EFFECTIVE MEANS OF STORING VIDEO AND REDACTING IMAGERY
17. THERMAL IMAGING CAMERA TRAINING AND USE CATALOG
18. MULTI-METER FOR BOMB TECHNICIANS
19. POST INCIDENT DECONTAMINATION-USE OF WIPES FOR THE NECK
- 20.\* STRUCTURAL FIRE/IDLH ESCAPE RESPIRATOR (TIE)
- 20.\* RESPONDER/RECEIVER MENTAL HEALTH AND WELLNESS (TIE)
22. NON-BURNING TREATMENT SYSTEM FOR ILLEGAL FIREWORKS
23. RAPID, UNIVERSAL, BATTERY CHARGER FOR PORTABLE IN-HOME MEDICAL DEVICES
24. COLLISION AVOIDANCE SYSTEMS FOR RESPONSE VEHICLES
25. VESSEL PENETRATION SAMPLING DEVICE

\* Tied Ranking

## 2016 IAB RESEARCH AND DEVELOPMENT PRIORITIES: BREAKDOWN BY DISCIPLINE

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### Communications

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1. INDOOR 3-D TRACKING OF PERSONNEL
2. OUTDOOR 3-D TRACKING OF PERSONNEL
3. MISSION CRITICAL VOICE OVER LTE

### EOD

---

1. 3-D X-RAY
2. HME NEUTRALIZATION
3. ROBOTIC X-RAY INTEGRATION
4. MULTI-METER FOR BOMB TECHNICIANS
5. NON-BURNING TREATMENT SYSTEM FOR ILLEGAL FIREWORKS

### Fire Service

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1. THERMAL IMAGING CAMERA TRAINING AND USE CATALOG
2. POST INCIDENT DECONTAMINATION-USE OF WIPES FOR THE NECK
3. STRUCTURAL FIRE/IDLH ESCAPE RESPIRATOR
4. COLLISION AVOIDANCE SYSTEMS FOR RESPONSE VEHICLES

### Hazmat

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1. HANDHELD STANDOFF CHEMICAL & EXPLOSIVE IDENTIFIER
2. NOISE FILTERING DIGITAL SPEAKER/MICROCLIMATE FOR SCBA FACEPIECE
3. IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE
4. WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSORS
5. VESSEL PENETRATION SAMPLING DEVICE

### Health & Medical

---

1. PORTABLE, RUGGEDIZED, RAPID BIODETECTION AND IDENTIFICATION KIT
2. INEXPENSIVE, PORTABLE RUGGEDIZED POINT-OF-CARE LAB TESTING DEVICE
3. RESPONDER/RECEIVER MENTAL HEALTH AND WELLNESS
4. RAPID, UNIVERSAL, BATTERY CHARGER FOR PORTABLE IN-HOME MEDICAL DEVICES

## Law Enforcement

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1. LAW ENFORCEMENT USE OF UNMANNED AIRCRAFT SYSTEMS (UAS)
2. DEVELOPMENT OF PERFORMANCE REQUIREMENTS & TEST METHODS FOR BALLISTIC-RESISTANT BODY WORN ARMOR FOR WOMEN
3. META-ANALYSIS OF PREVENTABLE CAUSES OF DEATH OF LAW ENFORCEMENT
4. COST EFFECTIVE MEANS OF STORING VIDEO AND REDACTING IMAGERY





PHOTO COURTESY OF SEATTLE WA FIRE DEPT

**STATE & LOCAL CO-CHAIR**

**Adam Miller**

Deputy Sheriff,  
Huntingdon County (PA)  
Sheriff's Office

**Adam Miller** is currently a Deputy Sheriff with the Huntingdon County Sheriff's Office and previously served as the Director of Emergency Management for Huntingdon County (PA), leading an excellent mixed team of volunteer, career and contracted staff charged with providing numerous public safety services to the county. Mr. Miller has managed a broad spectrum of public safety responses, including large-scale, public events such as the Creation Festival, and a number of Presidentially-declared disaster events. He has broad experience in leadership and management, and has built strong partnerships between private interest parties, local governments, local public safety agencies, and partner state and federal agencies. He has 19 years of progressive experience and a diverse background in emergency management, security, emergency response, law enforcement, counter terrorism, volunteer management, technology development and commercialization. Mr. Miller holds a B.S. in Public Administration and an M.S. in Non-Profit Leadership—both from Juniata College in Huntingdon (PA).

**FEDERAL CO-CHAIR**

**Gabriel Ramos**

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

**Gabriel Ramos** is the Deputy Director of the Operations Division Directorate of the Combating Terrorism Technical Support Office, providing management and technical oversight for executing the Technical Support Working Group rapid R&D program. He has 30 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.



PHOTO COURTESY OF FIRSTNET.GOV

# SCSG

STANDARDS  
COORDINATION  
SUBGROUP

SCSG

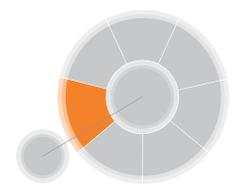


PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.



SCSG

# 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 ROBINSON

*National Institute of Standards and Technology,  
Standards Services Group*

The mission of the Standards Coordination SubGroup (SCSG) is to identify and coordinate standards development needs and activities within the IAB, with external organizations, and with the emergency responder community. The objective is to promote local, tribal, state, and federal preparedness by developing and implementing standards for emergency responder and public safety needs associated with all-hazards incidents. By focusing the nation's resources and expertise in a common effort to establish standards to which critical capabilities can be tested, evaluated, and certified, the SCSG helps to provide emergency responders with objective guidance for making informed decisions regarding the development, acquisition, and fielding of capabilities.



COURTESY PHOTO, CENTER FOR DOMESTIC PREPAREDNESS



PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.

## 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 that need to be developed or revised, and the SCSG assists the process in the following ways:

- 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 relevant standards activities, comment periods, and programs and informing emergency responders about them.
- 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.

## MEMBERSHIP

### GARY BACKOUS

Story County (IA) Sheriff's Office

### CRIS CALDWELL

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

### CRAIG DICKERSON

Montgomery County (MD) Police Department

### MATTHEW DUGGAN

Boca Raton (FL) Police Services Department

### JEFF FINN

Fairfax County (VA) Police Department, SWAT

### KAREN HOUSE

Joint Program Executive Office for Chemical and Biological Defense

### PATRICIA KNUDSON

Phoenix (AZ) Police Department

### PHILIP MATTSO

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

### THOMAS NOLAN

Upper Merion Township (PA) Police Department, National Tactical Officers Association

### TIM REHAK

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

### NICHOLAS ROBERTS

Unified Police Department of Greater Salt Lake (UT)

### DEBRA STOE

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

### MARK STOLOROW

NIST Special Programs Office

### MARCIE WACKER

International Association of Women Police / Ramsey County (MN) Sheriff's Department

### 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, LLC

### JOHN CRONIN

Intertek, HP White Laboratory Inc.

### MICHELLE DEANE

American National Standards Institute

### MICHAEL FERGUS

International Association of Chiefs of Police

### PAT GLEASON

Safety Equipment Institute

### ROBERT KINSLER

HP White Laboratory Inc.

### MATT MCLAUGHLIN

U.S. Army Training and Doctrine Command, Maneuver Support Center of Excellence

### MARY MIKOLAJEWSKI

ASTM International

### DAVID OTTERSON

Justice Technology Information Center

### DANIEL SHIPP

International Safety Equipment Association

### AMY VALDEZ

Virginia Beach (VA) Fire Department

PHOTO COURTESY OF SEATTLE (WA) FIRE DEPT.

PHOTO COURTESY OF NEW CASTLE COUNTY DEPT OF PUBLIC SAFETY

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

## PARTNERSHIPS

The success of the IAB's standards development process is built upon partnerships with federal agencies funding standards development, standards development organizations, conformity assessment bodies, 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, conformity assessment, and selection, use, care, and application guides. The SCSG members and SMEs represent many federal and private agencies:

- American National Standards Institute (ANSI)
- ASTM International
- HP White Laboratory Inc.
- International Association of Chiefs of Police (IACP)
- International Association of Fire Chiefs (IAFC)
- International Association of Women Police (IAWP)
- International Safety Equipment Association (ISEA)
- Intertek Testing Services
- Justice Technology Information Center
- National Bomb Squad Commanders Advisory Board (NBSCAB)
- National Fire Protection Association (NFPA)
- National Sheriffs' Association (NSA)
- National Tactical Officers Association (NTOA)
- Safety Equipment Institute (SEI)
- UL LLC (Underwriters Laboratories)
- U.S. Army
- U.S. Department of Commerce, National Institute of Standards and Technology (NIST)
- U.S. Department of Health & Human Services, National Institute for Occupational Safety and Health, National Personal Protective Technology Laboratory (NPPTL)
- U.S. Department of Homeland Security (DHS), Science and Technology Directorate

- U.S. DHS System Assessment and Validation for Emergency Responders (SAVER) Program
- U.S. Department of Justice, Federal Bureau of Prisons
- U.S. Department of Justice, National Institute of Justice (NIJ)

## ACCOMPLISHMENTS

During FY2016, the SCSG accomplished the following:

- Supported and coordinated IAB efforts to identify and prioritize standards development requirements derived from the responder community.
- Initiated or continued progress on previously identified IAB standards development priorities.
- Assisted the Equipment SubGroup (ESG) with the SEL item content, including language related to standards in procurement of SEL items
- Updated the listing of IAB adopted standards.
- Completed Federal Agency Coordinating Committee (FACC) work plan items to create a conformity assessment decision tool and a path forward for developing standards for body armor worn by female officers.
- Continued current initiatives to support developing standards relevant to the responder community.

## IAB-ADOPTED STANDARDS

The 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 to inform the responder community of applicable standards. IAB members with relevant expertise and knowledge reviewed each standard and recommended adoption and listing by the IAB. The list of standards continues to be relevant to the SEL and is maintained by the SCSG.

### IAB-Adopted Designation

"IAB-adopted" is a designation for a standard that is part of the definition of an 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, transparency, consensus and due process.

### **IAB-Adopted Designation**

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The IAB adopted the following six standards in 2016:

- ANSI/ASSE Z88.2-2015, *Practices for Respiratory Protection*
- ASTM E2677-2014, *Standard Test Method for Determining Limits of Detection in Explosive Trace Detectors*
- NTOA *Tactical Response and Operations Standard, 2015*
- NFPA 1855-2013, *Standard for Selection, Care, and Maintenance of Protective Ensembles for Technical Rescue Incidents*
- NFPA 1953-2016, *Standard on Protective Ensembles for Contaminated Water Diving*
- NIJ Standard 1001.00, *Criminal Justice Restraints Standard*

### **Annual Review**

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The SCSG annually reviews and updates the IAB-Adopted Standards List to ensure each listed standard is 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. Any such standards are removed from the IAB-Adopted Standards List. If, following annual review, a standard is deemed “questionable,” SCSG and ESG collaborate to determine a path forward.

There are approximately 85 IAB-adopted standards. The IAB also maintains a listing of approximately 150 standards that are referenced by the SEL.

## **IAB STANDARDS DEVELOPMENT PRIORITIES**

The IAB identifies standards development priorities for the responder community each year, and the SCSG works with ANSI’s Homeland Defense and Security Standards Coordination Collaborative and the DHS Office of Standards to engage federal agencies, standards developing organizations, researchers, stakeholder organizations, and practitioners in addressing those priorities.

### **2016 Standard Development Priorities**

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Nine standards development priorities were identified in 2016, and the SCSG has begun the process for ensuring that these priorities are addressed:

1. Performance standard for non-pneumatic limb tourniquets
2. Standard practices, test methods, and procedures for monitoring effectiveness of protective clothing doffing for avoidance of contamination transfer
3. Performance standard for bomb suits, addressing blast overpressure protection
4. Performance standard for less lethal chemical agent devices
5. Standard test method for less lethal conducted energy weapons
6. Performance standard for less lethal distraction devices
7. Performance standard for less lethal impact (i.e., kinetic energy) devices using a launching system to fire projectiles
8. Standard test method for explosive containment vessels
9. Standard guidance for illicit substance detection

## Previously Identified IAB Standards Development Priorities

The SCSG continues to follow through on standards development priorities identified previously, and a status for each priority is provided in the table below:

Item	Status
1. Performance standard for protective helmets	ASTM International is developing test methods and standard specifications that will fully meet this need. Publication is expected in 2017.
2. Performance standard for protective shields	ASTM International is developing a ballistic test method, which will partially meet this need. Publication is expected in 2017.
3. Performance standard for tactical operation video cameras	UL is developing the performance standard that will fully meet this need, and NFPA is developing a corresponding selection, care, and application guide.
4. Performance standard for body-worn cameras	UL is working to initiate development of the performance standard.
5. Standard(s) for robot operator self-evaluation and training program	ASTM International, in partnership with NIST, is developing these standards; ASTM International and NFPA are working together to co-brand a certification program for robot operators.
6. Performance standard for protective gloves	ASTM International is developing a specification that will fully meet this need. Publication is expected in 2017.
7. Standard test method(s) for body armor designed for females	ASTM International is developing a standard practice that will partially meet this need. Publication is expected in 2016. Additional research is being done to address other issues related to body armor for female wearers.
8. Standard test method(s) for localization and tracking systems	A standard is being developed to address this need: ISO/IEC FDIS 18305, Information technology—Real-time locating systems—Test and evaluation of localization and tracking systems. Publication is expected in 2017.

### SCSG OUTREACH TO STAKEHOLDER ORGANIZATIONS

SCSG reaches out to responder stakeholder organizations and standards development organizations to inform them of IAB efforts in standards development. A journal article entitled, “Addressing a Responder Standards Development Dilemma,” was published in *Standards Engineering, The Journal of SES – The Society for Standards Professionals*. Additionally, an article has been developed for publication in several stakeholder magazines.

### SCSG PARTICIPATION IN STANDARDS DEVELOPMENT INITIATIVES

SCSG members and SMEs contribute to numerous standard development efforts supporting the responder community. The following are representative standards activities to which SCSG members are 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, personal protective equipment (PPE), decontamination, security controls, threat and vulnerability assessment, and chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) sensors, detectors, and robots. The committee has approximately 350 members, has published 53 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, ballistic shields, protective helmets, protective gloves, 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 contamination source. The committee has approximately 340 members and has various technical subcommittees that maintain jurisdiction over 66 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, and radiological hazards. F23 has also established a subcommittee to address the issues associated with the interoperability of PPE.
- 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 Firefighting; PPE; Hazardous Materials Protective Clothing and Flash Fire Protective Garments; EMS; and Hazardous Materials Response. SCSG has reached out to NFPA to request that they consider developing new standards in response to requests from other IAB Committees.
- NIJ: SCSG members are participating in current NIJ initiatives to revise their standards for ballistic-resistant and stab-resistant body armor. 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 standards developing organizations and has initiated cooperative activities with DOD where applicable standards overlap.
- NPPTL: NPPTL was created as the division of NIOSH charged with the mission of preventing disease, injury, and death for working men and women relying on PPE. NPPTL serves as the Program Manager for the National Occupational Research Agenda (NORA) Public Safety Sector. SCSG members assist the NPPTL in addressing the following addresses the following:
  - » Chemical, biological, radiological, and nuclear (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
  - » Development of the U.S. National Framework for Personal Protective Equipment – A Conformity Assessment Infrastructure
  - » Development of the PPE-Info database to serve as a compendium of PPE regulations and standards
  - » National effort to support the use of appropriate PPE in the Ebola Response both internationally and within the U.S.
  - » Research needed for the development of validated test methods leading to better respirators for healthcare workers
  - » Evaluation of the hazards encounter in the post-fire environment (Firefighter Overhaul);
  - » Support for the development and revision of NFPA fire and emergency services protective clothing and equipment standards
- International Organization for Standardization/ Committee Conformity Assessment (ISO/ CASCO) Technical Committees: The SCSG has representation on ISO/CASCO 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.
  - » 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

- 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 accessories; 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 11 PPE product standards, the American National Standard for PPE conformity assessment, and the U.S. Technical Advisory Group to ISO TC 94 SC15 for respiratory protection. SCSG members assist in many of these efforts.

## 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.



PHOTO COURTESY OF NEW CASTLE COUNTY DEPARTMENT OF PUBLIC SAFETY

**STATE & LOCAL CO-CHAIR**

**Martin Hutchings**

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

**Martin Hutchings** retired as a Sergeant after 29 years 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 during 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. Since retirement, he has worked part-time as an Explosive/Bomb Technician SME in support of NIST. 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 IED Subcommittee; and the DHS Explosive Standards Working Group.

**FEDERAL CO-CHAIR**

**Cassandra Robinson**

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

**Cassandra 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 developing standards/conformity assessment needs and requirements. She serves as the Vice Chair for the ASTM International, E54 Committee on Homeland Security Applications and as the Vice Chair for E54.04, *Personal Protective Equipment Subcommittee*. She also serves as the federal co-chair for the ANSI Homeland Defense and Security Standardization Collaborative.

Prior to joining NIST, Ms. Robinson 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 National Institute of Justice's Standards and Testing Program and supported development of performance standards for public safety equipment. She has a B.S. in Electrical Engineering from Clemson University and an M.S. in Industrial and Systems Engineering from the University of Alabama.



PHOTO COURTESY OF FIRE DEPARTMENT, CITY OF NEW YORK

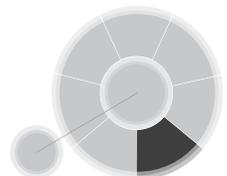


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# SPSG

STRATEGIC  
PLANNING  
SUBGROUP

SPSG





# SPSG

## STRATEGIC PLANNING SUBGROUP

SPSG



**STATE & LOCAL CO-CHAIR**

**CAROLYN LEVERING**

*City of Las Vegas (NV)  
Office of Emergency Management*

**FEDERAL CO-CHAIR**

**DANIEL SCHULTZ**

*Department of Homeland Security, Office of  
Infrastructure Protection, Emergency Services  
Sector Specific Agency*



PHOTO COURTESY OF IAEM

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.

COURTESY PHOTO, CENTER FOR DOMESTIC PREPAREDNESS

**ROLES AND FUNCTIONS**

- Inform policymakers about emergency responders' operational concerns.
- Identify and interpret emerging policy, doctrine, or practice issues and coordinate the IAB response.
- Monitor diverse strategic national initiatives, 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.

## MEMBERSHIP

### MICHAEL BIASOTTI

*New York State Association of Chiefs of Police*

### STEPHEN DAVIS

*Oldham County (KY) Emergency Management*

### JOHN DELANEY, JR.

*Arlington County (VA) Fire Department*

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*Federal Emergency Management Agency,  
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### J. CLAY MCGUYER

*Joint Improvised-Threat Defeat Agency*

### JAMES SCHWARTZ

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### MARGARET SOBEY-SANTOS

*Joint Program Executive Office for Chemical and  
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### A.D. VICKERY

*Seattle (WA) Fire Department*

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*Las Vegas (NV) Fire & Rescue*

### JEFFREY DULIN

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### PAM L'HEUREUX

*International Association of Emergency Managers*

### ARTURO MENDEZ

*Port Authority of New York and New Jersey*

### MICHELLE ROYAL

*Homeland Security Studies and Analysis Institute*

### ROBERT TUOHY

*ANSER Homeland Security Practice*



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## ONGOING PROJECTS

During FY 2016 the Strategic Planning SubGroup worked on the following and continues to:

- Identify existing and future plans, policies, and doctrinal initiatives that may benefit from IAB input.
- Build relationships and improved communications with associated emergency services policymakers and organizations.
- Evaluate and develop opportunities for enhanced IAB participation with international and private emergency response stakeholders.

Identify and recommend improvements in information sharing specific to hazardous materials. This includes interactions between local emergency planning committees (LEPC), state emergency response commissions (SERC) and fusion intelligence centers.

## FY 2016 PROJECTS AND ACCOMPLISHMENTS

During FY 2016 the Strategic Planning SubGroup accomplished the following:

- Developed briefing document: *Emergency Responder Priorities for the Next DHS Secretary*. This document highlights six key issues:
  1. Resourcing responders for the homeland security mission
  2. Supporting all-hazards, risk-based approach to homeland security,
  3. Maintaining momentum toward public safety interoperability and standardization
  4. Improving information sharing through partnerships at all levels of government, the private sector and public safety disciplines
  5. Enhancing public safety community integration with Department of Defense in its Defense Support to Civil Authorities (DSCA) mission, and
  6. Continuing emphasis on risk-based approach.

- Developed five year Strategic Plan for IAB. This document articulates the IAB framework for improving emergency preparedness and response, identifies key stakeholders, established objectives and metrics and discusses the opportunities and threats associated with operating in a funding-constrained environment.
- Developed the InterAgency Board communications plan. This document provides guidance on how the IAB supports its mission by sharing IAB produced materials throughout the first responder community, across critical infrastructure sectors, and with targeted audiences.
- Represented the IAB as a member of the Emergency Services Government Coordinating Council (ES-GCC), led by the DHS Office of Infrastructure Protection.
- Reviewed and provided input on the 2015 Emergency Services Sector Specific Plan, which supports the National Infrastructure Protection Plan.



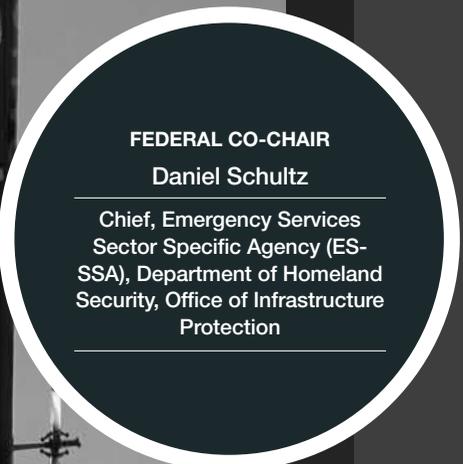
**STATE & LOCAL CO-CHAIR**

**Carolyn Levering**

Emergency Manager,  
City of Las Vegas (NV)  
Office of Emergency Management

**Carolyn Levering** is the Emergency Manager for the City of Las Vegas, Office of Emergency Management (OEM). In this capacity, she directs the development and maintenance of emergency response plans, manages federal and state grant programs, and conducts routine Training and Exercises. She earned her bachelor's degree from the University of Southern California and master's degree from the University of Nevada, Las Vegas (UNLV). She has been a Certified Emergency Manager since 2005. Prior to leading the Las Vegas OEM, Ms. Levering served as the Plans and Operations Coordinator for Clark County (NV) and Chapter Operations Director for the American Red Cross of Southern Nevada.

In addition to her role in the IAB, Ms. Levering's current appointments include: Chair, Nevada State Emergency Response Commission, Planning and Training Subcommittee; and Senior member, Nevada Commission on Homeland Security Finance Committee and Critical Infrastructure Protection Committee. Ms. Levering is adjunct faculty to UNLV's Executive Master of Science in Crisis and Emergency Management program, teaching the Community Preparedness course since 2007. Ms. Levering recently completed her term as President of the International Association of Emergency Managers USA - Region IX.



**FEDERAL CO-CHAIR**

**Daniel Schultz**

Chief, Emergency Services  
Sector Specific Agency (ES-  
SSA), Department of Homeland  
Security, Office of Infrastructure  
Protection

**Dan Schultz** is the Section Chief for the Emergency Services Sector Specific Agency within the DHS Office of Infrastructure Protection. The primary role for the SSA is implementing Presidential Policy Directive 21, Critical Infrastructure Security and Resilience within the Emergency Services Sector (ESS) by developing, implementing and driving the strategic intent of the Emergency Services Sector Specific Plan through organizational and sector partner defined activities which build sector-based security and resilience capacity for the ESS stakeholder community. Before assuming his current position, Mr. Schultz led national efforts focused on protecting critical infrastructure, both at DHS and in the private sector. His experience includes support and development of initial DHS critical infrastructure protection programs, as well as organizing and leading DHS efforts to develop, synchronize and implement strategies and partnerships to protect Transportation and Postal & Shipping critical infrastructure assets and operations at the local and national levels.

As a former Explosive Ordnance Disposal (EOD) Team leader, Mr. Schultz has over 15 years of training and operational experience in both the military and civilian EOD fields, where he developed an extensive background in conventional explosives and Weapons of Mass Destruction. He has utilized this background to focus on asset protection and developing risk management strategies to improve security and resilience of the nation's critical infrastructure.



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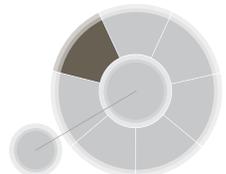


NATIONAL GUARD PHOTO BY SGT 1ST CLASS ROBERT JORDAN

# T&E

TRAINING  
& EXERCISES  
SUBGROUP

T&E





# T&E

## TRAINING & EXERCISES SUBGROUP



### STATE & LOCAL CO-CHAIR

**EDWARD DADOSKY**  
*University of Cincinnati*

### FEDERAL CO-CHAIR

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

T&E

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 regarding training and exercise doctrine, standards, and guidance developed specifically for the responder community.



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PHOTO COURTESY OF FIRE DEPARTMENT, CITY OF NEW YORK

## ROLES AND FUNCTIONS

- Advocate for performance improvement needs or requirements related to U.S. Department of Homeland Security/Federal Emergency Management Agency (DHS/FEMA) Emergency Support Functions that could be addressed by T&E initiatives.
- Provide subject matter expertise to support developing 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

### ARMANDO BEVELACQUA

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Federal Bureau of Investigation Laboratory

### WAYNE YODER

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National Guard Bureau

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(Retired)

### JAMES REMINGTON

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of Environmental Health Services

### EUGENE RYAN

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



## INITIATIVES AND PROGRESS

The IAB membership and federal partners recognize a crucial need exists for guidance regarding the training required to effectively and safely use first response 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 2016:

- Members supported and participated in the Operation Jack Rabbit II catastrophic Toxic Inhalation Hazard Defense Air Gas Release Phase 1 Trials project. They provided input and reporting to the IAB, National Fire Academy and Dugway Proving Ground. Input included developing training and lessons learned support materials related to the Jack Rabbit II Trials sponsored by the DHS Science and Technology, (CSAC), Transportation Safety Administration (TSA) and the DOD Defense Threat Reduction Agency (DTRA).
- Developed and distributed training trigger papers on issues such as highly pathogenic avian influenza (HPAI), the administration of naloxone (Narcan), and integrated response operations in active shooter/hostile events (ASHE). (<http://www.interagencyboard.org/publications/documents>).
- Conducted review of the Standardized Equipment List (SEL) for training items and revisions/additions.
- Continued coordination with Standards Coordination SubGroup (SCSG) on implementing a recommended practice for equipment training. ASTM is now developing a consensus standard on equipment training. When a standard is developed, it will include 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 (AEL)/SEL. The white paper leading to an eventual consensus standard remains available on the IAB website (<http://www.interagencyboard.org>).
- Worked with other SubGroups and developed a survey to gather emerging T&E needs as identified by IAB membership, which was used to help develop FEMA grant focus areas. Developed a training and exercise survey to gather requirements from the broader response community, which will be implemented in FY 2017.

- Provided input to the SCSG on developing, adopting, and implementing appropriate and relevant training standards.
- Continued outreach to the emergency response, National Fire Protection Association (NFPA), hazardous materials (HAZMAT), and Weapons of Mass Destruction (WMD) community, including participation and presentations at conferences and meetings including the International Association of Fire Chiefs, International Hazardous Materials Response Teams conference, Homeland Security Conference, National Fire Protection Association, FEMA Emergency Management Institute training and exercise conference and the Canada/U.S. Simulation and Training group.
- Participated in IAB special projects including community paramedicine
- Participated in IAB by-laws committee, NFPA 472 and 473 committees, and CBRNE equipment requirements efforts.

## ONGOING COMMITMENTS

- Continue to be a national, interdisciplinary sounding board for T&E needs, doctrines, and programs. This task is essential to focus funding and resources on relevant T&E programs.
- Provide input on developing, adopting, and implementing appropriate and relevant T&E standards and 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.
- Coordinate with the respective IAB SubGroups to identify the minimal, moderate, or extensive training requirements needed for operator training.

## PRIORITIES FOR FY 2017

- 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 implementing additional phases of the Training Triggers program.
- Develop training trigger papers on topics such as large-scale chlorine release, wildland firefighting, cyber security and mobile devices, use of tourniquets, and impact of drones on response operations.
- Continue developing and refining the modeling, simulations, and simulators e-tool (<http://www.interagencyboard.org/publications/mss/mss-etool-home>). In phase two, the tool will provide users with example scenarios and/or tasks and links to the most appropriately related technology.
- Determine how best to disseminate key information on training modernization and other trends with an impact on response operations, such as performance support and wearable technology.
- Seek participation from organizations studying and implementing training innovation, such as Defense Research and Development Canada and the Federal Law Enforcement Training Center.
- Conduct a presentation on the integrated response and ASHE at the HOTZONE Hazardous Material conference.
- Address the requirements of the FACC as they relate to the T&E mission.

## LONG-TERM INITIATIVES

- The process of providing advice on relevant and successful responder-focused T&E programs is ongoing, driven by capability, technology and personnel. The T&E SubGroup will identify and prioritize T&E requirements based on these factors and ideas generated using a comprehensive SubGroup survey.
- The T&E SubGroup will work closely with all other IAB SubGroups to identify existing standards to determine individual competency-based and organizational capability-based training. Where standards do not exist, the SubGroup will advocate for their establishment.

## RECOMMENDATIONS & ENDORSEMENTS

- The T&E SubGroup strongly recommends that all emergency responder equipment purchased include the initial and sustainment training requirements for applying, operating, caring for, and maintaining 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.

## TRAINING TRIGGERS

Organizations develop or update training based on a number of inputs: after action reporting from actual incidents and exercise events, requirements based on contemporary events, intelligence and/or trends, emerging technologies, legislation, litigation, and job performance data. This drive to develop or update training is what the IAB Training and Exercises (T&E) SubGroup refers to as a training trigger.

Sometimes, contemporary events or health and safety issues necessitate that a large target group of responders receive new or updated training, often within a very short timeframe. Additionally, response organizations must manage and overcome various barriers to training such as funding, time constraints, and access to other training resources. The objective of the training triggers project is to help ensure that whether the training need is time sensitive or part of planned updates, the training integrates into the organization's emergency response plan and is not just a stand alone "random act of training" to meet a real or perceived mandate. In the past year, the T&E SubGroup has focused on developing additional resources in the Training Trigger series. The IAB T&E SubGroup has developed and distributed training trigger papers on issues such as highly pathogenic avian influenza, the administration of naloxone (Narcan), and integrated response operations in ASHE. The T&E SubGroup is continuing to develop additional documents on contemporary issues in this series.

## TRAINING TRENDS

Among training trends that the T&E SubGroup sees as having a significant impact on response organizations are mobile learning and its associated operational security concerns, gamification of learning (incorporating game elements such as competition, setting goals, feedback and rewards in a learning context), and microlearning (breaking training content into smaller chunks that can be consumed in 3–7 minutes).

Incoming response professionals are accustomed to searching for and consuming information on their mobile devices, so departments and agencies are already confronted with the challenge of establishing policies related to employees who bring their own device in addition to managing the world of social media interactions in a professional manner. The challenges mobile devices pose for response organizations are threefold: maintaining operational and information security, establishing and implementing policies and procedures that suit the organizations' circumstances, and making pertinent, potentially crucial information readily available to their personnel in a variety of formats that address today's operational realities. The T&E SubGroup will monitor these trends and will develop products in FY 2017 to assist response organizations in adapting their training and exercise programs accordingly.



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**STATE & LOCAL CO-CHAIR**

**Edward Dadosky**

**Director of Emergency Management and Business Continuity Planning, University of Cincinnati**

**Ed Dadosky** retired from the Cincinnati Fire Department in 2016 as an Assistant Fire Chief after 33 years of service.

Ed was hired in 2016 by the University of Cincinnati as the Director of Emergency Management and Business Continuity Planning. The university has an enrollment of 50,000 students and 15,000 faculty and staff. As a Department of Public Safety employee, he is responsible for a new Mass Notification System as well as Business Continuity Planning in partnership with the university departments and colleges. Under his direction, UC has recently begun building a new Emergency Operations Center (EOC) that will be interconnected throughout the region. Ed's duties include development of emergency plans, procedures, and processes for UC.

Ed Dadosky has a BA, Business Management, from the University of Cincinnati, and an MA, Security Studies, from the Centers for Homeland Defense and Security at the Naval Postgraduate School located in Monterey, CA. Ed has been a member of IAB since 2008, and has co-chaired the Training and Exercise sub-committee from 2014 to the present.

**FEDERAL CO-CHAIR**

**Carol Mintz**

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

**Carol Mintz** joined FEMA in 2008 as a Training Program Specialist. She is responsible for Congressionally-funded cooperative agreements that provide training for State and local first responders, emergency managers, elected and appointed officials and non-government organizations. She serves in the National Response Coordination Center during national disasters.

Ms. Mintz has experience in the private sector, where she served as director of national training for a consulting firm. She was competitively selected to be a Brookings Fellow. She previously served as a hazardous materials specialist for the International Association of Fire Fighters and as a government liaison representing the interests of small businesses and local governments in Washington, D.C..

Ms. Mintz holds an M.S. in Environmental Assessment and Public Policy and Planning from Cleveland State University. She earned a B.A. in Political Science from John Carroll University. She has served on the Governor's Task Force on Homeland Security in Ohio as well as the Cleveland Council on World Affairs.



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# SP

## SPECIAL PROJECTS

# SPECIAL PROJECTS

In 2014, the IAB formed Special Project Groups focused on key and current first responder issues. The IAB continued addressing pertinent responder issues in this way through 2015 and 2016 as well. Original Special Project Groups who completed their work were replaced with new Special Project Groups. As in the past, each group is comprised of members and SMEs from each of the IAB SubGroups and is managed by a Lead and Co-Lead. IAB members and SMEs have the choice to sign up for the project group that most fits their interests and expertise. Each project group has its own timeline, deliverables, and outcomes. This section highlights any Special Projects that were active at any time during 2016.

## CIVIL DISTURBANCE

*Lead: **Jeff Dulin**, International Association of Fire Chiefs, SPSG*

*Co-Lead: **John Esposito**, FDNY, SPSG*

*Co-Lead: **John Incontro**, San Marino (CA) Police Department, IAB Deputy Chair*

The Civil Disturbance project was created to develop guidelines and recommendations for interagency planning and response during large scale civil disturbance events. The goal is to integrate Law Enforcement, Fire, Emergency Medical Services and other necessary responders into a single, unified and informed force in response to both planned and sudden civil disturbance events.

The group convened at the October and February IAB meetings and began to establish the parameters of the project. During these discussions it was realized that this project was more complex than originally intended. Project leadership decided a different approach was necessary. Leadership is planning to divide the civil disturbance project into sub-groups with each group focused on a specific aspect of the problem. It is anticipated these groups will be formed and meet at the early 2017 IAB meeting.



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## THE FUTURE OF COMMUNITY EMS

*Lead: **E. Reed Smith, MD, FACEP**, Arlington County Fire Department, HMRS*

*Co-Lead: **Edward Dadosky**, University of Cincinnati, T&E Co-Chair*

Over the past year work cycle, The Future of Community EMS project has looked at the changing demands, circumstances and requirements within communities as it relates to health care and the impact on emergency medical services.

The current landscape of emergency medical services is one of increasing demand for service in an environment of shrinking resources. As a result, EMS resources are frequently operating at near or at maximum capacity, creating potential difficulty and delay in response in the event of mass casualty or disaster. The current concept of proactive community paramedicine attempts to address this increasing demand on EMS by decreasing or preventing predictable calls for service; however, there are many other concepts and programs being initiated across

EMS systems that are not commonly known or discussed. The common theme identified in all of these programs is an attempt to improve efficiency in EMS operations, to ensure that the call for service is met with the right resource at the right time.

As a function of the IAB's mission to strengthen the nation's ability to prepare for and respond safely and effectively to emergencies, disasters, and CBRNE incidents, efficiency in EMS operations ensures that resources will be available when needed to mitigate high consequence events. Efficient EMS operations includes programs that attempt to address EMS calls for service in several stages: preventing the unnecessary call for service, redirecting calls to non-emergent resources, and increasing non-traditional resources to meet the needs of the community.

After two meetings, this Future of EMS Special Project team concluded the discussion and preparation work of the project, and is currently developing an IAB publication that will provide the results, best practices and recommendations as a resource for first responders to utilize during considerations and development of efficient EMS operations.



### PARTICIPANTS

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### **GUIDANCE FOR NON-LAW ENFORCEMENT BALLISTIC PROTECTION**

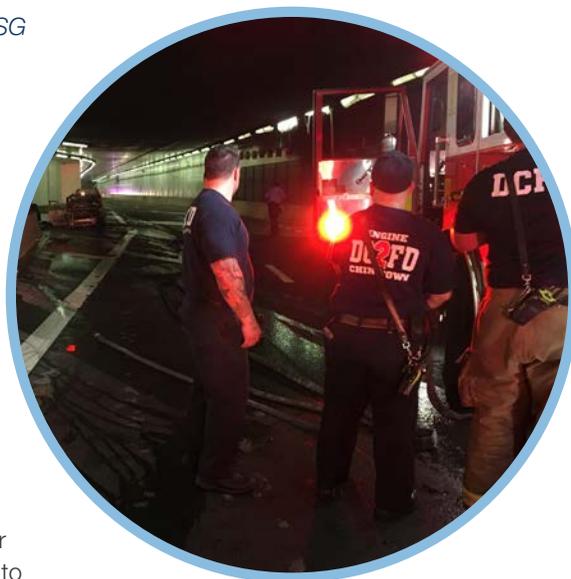
Lead: **Raymon Mollers**, Department of Homeland Security, Office of Health Affairs  
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In January 2016, a second Active Shooter/Hostile Event (ASHE) working summit (Summit II) was held in Charlotte, NC. At the summit, over 80 representatives from 14 agencies and organizations worked together to develop and publish a set of guidelines for municipalities to use to build their own ASHE plans and procedures or modify existing plans and procedures customized for their requirements and resources.



In any given community the agencies/disciplines that may respond to an ASHE need to have a general knowledge of the roles, responsibilities and goals of the other responding agencies. Included in that knowledge is understanding what type(s) of equipment the other responding agencies will be using and how that equipment's use and limitations impacts the response. Each agency will determine its own equipment needs, which includes the level of ballistic personal protective equipment (BPPE) necessary for different types of ASHE responses including active violence, fire as a weapon, explosives, and civil disturbances. Each agency's equipment list should be scalable to the agency's resources and capabilities, as well as fit into and complement their scope of practice.

The "Guidance for Non-Law Enforcement Use of Ballistic Protection" Special Project group has continued to develop two documents utilizing the findings of the January Summit:

1. A decision matrix on whether to use ballistic protection in ASHE response.
2. Recommendations for selecting ballistic protection for non-law enforcement personnel.

## MENTAL HEALTH & WELLBEING FOR FIRST RESPONDERS

Lead: **Rich Burton**, Placer County (CA) Health and Human Services, HMRS

Co-Lead: **Mike Biasotti**, New York State Association of Chiefs of Police, SPSG

The Interagency Board has recognized that first responders / receivers face increasing stressors in their varied and ever-changing work environments. Responders / receivers should be applauded for their demonstrated resiliency and commitment to providing effective professional public service to their communities and our nation as a whole.

In October 2015, the IAB formed a Special Project team to develop recommendations as to how agencies could more effectively provide for the mental health and wellbeing of the responder / receiver community. The Special Project team membership included numerous responders / receivers as well as individuals with backgrounds in mental health treatment, substance abuse treatment, and public health.

The group has completed a thorough review of the published research pertaining to these issues, gathered information on a variety of operational models being used to implement evidenced-based practices, and developed initial draft documents for response and receiver communities' use in assuring they are best caring for the mental health and wellbeing of their workforce.

Key findings from the Special Project team include:

1. The vast majority of responders / receivers resolve the stresses to which they are exposed without professional assistance. However, 10–40 percent of the workforce would benefit from various forms of evidence-based organizational and professional assistance to resolve stresses and traumas to maintain optimal mental health and wellbeing.
2. Early and effective intervention eliminates unnecessary suffering of impacted responders / receivers and their loved ones and reduces preventable staff turnover and its associated organizational fiscal costs.

The Special Projects team anticipates finalizing current draft documents and specific recommendations for ensuring responder / receiver mental health and wellbeing within the next six months.

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## NATIONAL BIOTERRORISM EMERGENCY RESPONSE STRATEGY

Lead: **David Ladd**, Massachusetts Department of Fire Services, S&T

Co-Lead: **Robert Ingram**, FDNY, SPSG

Past standards development projects funded by DHS' S&T Directorate have produced a common understanding of the elements of a bioterrorism strategy. However, none of these efforts have had sufficient breadth to support consolidating standards and aligning incomplete mission definitions to produce a nationally accepted bioterrorism response capability. Hence, the IAB, at the S&T Directorate's request, launched the National Bioterrorism Emergency Response Strategy Special Project.

The objective of the Strategy Special Project is to provide policy makers with a roadmap of how to translate various projects into a consistent mission; provide a common response capability that is accepted by all stakeholders; and carry out projects across the country using accepted standards. The roadmap will lead to a series of recommendations to align standards and meet current needs. Both IAB members and non-IAB participants are lending their wide and diverse experience and expertise to the effort, ensuring the maximum possible inclusivity in developing recommendations.

In 2016, the National Bioterrorism Emergency Response Strategy Special Project developed recommendations for a strategy to address the initial response for incident characterization of suspected bioterrorism events. These recommendations call for the formulation of contractual agreements for nationally/federally recognized response teams that meet all national standards for plans, training and equipment. The special project will review initial actions for a confirmed bioterrorism incident as the next step for 2017.

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## RECOMMENDED ACTIONS RELATED TO REDUCING THE KNOWN RISK OF CANCER IN FIREFIGHTERS

Lead: **Gerard T. Fontana**, Boston (MA) Fire Department, S&T

The problem of increased cancer rates in firefighters and first responders engaged in fire operations is an important issue, one that is integral to the IAB mission of preparing first responders for all hazards. Consistent with the criticality of this issue, this Special Project team undertook an extensive examination of factors involved in responder carcinogen exposures and approaches for addressing them. Over the past year, the group has reviewed research by medical professional, personal protection equipment providers, and recent statistical studies on heightened cancer risk in responders. This effort resulted in a white paper that calls for fundamental changes across all aspects of firefighting.

Issues addressed in the white paper include the permeation of carcinogens through currently available personal protection equipment and operational issues such as post-fire decontamination of personnel, equipment, fire apparatus, and fire stations. The white paper strongly emphasizes education and medical oversight, which must continue throughout a firefighter's career. Changing one issue alone will not adequately address the problem; therefore, the white paper recommends a holistic approach not only for members of the fire service, but also for the towns and municipalities that employ firefighters as medical and personnel costs escalate.

This *Recommended Actions Related to Reducing the Known Risk of Cancer in Fire Fighters* paper was published by the IAB in June 2016.

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## UNMANNED AERIAL VEHICLES (UAVS)

Lead: **Michael Marino**, Prince George's County (MD) Fire/EMS Department, ESG

Co-Lead: **Craig Adams**, Los Angeles (CA) Police Department, S&T

The objective of the UAVs Special Project team was to help facilitate rapid implementation of unmanned aerial technology into the national airspace in a timely manner to further the mission of first responders.

During its existence the UAVs Special Project team heavily lobbied the National Institute of Standards and Technology (NIST) as well as the Federal Aviation Administration (FAA) to develop standard test methods for first responder use of UAV's. NIST is now developing these test methods to allow first responders and regulatory bodies alike to make informed decisions about the use of UAVs. Because operator proficiency is of particularly extreme importance to first responders, the UAVs Special Projects team envisions that the finalized test methods will also serve as a measure of operator proficiency.

The Special Project team concluded in early 2016 as leadership from standards development organizations, aviation regulatory policy makers, and first responders have begun to rally around a standard set of community-defined test methods for first responders. The Special Project team brought to light the disparity between civilian and public safety permitting of UAV use and welcomed the decreased implementation hurdles for some first responders with the changes to FAA rule Part 107. The IAB will continue to align UAV platform technology with the Standardized Equipment List (SEL) as the rapid development of new technology comes to market for first responders.

### PARTICIPANTS

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SEL



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# SEL

SUMMARY



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## 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 high-yield explosive (CBRNE) events. During the past three years, the IAB has broadened the list to address an “all-hazards” approach, while maintaining an emphasis on CBRNE events.

The SEL is a guideline, and its use is voluntary. It promotes interoperability and standardization across the response community by offering a standard reference and a common set of terminology. No specific product brands are recommended – items are defined by functionality and known technologies, with desirable features and operational considerations included where possible to assist purchasers in choosing actual products. The IAB does not assume any liability for the performance of equipment items or technologies mentioned in the SEL.

## ACCESSING 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.interagencyboard.org](http://www.interagencyboard.org). Until recently, 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. 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.

# SEL SUMMARY

## THE IAB EQUIPMENT SUBGROUP (ESG)

The IAB's Equipment SubGroup (ESG) has sole responsibility for the maintenance and publication of the SEL. The ESG is the largest working group within the IAB, and draws subject matter expertise from across the IAB to support its mission 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.

## 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 the Federal Emergency Management Agency (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 U.S. Department of Homeland Security (DHS) alongside the features and operating consideration information contained in the SEL. Content alignment is maintained by designated GPD representatives and the IAB ESG through a continuing collaborative process.

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. Cybersecurity 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.”

## 2016 CHANGES

As of this writing, the 2016 SEL includes 731 items, 104 of which have been changed or added in this edition. There were three deletions: two were interim personal protective equipment items, and the third was a handheld computing device item that was merged into an updated smart phone description. Seven new items were added, one of which was added to pick up an item already on the FEMA AEL.

That item is marked (\*) below. Four were new pharmaceuticals, added to accommodate new treatment standards for emergency response.

- 02EX-00-EXIN: Vessel, Disposal, IED Components/Ammunition Incineration
- 07CD-01-DPGC: Analyzer, Gas Chromatograph/Mass Spectrometer, Chemical, Portable
- 09ME-03-MCCD\*: Device, Mechanical Chest Compression
- 09PH-01-EPIN: Norepinephrine
- 09PH-01-TXA: Tranexamic Acid
- 09PH-02-FENT: Fentanyl
- 09PH-02-KETA: Ketamine

The net increase for 2016 is four items. The 97 changes to existing items were spread across multiple areas as shown below. One set of changes that caused a high count in Detection was a reorganization of the Radiological Detection category (07RD). In order to clarify functionality and simplify references, the items were rearranged into four subcategories as follows:

- 07RD-01: Dosimeter
- 07RD-02: Handheld/PRD
- 07RD-03: Mobile
- 07RD-04: Fixed Site/Standoff

The changes involved were largely confined to the SEL numbers and represent very little technology or functional change.

While some changes were made to titles and descriptions in other sections, most updates were in the features and operating considerations. The impact by section is summarized in the following table:

# SEL SUMMARY

## CONTINUED

### 2016 SEL Section Impact Summary

Section Title	Changes	Additions	Deletions
1. Personal Protective Equipment	19		2
2. Explosive Device Mitigation and Remediation Equipment	5	1	
3. Operational and Search and Rescue Equipment	10		
4. Information Technology	13		1
5. Cybersecurity Enhancement Equipment	2		
6. Interoperable Communications Equipment	6		
7. Detection	23	1	
8. Decontamination			
9. Medical	10	5	
10. Power	1		
11. CBRNE Reference Materials	1		
12. CBRNE Incident Response Vehicles			
13. Terrorism Incident Prevention Equipment	1		
14. Physical Security Enhancement Equipment	1		
15. Inspection and Screening Systems			
16. Animals and Plants			
17. CBRNE Prevention and Response Watercraft			
18. CBRNE Aviation Equipment			
19. CBRNE Logistical Support Equipment	3		
20. Intervention Equipment	2		
21. Other Authorized Equipment			

### TRAINING REQUIREMENTS

Including **Training Requirements** for each SEL item began in the 2008 Edition. These requirements were developed by the Training & Exercise 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).

# SEL SUMMARY

## CONTINUED

### 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 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. Development and updates will continue in 2017. Current SubLists include:

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**HazMat: Response Team**

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**Law Enforcement: Aviation**

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**Law Enforcement: Bomb Squad**

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**Law Enforcement: Dive Team**

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**Law Enforcement: Forensics Technician**

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**Law Enforcement: K9**

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**Law Enforcement: Maritime**

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**Law Enforcement: Mobile Field Force**

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**Law Enforcement: Mounted Patrol**

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**Law Enforcement: Preventive Rad/Nuc Detection**

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**Law Enforcement: SWAT/Tactical Team**

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**Mass Care / Shelter**

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**Medical: Point of Dispensing**

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**Medical: Basic Life Support**

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**Medical: Advanced Life Support**

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**Medical: Tactical Emergency Casualty Care**

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**Medical: Pre-Hospital**

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**Medical: Hospital**

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**Medical: Public Health**

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**Medical: Disaster Stockpile**

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**Mortuary Operations**

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**Responder Safety: Infectious Disease**

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**REL: Full Canadian Recommended Equipment List**

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**REL: LOS-1, Multi-Agency Intervention**

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**REL: LOS-2, Scout/Reconnaissance Mission**

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**REL: LOS-3, Suspicious Powder Response**

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**REL: LOS-4, Evac and Perimeter Control**

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**REL: LOS-5, Emergency Washdown**

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### SUMMARY

The 2016 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, please contact the IAB at [info@interagencyboard.us](mailto:info@interagencyboard.us).

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APPENDIX



PHOTO BY JOHN CENTRINO



PHOTO COURTESY OF DC FIRE & EMS

# IAB

APPENDIX

# 2016 IAB RESEARCH & DEVELOPMENT PRIORITY LIST

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.interagencyboard.org](http://www.interagencyboard.org).

1.	<b>INDOOR 3-D TRACKING OF PERSONNEL</b>	Technologies for tracking operating personnel in a 3-D environment indoors, defined as urban type infrastructure such as a high-rise building to include XYZ coordinates. This item consists of two components: transmitting device carried by a first responder that allows an electronic signal to be located on both a horizontal and vertical access as well as a computer that receives the signal and displays it in real-time.
2.	<b>LAW ENFORCEMENT USE OF UNMANNED AIRCRAFT SYSTEMS (UAS)</b>	Research and development of UAS-related tools and standards for use to help law enforcement agencies start and maintain an effective UAS program in compliance with relevant Federal and state laws.
3.	<b>HANDHELD STANDOFF CHEMICAL &amp; EXPLOSIVE IDENTIFIER</b>	Instrument capable of detecting and identifying chemical substances and explosives from outside the exposure or contamination zone, at standoff distances to determine whether it is safe to go any further without donning PPE.
4.	<b>3-D X-RAY</b>	Ability to take multiple x-rays of a package from different angles within a single plane and develop into a 3-D image viewable by computer screen, preferably with only one trip downrange.

5.	<b>OUTDOOR 3-D TRACKING OF PERSONNEL</b>	Technologies for tracking operating personnel in a 3-D environment outdoors, defined as wildland or hazmat environments (out of line-of-sight) to include XYZ coordinates. This item consists of two components: transmitting device carried by a first responder that allows an electronic signal to be located on both a horizontal and vertical axis as well as a computer that receives the signal and displays it in real-time.
6.	<b>HME NEUTRALIZATION</b>	Method to neutralize HME, changing it from an explosive hazard to an inert material that is safe to transport and dispose of.
7.*	<b>DEVELOPMENT OF PERFORMANCE REQUIREMENTS &amp; TEST METHODS FOR BALLISTIC-RESISTANT BODY WORN ARMOR FOR WOMEN</b>	Research to support the development of performance requirements and test methods for shaped (non-planar) body armor worn by women to ensure equipment meets their protection and coverage requirements.
7.*	<b>NOISE FILTERING DIGITAL SPEAKER/MICROCLIMATE FOR SCBA FACEPIECE</b>	Sound cancelling/neutralization to decrease communication issues that arise from the use of the SCBA. For example, elimination of air passing in and out allowing user to hear what is being said on the radio as well as being clearly understood when speaking.
9.	<b>PORTABLE, RUGGEDIZED, RAPID BIODETECTION AND IDENTIFICATION KIT</b>	Rapid advanced field-grade PCR or other technology that can deliver reliable and sensitive identification, detection of biological pathogens (bio-threat, food/water, and environmental) that is FDA-approved.
10.	<b>IMPROVED MICROCLIMATE COOLING SYSTEM FOR DOWN RANGE USE</b>	Device effective in maintaining body core temperatures at acceptable levels and that can be worn during extended down range operations in PPE, particularly chemical protective ensembles.
11.	<b>MISSION CRITICAL VOICE OVER LTE</b>	End-to-end encryption to allow the use of collaborative devices (LTE—long-term evolution and LMR—land mobile radio) during a large incident involving multiple agencies addressing security, routing, and priority of voice packets over non-LMR networks.

\* Tied ranking

# PRIORITY LIST

CONTINUED

12.	<b>META-ANALYSIS OF PREVENTABLE CAUSES OF DEATH OF LAW ENFORCEMENT</b>	A comprehensive analysis of the preventable causes of death including death by weapons and vehicles as well as wellness issues such as cardiac and cancer.
13.	<b>WEARABLE INTRINSICALLY SAFE MINIATURIZED MULTI-DETECTOR SENSORS</b>	Technology platform that transmits multiple, wearable sensors integrated into a single platform with wireless communication capability for a comprehensive understanding of the hazards responders are encountering and mitigating the incident they are responding to. Both the wearer and Incident Command post would be able to monitor the sensors with visual and audio alarms.
14.	<b>ROBOTIC X-RAY INTEGRATION</b>	Capability for existing bomb squad robots that could incorporate key components of the x-ray system into the robot frame and communications system, so source and imager components are added, attached to robot, and managed by robot operator.
15.	<b>INEXPENSIVE, PORTABLE RUGGEDIZED POINT-OF-CARE LAB TESTING DEVICE</b>	Hand-held device for point-of-care testing of bloodwork. It must be inexpensive, rugged, rapid (results < 10 minutes), and rechargeable (battery life of at least 8 hours) and have high sensitivity/specificity of lab based blood tests.
16.	<b>COST EFFECTIVE MEANS OF STORING VIDEO AND REDACTING IMAGERY</b>	Ability to manage, redact, edit, store and release video to the public. Technology tool to assess imagery for information and images that contain personally identifiable information that cannot be shared publicly and redact the information for public release.
17.	<b>THERMAL IMAGING CAMERA TRAINING AND USE CATALOG</b>	Research into how thermal imagers are being utilized in the fire service, additional applications thermal imagers have in improving responder safety and efficiency and develop training to incorporate uses into firefighter training programs.

18.	<b>MULTI-METER FOR BOMB TECHNICIANS</b>	Tool with integrated indirect current probes and voltage meter, ammeter and continuity tester. Color-coded probes should be optimized for taking voltage and current measurements through the insulation of detonator leg wires. Tool should provide actions based on meter readings and have programmable thresholds.
19.	<b>POST INCIDENT DECONTAMINATION-USE OF WIPES FOR THE NECK</b>	Research to definitively conclude whether “baby wipes” are an effective means of post-decontamination for first responders.
20.*	<b>STRUCTURAL FIRE/IDLH ESCAPE RESPIRATOR</b>	Technology to provide escape from a structure fire in the event of depletion or failure of the primary air source (SCBA), could be a filter that attaches to the SCBA facepiece and protects against toxins found in fires or an oxygen generating component to the system.
20.*	<b>RESPONDER/RECEIVER MENTAL HEALTH AND WELLNESS</b>	Suite of mobile applications providing pre-event stress inoculation, post-event psychological field aid, and post-event self-assessment and referral for occupational stress exposure and the continuum of stress responses.
22.	<b>NON-BURNING TREATMENT SYSTEM FOR ILLEGAL FIREWORKS</b>	Feasibility study into an EPA-approved mobile treatment unit process for treatment, recycle/reuse, and destruction of fireworks, other explosives, and pyrotechnics to determine whether process is feasible and safe and protective of human health and environment. Next phase would include a proof of concept for mobile treatment unit.
23.	<b>RAPID, UNIVERSAL, BATTERY CHARGER FOR PORTABLE IN-HOME MEDICAL DEVICES</b>	A battery charger for portable in-home medical devices that rapidly charges the back-up batteries when electricity is unavailable in the home.
24.	<b>COLLISION AVOIDANCE SYSTEMS FOR RESPONSE VEHICLES</b>	System (smart phone application) that would notify civilian vehicles and pedestrians via smartphone or dashboard device, about approaching emergency vehicles. System would be an “opt in” program and would capitalize on existing mapping and communication systems.
25.	<b>VESSEL PENETRATION SAMPLING DEVICE</b>	Portable, handheld device to “drill” into containers (glass, metal, plastic, etc.) to obtain samples for field analysis.

\* Tied ranking

# 2016 IAB STANDARDS DEVELOPMENT PRIORITY LIST

The IAB identifies standards development priorities for the responder community each year, and a survey is conducted to vet and prioritize the priorities within the IAB. The Standards Coordination SubGroup then works with ANSI's Homeland Defense and Security Standards Coordination Collaborative and the DHS Office of Standards to engage federal agencies, standards developing organizations, researchers, stakeholder organizations, and practitioners in addressing those priorities.

The IAB standards development priorities for 2016 are listed below. To learn more about the IAB and the Standards Development Priority List, please visit [www.interagencyboard.org](http://www.interagencyboard.org).

1.	<b>PERFORMANCE STANDARD FOR NON-PNEUMATIC LIMB TOURNIQUETS</b>	There is currently no specification or test method for non-pneumatic tourniquets used by responders, and a standard is needed to give confidence or a comparable baseline for claimed performance by manufacturers. There are known incidents of tourniquets failing when used and reports of counterfeit tourniquets being sold. The standard should include performance requirements and test methods for assessing performance such as complete occlusion of arterial blood flow in thigh, capable of easy release and re-application, application time ≤ 60 seconds, simplicity and ease of application in the tactical environment, minimal familiarization required for correct application, locking device/technique to ensure no slipping or loosening of the tourniquet, and durability at extreme temperatures.
2.	<b>STANDARD PRACTICES, TEST METHODS, AND PROCEDURES FOR MONITORING EFFECTIVENESS OF PROTECTIVE CLOTHING DOFFING FOR AVOIDANCE OF CONTAMINATION TRANSFER</b>	Contamination transfer often occurs when doffing protective clothing because responders are not taught proper procedures and precautions for avoiding transfer of contaminants following use and exposure. According to a 2015 report, fewer than one in six healthcare workers followed the correct recommendations for removal of personal protective equipment (PPE) after patient care, likely contaminating themselves and increasing the risk of transmission to others. A standard is needed to provide the general requirements for monitoring how contamination transfer occurs during doffing. These requirements should provide for the use of specific fluorescent tracer solutions, their manner of application, selection of test subjects, safety provisions for human subjects use, manner of doffing, and procedures for viewing and documenting fluorescent on individuals following exposure.

3.	<b>PERFORMANCE STANDARD FOR BOMB SUITS, ADDRESSING BLAST OVERPRESSURE PROTECTION</b>	<p>The scope of this requirement is to develop performance requirements and test methods to be added to the current version of NIJ Standard-0117, <i>Public Safety Bomb Suit Standard</i>, to address blast overpressure protection. The effects of blast overpressure on the human body need to be taken into account to address external and internal impact/injury to the head, neck, thorax, abdomen, and ears. Development of performance requirements and test methods will require research and testing.</p>
4.	<b>PERFORMANCE STANDARD FOR LESS LETHAL CHEMICAL AGENT DEVICES</b>	<p>A performance standard, including test methods, is needed to address the performance of chemical agent devices and their delivery systems. Several types of chemical agent devices are currently in use, including OC (oleoresin capsicum) spray (i.e., pepper spray), CS (ortho-chlorobenzalmalononitrile) spray (i.e., tear gas), powders, and smoke. The following issues could be addressed by having a performance standard: chemical concentrations vary greatly between products of the same model; manufacturer claims on material safety data sheets are not consistent and the sheets do not list all contents; there have been instances of chemical agents or their carriers being ignited by use of a conducted energy device; the effective distance range from canister to subject is inconsistent and not predictable; there are inconsistencies with low temperature use; and high temperatures can cause canisters to burst.</p>
5.	<b>STANDARD TEST METHOD FOR LESS LETHAL CONDUCTED ENERGY WEAPONS</b>	<p>Conducted energy weapons (CEWs) (e.g., TASERs) are used by more than 16,000 law enforcement agencies as a less lethal force option. CEWs are designed to introduce electrical charge into a human body for the purpose of creating pain and incapacitation. Although they are commonly used, CEWs are not tested to any standards and have been found in field use to be very inconsistent in their electrical output. The biggest problem is “cold” weapons that do not have high enough output to cause pain much less incapacitation. Situations in which CEWs are deployed and have low output typically result in the use of lethal force. A standard test method is needed to allow for consistent, independent testing of CEWs prior to purchase and deployment in the field.</p>

# PRIORITY LIST

CONTINUED

6.	<b>PERFORMANCE STANDARD FOR LESS LETHAL DISTRACTION DEVICES</b>	A performance standard is needed for noise flash diversionary devices, also known as distraction devices, flash-bangs, or stun grenades, used by law enforcement and corrections. The following issues could be addressed by having a performance standard: officers have been injured, burned, or killed due to distraction devices exploding in the user's hand; devices do not remain stationary after deployment but can roll or propel to unintended locations; devices produce so much smoke that visibility becomes limited; the sound output of the devices is neither consistent nor specified by the manufacturer; brightness and duration of light produced by the devices is inconsistent; and some devices burn so hot that they caused unintended structure fires.
7.	<b>PERFORMANCE STANDARD FOR LESS LETHAL IMPACT (I.E., KINETIC ENERGY) DEVICES USING A LAUNCHING SYSTEM TO FIRE PROJECTILES</b>	Performance requirements and test methods need to be developed to address the performance of less lethal impact devices, such as polyurethane projectiles, plastic projectiles (e.g., Pepperball, FN), wooden batons, foam batons, and bean bags, fired from a launching system. The standard should address the following: intended use; appropriate launching systems; projectile type, materials, and number in cartridge; accuracy and velocity of projectile; impact energy in foot-pounds; effective distance range; resistance to moisture from rain and high humidity; potential hazards; and black powder/smokeless.
8.	<b>STANDARD TEST METHOD FOR EXPLOSIVE CONTAINMENT VESSELS</b>	Civilian and military bomb technicians use explosive containment vessels to transport explosives and improvised explosive devices. A standard, including performance requirements and test methods, is needed to evaluate: (1) the capability of total containment vessels (TCVs) to contain an explosive blast and/or chemical/biological agents inside the vessel and (2) the venting/scrubbing properties of the TCVs and related machinery. It is not known whether publications exist regarding testing and performance of containment vessels. Unofficial testing has been conducted by the U.S. Marine Corps Explosive Ordnance Disposal program using vessels manufactured by NABCO Inc. and Mistral Security Inc.; however, testing has been reliant upon the manufacturer for operational use and specifications. Development of performance requirements and test methods will require research and testing.

<p>9.</p>	<p><b>STANDARD GUIDANCE FOR ILLICIT SUBSTANCE DETECTION</b></p>	<p>Law enforcement officers (LEOs) are in need of guidance for dealing with suspected illicit substances encountered in the field. The issue has gained importance as officers are faced with handling “liquid meth” (i.e., methamphetamine in solution), which has become a more common procedure for attempts to smuggle illicit drugs across U.S. borders. A notable gap exists between finding a substance, testing it, and identifying it as methamphetamine in solution. Once the substance is identified, the handling and PPE requirements become easy to address. Before the substance is identified, officers face the very difficult situation of having a “solution suspected of containing illicit substances”.</p> <p>Prior to developing guidance, an assessment of current national guidelines, methods, and best practices for LEO approach to evaluation of unknown compounds (solids, powders, liquids, vapors) for illicit substances needs to be done. The assessment should ask whether current LEO policies meet or reflect the current best practices for safety, efficiency, effectiveness, evidentiary chain of custody, intent to conceal, and processes to document prevention of contamination along chain of custody.</p>
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**COVER PHOTO CREDITS**

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