ANSI-HSSP Plenary Report

Achievements from the Past Decade and Charting the Path Forward

Report Prepared December 2011

1.0 Background

In the decade following the 9/11 terrorist attacks, the homeland security and emergency preparedness communities have made tremendous strides in improving the safety of citizens and critical infrastructure both at home and abroad. A continual review of the standards and conformance activities that contribute to a safer world, however, is essential to assuring continued security.

On November 9, the American National Standards Institute (ANSI) Homeland Security Standards Panel (HSSP) gathered in Arlington, VA, to examine progress made over the past decade and discuss a path forward at its Tenth Plenary Meeting: *Achievements from the Past Decade and Charting the Path Forward*.

2.0 Plenary Structure

The goal of the plenary was to examine progress that the homeland security and emergency preparedness communities have made in advancing security since the 9/11 terrorist attacks and to determine a strategic path for continued work in this area.

The one-day event opened with introductory remarks noting some of the high-level accomplishments the HSSP has achieved over the last nine years in collaboration with the Department of Homeland Security (DHS), the 9/11 Commission, national standards bodies around the globe, the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and others in the public and private sectors.

This introduction was followed by a moderated discussion, *Standards Development in Response to Terrorism Threats*, which examined some of the standards that have been developed to respond to potential terrorist threats, others that are on the horizon, and gap areas that still exist. The second panel explored how *An "All Hazards" Standards Approach* can be utilized to address both manmade and natural threats. The third panel, *Re-emphasizing Risk Management*, looked at how the standards community has leveraged a risk management approach for supply chain security and other homeland security areas. In the final panel of the day, *Charting the Path Forward*, participants examined international, regional, and industry initiatives that are paving the way forward for continued security.

At the end of the day, attendees discussed the workshop conclusions and next steps. Each of these components of the workshop is addressed briefly in this report, organized in accordance with the agenda, which is provided in Appendix 1. Representatives from a range of interested stakeholder groups participated in the workshop; a complete list of in-person attendees is available in Appendix 2. Speaker bios are provided in Appendix 3.

All workshop-related presentations from the ANSI-HSSP Tenth Plenary meeting are available online.[1]

3.0 Opening Remarks and Keynote

Opening remarks were provided by:

- Michelle Deane, Director, Homeland Security Standards, ANSI
- S. Joe Bhatia, President and Chief Executive Officer, ANSI
- Chief Adam K. Theil, Fire Chief for the City of Alexandria, VA

Michelle Deane opened the plenary session by acknowledging the support of Dr. Bert Coursey, Peter Shebell, and their team at the U.S. Department of Homeland Security's Science and Technology Directorate (DHS S&T), as well as the ANSI-HSSP co-chairs: Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA) and Gordon Gillerman Director, Standards Services Group, National Institute of Standards and Technology (NIST). Ms. Deane also acknowledged the plenary sponsors, NFPA and the Homeland Security Studies and Analysis Institute, for their generous contributions, and thanked meeting participants for their active engagement and continued support of the ANSI-HSSP.

A Public-Private Collaboration

Setting the stage for the day's discussions, S. Joe Bhatia explained that the HSSP was formed from the outset as a collaboration between the public and private sectors. In early 2003 and in the aftermath of the 9/11 attacks, ANSI's Board Officers saw an important role for the voluntary consensus standardization community to play in addressing the critical need for standards and compliance programs regarding the safety and security of our nation and its citizens. This need was underscored in the National Strategy for Homeland Security.

From those early days to the present, there has been great interest in the work of the panel and a very positive response to its call for action, Mr. Bhatia explained. The panel has collaborated successfully with DHS, the 9/11 Commission, standards bodies domestically and around the globe, and many others in both the public and private sectors. As a result, ANSI-HSSP has produced a number of very impressive, high-level accomplishments over the past nine years.

A Win for Homeland Security: Adoption of Voluntary Standards

Highlighting one such accomplishment, Mr. Bhatia discussed how in 2010, DHS adopted eleven standards as DHS National Standards. The adoption of these standards was a critical moment that built upon the 9/11

[1] http://www.ansi.org/meetings_events/events/2011/HSSP_Plenary_1111.aspx?menuid=8

Commission's endorsement of NFPA 1600, the American National Standard for Disaster/ Emergency Management and Business Continuity Programs, back in 2004. By continuing to adopt DHS National Standards, Mr. Bhatia said, the agency is demonstrating its trust in the value of voluntary consensus standards to carry out high-priority national initiatives in security and preparedness. These standards support a range of activities and technologies including advanced imaging technologies, urban search and rescue, explosives detection, biometrics, chemical detection, private-sector preparedness.

ANSI-HSSP Leadership

Mr. Bhatia thanked Dr. Bert Coursey for his exceptional leadership and guidance to the HSSP over its first ten years. Under Dr. Coursey's direction, the panel worked to gather standards requirements and forge partnerships with federal, state, local, and tribal users to identify and develop many valuable standards and test methods for the homeland security enterprise. Dr. Coursey was also instrumental in forging partnerships that promote the sharing of knowledge, best practices, and lessons learned. This coordination has helped to reduce duplication of effort, promoted the sharing of equipment between the military and the civilian response community, and aided in the speedy delivery of the right equipment to an emergency situation.

Keynote: Broad Participation and Acceptance is Key

In his keynote address, Chief Adam K. Theil, Fire Chief for the City of Alexandria, VA, provided the plenary with a first responder perspective on homeland security standards.

Chief Theil acknowledged the critical role that standards – particularly those supporting personnel training and interoperability – play in enabling first responders to coordinate activities in emergency environments. He added that end user participation in the standards development process is of utmost importance, emphasizing the need for engaging a broad range of stakeholders in standards activities. He noted that end user acceptance of standards is also critical to their success, and that end users may need assistance in understanding the importance of standards. In closing, Chief Theil also urged the continual revision of standards to keep pace with technology and public policy.

4.0 Moderated Discussion – Standards Developments in Response to Terrorism Threats

Led by Chris Dubay, Vice President and Chief Engineer of the National Fire Protection Association (NFPA), the first panel of the day examined some of the standards that have been developed to better respond to future terrorist threats, others that are on the horizon, and gap areas that still exist.

Panelists for this session included:

- Dr. Matthew Davenport, Program Manager, Chemical and Biological Division, DHS S&T Directorate
- Kenneth R. Willette, Division Manager, Public Fire Protection, NFPA
- William Haskell, NIOSH National Personal Protective Technology Laboratory Chairman NFPA Technical Correlating Committee (TCC) on Fire and Emergency Services Protective Clothing and Equipment
- Christina Baxter, U.S. Department of Defense, CTTSO/TSWG

Biothreat Detection

Dr. Davenport provided a presentation on standards for biothreat detection. In particular, Dr. Davenport highlighted standards and guidance documents addressing CBRNE (chemical, biological, radiological, nuclear, and explosives), including the *National Strategy for CBRNE Standards.*[2] The *Strategy* lays out a federal vision for the coordination, prioritization, establishment, and implementation of CBRNE equipment standards by 2020. The document describes the elements of a standards and testing infrastructure needed to counter CBRNE threats, including an integrated standards development approach that spans performance, interoperability, testing and evaluation, conformity assessment, operating procedures, training, and certification.

Additionally, Dr. Davenport noted two current ASTM biothreat standards: ASTM E2770-10, *Standard Guide for Operational Guidelines for Initial Response to a Suspected Biothreat Agent*, which provides a guidance document for first responders to follow in response to a suspected biological threat, and ASTM E2458-10, *Standard Practices for Bulk Sample Collection and Swab Sample Collection of Visible Powders Suspected of Being Biological Agents from Nonporous Surfaces*, which addresses the collection of certain suspected biothreat agents. Dr. Davenport also highlighted the Stakeholders Panel on Agent Detection Assays[3] (SPADA), a voluntary consensus standards body established through a contract with DHS S&T and AOAC International that establishes method performance requirements and panels of reference materials.

Incident Management

Mr. Willette delivered a presentation focusing on NFPA standards responding to the threat of terrorism. Mr. Willette noted that the NFPA has a direct impact on first responders and their safety, and provides first responders with interoperability at both the communications and operations level. Mr. Willette identified NFPA 1561, *Standard on Emergency Services Incident Management System* and the NFPA Signaling Systems Technical Committee as current efforts that could potentially support an all hazards approach to incident management.

Personal Protective Equipment

Mr. Haskell delivered a presentation focusing on standards development in response to terrorism threats, highlighting CBRN and personal protective equipment (PPE) standards in particular. He identified the NIOSH National Personal Protective Laboratory (NPPTL) resources page[4] as a valuable tool containing information on standard test procedures, standards development, certified equipment, among other resources. Mr. Haskell noted that there are currently several standards that have been published and are in development for first responder CBRNE from organizations such as NFPA, NIJ, and NIOSH.

Combating Terrorism Technical Support Office (CTTSO)

Ms. Baxter delivered a presentation (not publicly available for download) focusing on Combating Terrorism Technical Support Office (CTTSO) and the standards process. The CTTSO conducts research and development to meet current standards, develop new standards, and drive the application of current standards. Ms. Baxter noted that the CTTSO Technical Support Working Group (TSWG) provides interagency interdepartmental liaison

[2] http://www.nist.gov/pml/div682/upload/CHNS-CBRNE-Standards_8-11.pdf
[3] http://www.aoac.org/SPADA/spada.htm
[4] http://www.cdc.gov/niosh/npptl/default.html

programs that work on requirements across all government agencies. Ms. Baxter added that standards are extremely important in order to have a successful commercial product or system that can be transitioned to the end user.

Small Business Community Engagement

During the open discussion with audience members, it was noted that one challenge in this area is the engagement of the small businesses in the standards development process. It was added that smaller communities must be engaged in order to establish preparedness and resiliency planning in all communities regardless of size. It was also suggested that one way to improve smaller community preparedness is for the government to provide financial incentives to the communities.

5.0 Moderated Discussion – An "All Hazards" Standards Approach

Dan Bart of Valley View Corporation moderated a panel highlighting hazards standards that have been published, standards that are on the horizon, and gap areas that still exist.

Panelists for this session included:

- Dr. Larry Hudson, Physicist, Physical Measurement Laboratory, National Institute of Standards and Technology (NIST)
- Harry Massey, Industry Director, National Electrical Manufacturers Association (NEMA)
- Kevin M. Morley, Security & Preparedness Program Manager for the American Water Works Association (AWWA)
- Cathy Tilton, Vice-President, Daon, Head of U.S. Delegation, ISO/IEC Joint Technical Committee (JTC) 1/Subcommittee (SC) 37 on Biometrics

X-ray Standards

In a presentation highlighting ten years of X-ray standards, Dr. Hudson discussed White House efforts following the anthrax attack to advance standards for the sanitization of mail going into government offices. This work resulted in the development of X-ray irradiation for parcel mail. Dr. Hudson also discussed that following the 9/11 terrorist attacks, the White House focused on RadNuc detection, and that work in this area resulted in the first set of ANSI standards on RadNuc detection, the ANSI N42 series of standards.

Digital Imaging and Communications in Security

Mr. Massey delivered a presentation on the NEMA's Digital Imaging and Communications in Security (DICOS) standard, which is based on the DICOM standard for medical imaging. DICOS v02 is currently under development with publication scheduled for March – June 2012. Mr. Massey described DICOS Phase 3 for Air Cargo Scanning as aiming to develop consensus standards which will improve security imaging in air cargo by allowing greater equipment interoperability.

Protecting the Water Supply

Mr. Morley spoke to a presentation highlighting an all hazards approach to water sector security and

preparedness. He highlighted the work of the Water Sector Coordinating Council,[5] which was established under the Homeland Security Presidential Directive 7: *Critical Infrastructure Identification, Prioritization, and Protection*[6] (HSPD-7) to recommend actions to reduce homeland security vulnerabilities to the water sector. Mr. Morley noted that in response to HSPD-7, the water sector has developed standards based on disaster events that have occurred in recent history, including AWWA G440 Emergency Preparedness Practices.

Biometrics

Ms. Tilton delivered a presentation covering biometric standardization efforts since 9/11, including the work of the INCITS M1 – the U.S. Technical Advisory Group (TAG) to ISO/IEC JTC 1 SC 37 on biometrics. Ms. Tilton also added that DHS's US-VISIT[7] program was developed in order to provide the opportunity for different government agencies to share information to provide biometric identification services to federal, state, and local government.

During the open discussion, attendees identified a need to develop biometric standards that address the needs of the end user. It was also suggested that new standards developed in the area of biometrics should address the interoperability of systems.

6.0 Moderated Discussion – Re-Emphasizing Risk Management

Moderated by Joseph S. Broz, Ph.D., Managing Partner, Defense Capital Advisors, LLC, this panel addressed how the standards community has utilized a risk management approach for supply chain security and for other crucial homeland security areas.

Panelists for this session included:

- Robert Connors, Director, Preparedness, Raytheon Company
- Charles Piersall, Chairman, ISO/TC 8 (Ships and marine technology)/ISO Coordinator, Supply Chain Security Systems
- Bob Dix, Vice-President, Government Affairs & Critical Infrastructure, Juniper Networks
- George B. Huff Jr., Member, Special Committee on Disaster Response and Preparedness, Senior Attorney-Advisor, American Bar Association

A business continuity plan must consider the entire supply chain.

One weak link puts the integrity of the whole at risk.

Preparedness Requires Advanced Planning

In his presentation on risk management and preparedness, Mr. Connors stressed that it is critical for organizations to invest in proactive, preventative controls in addition to having a reactive plan in place to ensure business continuity. In particular, Mr. Connors highlighted two programs that can be used as tools for organizations in preparedness and risk management planning:

- The Voluntary Private Sector Preparedness Accreditation & Certification Program[8] (PS-Prep)

[5] http://www.nawc.org/government-affairs/water-security-and-safety/water-sector-coordinating-council.aspx
[6] http://www.dhs.gov/xabout/laws/gc_1214597989952.shtm
[7] http://www.dhs.gov/files/programs/usv.shtm

The purpose of the PS-Prep Program is to enhance nationwide resilience in an all-hazards environment by encouraging private-sector preparedness. The program is intended to provide a mechanism by which a private-sector entity – a company, facility, not-for-profit corporation, hospital, stadium, university, etc. – may be certified by an accredited third party, establishing that the private-sector entity conforms to one or more preparedness standards adopted by DHS. Participation in the PS-Prep program is completely voluntary. Three standards were approved for the PS-Prep Program in June 2010, based on scalability and balance of interest:

- ASIS International SPC.1-2009, *Organizational Resilience: Security Preparedness, and Continuity Management System – Requirements with Guidance for use* – 2009 Edition.

- British Standards Institution 25999, 2007 Edition: *Business Continuity Management* (This includes BS 25999:2006-1, Code of practice for business continuity management and BS 25999: 2007-2, Specification for business continuity management.)

- NFPA 1600, *Standard on Disaster / Emergency Management and Business Continuity Programs* – 2007 and 2010 editions.

- The Red Cross Ready Rating Program[9]
  This program is designed to help organizations understand the need for being prepared and ready for disasters in a simplified way. The program is aligned with PS-Prep and includes a self-assessment process to meet the Ready Rating requirements.

Supply Chain Security

Captain Piersall delivered a presentation describing an all hazards risk management approach to supply chain security. Captain Piersall explained that ISO 28000:2007, *Specification for security management systems for the supply chain*, takes a risk-based approach and guides how organizations can improve resilience and preparedness in a cost effective way. According to Captain Piersall, the supply chain encompasses issues of sustainability, recycling, and reuse, and it is important that the entire spectrum of the supply chain community participate in the standards development process. Captain Piersall also suggested that there is a need to use a standards-based approach in the supply chain as well as a need to approach the supply chain from a global perspective.

Critical Infrastructure and Information Technology

In his presentation, Mr. Dix discussed the National Infrastructure Protection Plan[10] (NIPP), which was established as a result of HSPD 7 to outline a plan for U.S. critical infrastructure protection and provide a framework for the U.S. government to collaborate with appropriate security partners, including the private sector. In support of the NIPP, the IT Sector Baseline Risk Assessment[11] (ITSRA) was conducted to address

[8] http://www.fema.gov/privatesector/preparedness/
[9] http://readyrating.org/
[10] http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf
[11] http://www.dhs.gov/xlibrary/assets/nipp_it_baseline_risk_assessment.pdf

threats impacting the IT sector. Mr. Dix noted that President Policy Directive/PPD-8 on national preparedness was recently issued aiming at strengthening security and resilience through preparation and determining a common path forward in national preparedness and resiliency.

Business Continuity

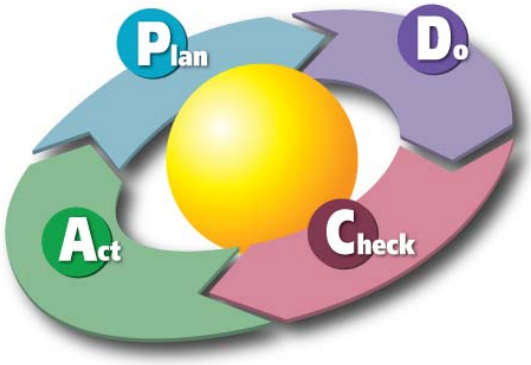

Image creditKarn G. Bulsuk

Mr. Huff delivered a presentation addressing risk management and supply chain security. Mr. Huff identified the need to develop a business continuity systems strategy in order to secure the supply chain. Mr. Huff highlighted ISO 28000 as a risk-based approach to management systems using a "plan-do-act-check" methodology, noting that organizations that choose third party certification to ISO 28000 can utilize that certification to demonstrate their contribution to supply chain security. According to Mr. Huff, the ANSI-ASQ National Accreditation Board (ANAB) has received one application for ISO 28000 from a certification body and has received several other inquiries.

During the open discussion period, participants noted that small businesses in particular may need help in understanding the business case for preparedness and business continuity standards and related programs. It was suggested that incentivizing preparedness standards adoption for small businesses would help small businesses become more involved in the standards process.

6.0 Moderated Discussion – Charting The Path Forward

Gordon Gillerman, Director of the Standards Services Group at NIST moderated a session examining current international, regional, and industry initiatives that are paving the way forward for continued security.

Panelists for this session included:

- Richard Cooper, Vice President, Research & Emerging Issues, U.S. Chamber of Commerce, National Chamber Foundation
- Dr. Bert Coursey, NIST

Standards Needs

In a discussion focused on identifying needs in the standards arena, Mr. Cooper stated that actionable standards need to be developed based on the needs of the end user. According to Mr. Cooper, in order to engage the business and end user communities in the standards development process, the business case for standards must be emphasized; the standards community should work to proactively educate businesses about the value of standardization. He added that in order to move forward with the successful development and adoption of standards there is a need to engage the insurance industry, small business community, and other stakeholders currently absent from the standards development and adoption process. Mr. Cooper pointed to www.StandardsBoostBusinses.org as a valuable tool of raising awareness of importance of standards.

International Harmonization

Dr. Coursey delivered a presentation highlighting past achievements of the HSSP and DHS, and discussed future needs. Dr. Coursey provided an overview of a white paper currently being developed by NIST, DHS, and ANSI in partnership with the European Commission Joint Research Centre (JRC), which outlines benefits of U.S.-EU collaboration on security standards. International harmonization on standards and conformity assessment activities, Dr. Coursey urged, are vital to global security.

Looking Forward

During the final open discussion period, participants agreed that although there are many standards in this area on the whole, there are still many more that are being developed or need development. The ANSI-HSSP may want to consider holding a workshop on this topic in the near future. It was also suggested that the government encourage standards adoption by requiring compliance with standards prior to granting federal or state grant funds. Attendees also suggested that supply chain continuity will further drive the adoption of standards and the certification process.

7.0 Closing Remarks

ANSI-HSSP co-chairs Chris Dubay and Gordon Gillerman closed the meeting by thanking Dr. Bert Coursey for his outstanding leadership of the HSSP, and extending their appreciation to ANSI staff, the plenary sponsors, and meeting participants for their efforts in making this a productive, informative meeting.

8.0 Acknowledgments

Recognition and sincere appreciation are due to the following:

- The National Fire Protection Association (NFPA) and the Homeland Security Studies & Analysis Institute for their sponsorship of the ANSI-HSSP Tenth Plenary meeting

- Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA) and Gordon Gillerman Director, Standards Services Group, National Institute of Standards and Technology (NIST), for co-chairing the event

- Chief Adam K. Theil, Fire Chief for the City of Alexandria, VA, for providing the keynote address

- Bert Coursey, Ph.D., National Institute of Standards and Technology (NIST), for his exceptional leadership and guidance of the ANSI-HSSP over the last ten years, and for moderating the panel, *Charting a Path Forward*

- Chris Dubay, Vice President and Chief Engineer of the National Fire Protection Association (NFPA), for moderating the panel, *Standards Development in Response to Terrorism Threats*

- Dan Bart, Valley View Corporation for facilitating the panel, *An "All Hazards" Standards Approach*

- Joseph S. Broz, Ph.D., Managing Partner, Defense Capital Advisors, LLC, as moderator of *Re-Emphasizing Risk Management*

- All of the speakers listed on the agenda for sharing their expertise and introducing key ideas and concepts utilized during the open dialogue sessions.

Appendix 1 Agenda

ANSI-HSSP Co-Chairs:
Chris Dubay, Vice President and Chief Engineer,
National Fire Protection Association (NFPA)

Gordon Gillerman, Director, Standards Services Group,
National Institute of Standards and Technology (NIST)

ANSI Homeland Security Standards Panel
Tenth Annual Plenary Meeting:
Achievements from the Past Decade and Charting the Path Forward

November 9-10, 2010

Final Agenda

Crystal Gateway Marriott
1700 Jefferson Davis Highway
Arlington, VA 22202

Wednesday - November 9, 2010	
8:15am-9:00am	**Registration**
9:00am-9:15am	**Welcome/Opening Remarks** • **S. Joe Bhatia, President and Chief Executive Officer, ANSI**
9:15am-10:00am	**Keynote Address** • **Chief Adam K. Theil, Fire Chief for the City of Alexandria, VA**
10:00am-11:15am	**Standards Development in Response to Terrorism Threats** ***Standards developers identified gap areas following the events of 9/11 and produced standards to help better respond to future terrorist threats. This panel will highlight some of the standards that were developed, standards that are on the horizon, and gap areas that still exist.*** **Moderator: Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA)** **Panelists:** • **Dr. Matthew Davenport, Program Manager, Chemical and Biological Division, DHS S&T Directorate** • **Kenneth R. Willette, Division Manager, Public Fire Protection, National Fire Protection Association (NFPA)** • **William Haskell, NIOSH National Personal Protective Technology Laboratory Chairman NFPA Technical Correlating Committee (TCC) on Fire and Emergency Services Protective Clothing and Equipment** • **Christina Baxter, US Department of Defense, CTTSO/TSWG**
11:15am-11:30am	**BREAK**

11:30am-12:45pm	**An "All Hazards" Standards Approach** ***Effective homeland security standards need to take an all hazards approach to address both manmade and natural threats. This panel will highlight all hazards standards that have been published, standards that are on the horizon, and gap areas that still exist.*** **Moderator: Dan Bart, Valley View Corporation** **Panelists:** • **Dr. Larry Hudson, Physicist, Physical Measurement Laboratory, National Institute of Standards and Technology (NIST)** • **Harry Massey, Industry Director, National Electrical Manufacturers Association (NEMA)** • **Kevin M. Morley, Security & Preparedness Program Manager for the American Water Works Association (AWWA)** • **Cathy Tilton, Vice-President, Daon, Head of U.S. Delegation, ISO/IEC JTC 1/SC 37 – Subcommittee on Biometrics**
12:45pm-1:45pm	**LUNCH** **DEMONSTRATIONS/EXHIBITS**
1:45pm-3:00pm	**Re-Emphasizing Risk Management** ***Standards play a key role in supporting resource allocation and other important decision making processes of risk management utilized by forward thinking companies and organizations. A prime example of where risk management is employed in the security sphere is supply chain security. This discussion panel will address how the standards community has utilized the risk management approach for supply chain security and for other crucial homeland security areas.*** **Moderator: Joseph S. Broz, Ph.D., Managing Partner, Defense Capital Advisors, LLC** **Panelists:** • **Robert Connors, Director, Preparedness, Raytheon Company** • **Charles Piersall, Chairman, ISO/TC 8 (Ships and marine technology)/ISO Coordinator, Supply Chain Security Systems** • **Bob Dix, Vice-President, Government Affairs & Critical Infrastructure, Juniper Networks** • **George B. Huff Jr., Member, Special Committee on Disaster Response and Preparedness, Senior Attorney-Advisor, American Bar Association**
3:00pm-4:00pm	**Charting The Path Forward** ***Standards play a key role in the global competitiveness of the homeland security arena. This discussion panel will address current international/regional and industry initiatives. The audience will be encouraged to participate in the dialogue on the state of standards and upcoming initiatives that should be supported.*** **Topics:** • **International/regional initiatives** • **Industry initiatives** • **Open floor for audience comments on the state of standards**

	Moderator: Gordon Gillerman, Director, Standards Services Group, National Institute of Standards and Technology (NIST) **Panelists:** • **Richard Cooper, Vice President, Research & Emerging Issues, U.S. Chamber of Commerce, National Chamber Foundation** • **Bert Coursey , National Institute of Standards and Technology (NIST)**
4:00–4:15pm	**Closing Remarks** **ANSI-HSSP Co-Chairs:** • **Chris Dubay, Vice President and Chief Engineer, National Fire Protection Association (NFPA)** • **Gordon Gillerman, Director, Standards Services Group, National Institute of Standards and Technology (NIST)**
4:15pm	**Adjournment**
5:00pm-6:30pm	**Reception and Networking Event**
Day 2 – Thursday, November 10	**Workshop on:** **Standards for Disaster Resilience for Buildings and Physical Infrastructure Systems** **Please see separate agenda**

Appendix 2 Roster of In-Person Attendees – Tenth Plenary Meeting and Workshop

First Name	Last Name	Organization
Don	Ballantyne	Degenkolb Engineers
Dan	Bart	Valley View Corporation
Christina	Baxter	U.S. Department of Defense (DoD)
Victor	Benavides	U.S. Department of Homeland Security (DHS)
S. Joe	Bhatia	American National Standards Institute (ANSI)
William	Billotte	National Institute of Standards and Technology (NIST)
Jami	Blackmon	Environmental Security International
Joseph	Booth	Stephenson Disaster Management Institute
Jerry	Brashear	ASME - Innovative Technologies Institute
Paul	Brenner	ICF International
John	Bridges	The National Graduate School of Quality Management
Joe	Broz	Defense Capital Advisors, LLC
Wayne	Bryden	FLIR Systems
Lydia	Canda	U.S. Department of Homeland Security (DHS)
Jessica	Carl	American National Standards Institute (ANSI)
Stephanie	Carroll	American National Standards Institute (ANSI)
John	Catlett	Department of Code Administration
Stephen	Cauffman	National Institute of Standards and Technology (NIST)
Robert	Chapman	National Institute of Standards and Technology (NIST)
Robert	Connors	Raytheon
Jerome	Conrad	U.S. Department of Homeland Security (DHS)
Richard	Cooper	U.S. Chamber of Commerce
Bert	Coursey	National Institute of Standards and Technology (NIST)
Matthew	Davenport	U.S. Department of Homeland Security (DHS)
Don	Davidson	U.S. Department of Defense (DoD)
Michelle	Deane	American National Standards Institute (ANSI)
Tamara	Dickinson	Office of Science and Technology Policy, EOP
Lucy	DiGhionno	U.S. Department of Homeland Security (DHS)
Robert	Dix	Juniper Networks
Robert	Domenici	HyGie-Tech USA, Inc.
Paul	Domich	CIP-Consulting, Inc.
Chris	Dubay	National Fire Protection Association (NFPA)
Leonardo	Duenas-Osorio	Rice University
Lorraine	Eide	U.S. Department of Homeland Security (DHS)
John	Elinski	Battelle Memorial Institute
Jean-Paul	Emard	ATIS
Elizabeth	English	University of Waterloo School of Architecture
Steve	Ernst	FHWA
Alim	Fatah	National Institute of Standards and Technology (NIST)
Mathew	Francis	URS
Gordon	Gillerman	National Institute of Standards and Technology (NIST)
Sandra	Gogol	U.S. Department of Homeland Security (DHS)
David	Goldbloom-Helzner	U.S. Environmental Protection Agency
Dave	Gorshkov	Digital Grape Business Services
Jennifer	Goupil	Structural Engineering Institute
Pamela	Greenlaw	U.S. Department of Homeland Security (DHS)
James	Harris	JR Harris Company

Jay	Harris	National Institute of Standards and Technology (NIST)
William	Haskell	National Institute for Occupational Safety & Health
Renee	Hendricks	U.S. Department of Homeland Security (DHS)
Gwainevere	Hess	U.S. Department of Homeland Security (DHS)
Kathleen	Higgins	U.S. Department of Homeland Security (DHS)
Dan	Howell	FM Global
Lawrence	Hudson	National Institute of Standards and Technology (NIST)
George	Huff	American Bar Association
David	Karmol	International Code Council (ICC)
Fran	Kernodle	FKA, Inc.
Siraj	Khan	U.S. Department of Homeland Security (DHS)
Kristin	Korte	FLIR Systems
John	Kulick	Siemens USA
John	Laws	U.S. Department of Homeland Security (DHS)
Philippe	LeGoff	HyGie-Tech USA, Inc.
Hai	Lew	National Institute of Standards and Technology (NIST)
Alison	Littlepage	U.S. Department of Homeland Security (DHS)
Jennifer	Marshall	National Institute of Standards and Technology (NIST)
John	Martin	U.S. Department of Homeland Security (DHS)
Harry	Massey	National Electrical Manufacturers Association (NEMA)
Phillip	Mattson	U.S. Department of Homeland Security (DHS)
Evette	Maynard-Noel	U.S. Department of Homeland Security (DHS)
Terri	McAllister	National Institute of Standards and Technology (NIST)
Nancy	McNabb	National Institute of Standards and Technology (NIST)
David	McWhorter	Catalyst Partners
John	Milam	Dynamis
Peter	Misuinas	U.S. Department of Homeland Security (DHS)
Ashley	Moore	U.S. Department of Homeland Security (DHS)
Kevin	Morley	American Water Works Association (AWWA)
Kenneth	O'Dell	MHP, Inc. Structural Engineers
Stephan	Parker	Transportation Research Board, National Academies
Nicholas	Paulter	National Institute of Standards and Technology (NIST)
Will	Peart	William H. Gordon Associates, Inc.
Charles	Piersall	Chairman, ISO/TC 8 (Ships and marine technology)
Chris	Poland	Degenkolb Engineers
Nancy	Pomerleau	U.S. Department of Homeland Security (DHS)
Erik	Puskar	National Institute of Standards and Technology (NIST)
Irmak	Renda-Tanali	University of Maryland University College
James	Rossberg	ASCE
Fahim	Sadek	National Institute of Standards and Technology (NIST)
Mary	Saunders	National Institute of Standards and Technology (NIST)
Woody	Savage	University of Nevada Las Vegas
Fran	Schrotter	American National Standards Institute (ANSI)
Bill	Schweigart	U.S. Department of Homeland Security (DHS)
Everett	Sedgwick	Federal Emergency Management Agency (FEMA)
Peter	Shebell	U.S. Department of Homeland Security (DHS)
Steve	Skalko	Portland Cement Association
Robert	Stenner	Pacific Northwest National Laboratory (PNNL)
Carolyn	Tabarini	U.S. Department of Homeland Security (DHS)
William	Taylor	Washington Metropolitan Area Transit Authority (WMATA)

Adam	Theil	Alexandria Fire Department
Cathy	Tilton	Daon
Richard	Vandame	U.S. Department of Homeland Security (DHS)
Robert	Vondrasek	National Fire Protection Association (NFPA)
Randy	Wagoner	Federal Emergency Management Agency (FEMA)
Erin	Walsh	U.S. Department of Homeland Security (DHS)
Nick	Weber	U.S. Department of Homeland Security (DHS)
Richard	Weisman	U.S. Environmental Protection Agency
Jefferson	Welch	Carnegie Mellon Software Engineering Institute
Heiko	Werner	Federal Agency for Technical Relief (THW) - Germany
Kenneth	Willette	National Fire Protection Association (NFPA)
Marcus	Williams	Homeland Security Studies and Analysis Institute
Kevin	Wong	National Institute of Standards and Technology (NIST)
Robert	Zimmerman	Homeland Security Studies and Analysis Institute

Appendix 3 Speaker Bios

Dan Bart

Dan Bart currently consults on Strategic Standardization Management, Homeland Security, National Security/Emergency Preparedness, Standards Processes, Technology, Intellectual Property Rights, Privacy, and other issues for the Information, Communications, and Entertainment (ICE) Sector. Mr. Bart was Senior Vice President, Standards and Special Projects, Telecommunications Industry Association (TIA) until he retired at the end of 2006, but continued for another year as CTO and Advisor to the TIA President. He oversaw the administration of the TIA Standards Program and ensuring compliance with the American National Standards Institute (ANSI) guidelines and ANSI Patent Policy. He currently serves on the ANSI Board and Executive Committee and many of the Board's committees. He currently chairs ANSI's Intellectual Property Rights Policy Committee.

Mr. Bart also has been active in security-related matters for over twenty years. From a National Security/Emergency Preparedness (NS/EP), Critical Infrastructure Protection (CIP), Homeland Security (HS) standpoint, TIA was active in following and supporting the President's Commission on Critical Infrastructure Protection (PCCIP). Mr. Bart was the TIA and Communications Sector representative to the Partnership for Critical Infrastructure Security (PCIS), where he was also Secretary Treasurer. Mr. Bart was the private-sector co-chair of the ANSI Homeland Security Standards Panel (ANSI HSSP) (www.ansi.org/hssp) for nearly five years. Mr. Bart also attended meetings of the President's National Security Telecommunications Advisory Committee (NSTAC) and was very active in the NSTAC's Task Forces. Mr. Bart is on the Advisory Board of the National Institute for Urban Search and Rescue (NIUSR).

He is licensed as an attorney in the District of Columbia. Before joining TIA in1993, Mr. Bart was a Senior Attorney for GTE responsible for complex, multi-party, legal/technical matters affecting GTE Corporation and its subsidiaries. Mr. Bart received a Juris Doctor degree in 1974 from Chicago-Kent College of Law, which is affiliated with the Illinois Institute of Technology (IIT). He received his undergraduate training in engineering physics and electrical engineering at the University of Illinois, Northern Illinois University, and IIT.

Christina Baxter

Dr. Baxter is the Program Manager for the Chemical, Biological, Radiological and Nuclear Countermeasures (CBRNC) subgroup at the Technical Support Working Group (TSWG). TSWG is a program element within DoD's Combating Terrorism Technical Support Office (CTTSO). The TSWG CBRNC subgroup works closely with the interagency user community from all levels of Government and with various international partners to provide timely solutions in the areas of CBRN attribution, protection, detection, and consequence management and information resources. Homeland Security Presidential Directive 22 directed the TSWG CBRNC subgroup to lead the Nation's research and development planning for Protective Equipment for Chemical Defense.

Dr. Baxter is actively in NFPA committees involved in the development of standards for personal protective equipment for hazardous materials response and operations. She is currently the chairperson of the NFPA Hazardous Materials Protective Clothing and Equipment Technical Committee and a member of the NFPA Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment, the NFPA Technical Committee on Hazardous Materials Response Personnel and the ASTM International Technical Committee on Protective Clothing (F23). Dr. Baxter is also a member of the InterAgency Board for Equipment

Standardization and Interoperability. She holds B.S. degrees in Chemistry and Environmental Science from the University of Massachusetts – Amherst and a Ph.D. in Chemistry from Georgia Institute of Technology.

S. Joe Bhatia

S. Joe Bhatia began his tenure as president and chief executive officer of the American National Standards Institute (ANSI) on January 1, 2006.

Prior to joining ANSI, Mr. Bhatia held the position of executive vice president and chief operating officer of the international group at Underwriters Laboratories Inc. (UL). During his 35-year tenure with the organization Mr. Bhatia assumed positions of progressive leadership in global business operations. His areas of responsibility included engineering, governmental and congressional liaisons, external affairs, follow-up (certification) services and direction of UL's $300+ million international operations.

In 2009, Mr. Bhatia was elected to serve as vice president for the Pan American Standards Commission (COPANT) for a two-year term. He also serves as vice chairman of the Industry Trade Advisory Committee on Standards and Technical Trade Barriers (ITAC 16), a joint program of the U.S. Department of Commerce and U.S. Trade Representative. A member of the International Organization for Standardization (ISO) Council and its Standing Committee on Strategies, Mr. Bhatia also holds a seat on the Oakton Community College Education Foundation Board and recently retired as a member of the National Fire Protection Association Board of Directors. In addition to his numerous professional affiliations, Mr. Bhatia is a frequent lecturer in the U.S. and around the world on topics such as international trade, technical developments, commercial market access, and health, safety and environmental concerns. Mr. Bhatia holds a Bachelor of Science in electrical engineering and a Master of Science in business management.

Joseph Broz

Dr. Broz is a Member of The Spectrum Group (www.spectrumgrp.com) in Alexandria, VA (since 2005), and Managing Partner of Defense Capital Advisors, LLC in Denver (since 2003) (www.defensecap.com). He is a member of the Homeland Security Standards Panel of the American National Standards Institute which supported the 9/11 Commission in its recommendations on private sector preparedness. He was selected as a technical representative for ANSI to the ISO in Geneva for the TAG of the Strategic Advisory Group on Security in 2005, and was a voted lead technical representative of the VTAG to ISO to support the Strategic Advisory Group on Renewable Energy Standards in 2008, and continues with both efforts presently. He has been a frequent speaker on private sector preparedness, delivering seminars and speeches to varied groups such as national trade associations, universities, annual corporate meetings, and business roundtables.

He also was appointed by the Governor as a member of the Critical Infrastructure Committee for the State of Colorado in the immediate aftermath of 9/11, and recently co-chaired and assisted in the completion the Governor's Climate Strategy Action Plan for the State of Colorado under the auspices of the Colorado Climate Change Initiative. In 1991 and 1992, during the administration of President H.W. George Bush, Dr. Broz served as a White House Fellow and Special Assistant to the Director and to the Assistant to the President for Science and Technology. Dr. Broz is a former British-American Fellow of the Johns Hopkins School of Advanced International Studies (1995).

Dr. Broz graduated with a degree in physics from the Massachusetts Institute of Technology (MIT), Cambridge, MA, in 1980 and received his Ph.D. in physics from the Swiss Federal Institute of Technology (ETH), Zurich in 1991. He has written and published numerous technical papers, and has been awarded several U.S. and foreign patents. He speaks German, is conversational in Spanish, and literate in other languages. He currently holds high-level security clearances for government contract work.

Robert Connors

Bob Connors is director of preparedness for Raytheon Company. In this role, he is primarily responsible for the enterprise-wide business continuity and crisis management program. Mr. Conners has over 28 years of experience that includes systems programming, systems analysis, business continuity/crisis management, homeland security/emergency management, manufacturing, infrastructure deployment, project management and process management.

He is a member of the Defense Industrial Base Sector Coordinating Council, U.S. Chamber National Security Task Force, Infragard, and served two terms on the FEMA National Advisory Council. Bob earned a Bachelor of Science with highest honors in Criminal Justice (concentration in Homeland Security & Counterterrorism). He completed the Executive Leaders Program at the Naval Postgraduate School Center for Homeland Defense & Security and is an alumnus of the National Defense University/iCollege. He is also an alumnus of the FBI Citizen's Academy; a graduate of Raytheon's Advanced Management and Leadership Excellence Programs; and a qualified Raytheon Six Sigma Specialist. He holds professional certifications from the American Board for Certification in Homeland Security, Disaster Recovery Institute International and Business Continuity Institute.

Mr. Conners established the enterprise-wide preparedness and crisis management program at Raytheon covering over 600 locations and 72000 employees worldwide. He provides advice and national policy direction for DoD and DHS through the Defense Industrial Base Sector Coordination Council and FEMA National Advisory Council respectively. He was awarded the Homeland Security & Defense Business Council's "Distinguished Partner in Preparedness" award; featured as one of the "Homeland Security Professionals to Watch" in Homeland Security Today; and received the "Emerging Executive of the Year" award from the Massachusetts Technology Council. He is a frequent speaker/moderator at major homeland security and disaster preparedness events.

Rich Cooper

Richard "Rich" Cooper is vice president of Research & Emerging Issues for the National Chamber Foundation (NCF), the U.S. Chamber's nonprofit, public policy think tank. He leads NCF in examining the issues that will impact the United States and its private sector over the next 2 to 10 years. In addition, he leads a team of fellows, researchers, and program managers who present programming, publications, and events to better inform and best prepare the Chamber's leaders, members, and stakeholders for the future. Mr. Cooper is also a principal with Catalyst Partners, LLC, a government and public affairs practice in Washington, DC, focusing on homeland and national security matters. He is chairman of the Homeland Security Division of the National Defense Industrial Association, a senior fellow with The George Washington University's Homeland Security Policy Institute, and an adviser to NYU's International Center for Enterprise Preparedness. Mr. Cooper posts regular commentaries on Security Debrief and Defense Media Network.

From 2003 to 2006, Mr. Cooper served as business liaison director for the U.S. Department of Homeland Security's (DHS's) Private Sector Office, where he helped form department policies and programs for private

sector preparedness and continuity. At DHS, he worked closely with Hurricanes Katrina and Rita relief efforts, the 9/11 Commission, the Ready-Business campaigns, and others.

Before joining DHS, Mr. Cooper was a senior policy adviser at the National Aeronautics and Space Administration (NASA), working as special assistant to the NASA administrator and chief of staff/White House liaison. Other positions included program architect for NASA's Educator Astronaut Program and strategic communications for the Space Shuttle Columbia accident.

Previously, Mr. Cooper served as president of Global Initiatives, Inc., a Virginia-based small business that provides consulting services to the private and public sectors in the high-tech and aerospace communities. Mr. Cooper holds a B.A. in political science and religion from the University of Mary Washington in Fredericksburg, Virginia, and is working toward a Master of Public and International Affairs at Virginia Tech. He also holds a Certificate from Harvard University's Kennedy School of Government, National Preparedness Leadership Initiative, as well as a Certificate in Counter-Terrorism Studies from the University of Southern California's National Center for Risk and Economic Analysis of Terrorism Events.

Bert Coursey

Bert M. Coursey received his B.S. degree in Chemistry in 1965, and the Ph.D. in Physical Chemistry in 1970, from the University of Georgia. He served as an Officer in the U.S. Army in 1969 - 1971 in the Army Engineer Reactors Group at Fort Belvoir, VA. He joined the National Institute of Standards and Technology (NIST) (formerly the National Bureau of Standards) in 1972 and for the following 15 years worked on radioactivity standards for environmental radioactivity and nuclear medicine. In 1983 – 1984 he was on a sabbatical as a Visiting Scientist at the E.U. Joint Research Centre- Geel (now the Institute for Reference Materials and Measurements). More recently he has held management positions in radiation dosimetry and served as Chief of the Ionizing Radiation Division in the NIST Physics Laboratory. He is a recipient of the Bronze (1987), Silver (1997) and Gold (2002) Medals of the Department of Commerce, and the past president of the International Committee for Radionuclide Metrology. He is a Fellow of the American Association of Physicists in Medicine. Dr. Coursey has ninety publications on radioactivity standards and applied radiation dosimetry. He is a member of the U.S. Senior Executive Service.

Since March 1, 2003, Dr. Coursey has been on assignment in the Science & Technology Directorate, Department of Homeland Security. He is presently chief of the Standards Branch in the Test & Evaluation and Standards Office responsible for the design and implementation of a national program for standards for the homeland security enterprise. In 2004 he was appointed the Standards Executive for the Department. A partial listing of the DHS standards projects underway includes performance standards and testing and evaluation protocols for chemical, biological, radiological/nuclear detectors, trace and bulk explosives detection equipment, and performance standards for information technology (IT) to include credentialing, biometrics and cargo security. Dr. Coursey is a co-chair of the Subcommittee on CBRNE Standards of the White House OSTP National Science & Technology Council, under the Committee on Homeland and National Security. He works with the American National Standards Institute (ANSI), NIST, and the DHS components on development of national standards that support the homeland security enterprise.

Matthew Davenport

Matt has two main interests as a Program Manager in the Chemical and Biological Research and Development Branch (CBRD) of the DHS Science and Technology Directorate: standards and bioinformatics. Matt manages the DHS Public Safety Actionable Assay (PSAA) program and Chairs the Stakeholders Panel on Agent Detection Assays (SPADA) to establish voluntary consensus standards for the validation of biothreat detection technologies used by first responders and private-sector end users. In addition to the PSAA program, Matt coordinates a number of bioinformatics efforts including: the development of new databases and software to identify signatures that can be used to specifically detect biothreat agents; sequencing strains of biothreats and their genetic near-neighbors; and application of next generation sequencing to biothreat detection. Prior to his role as Program Manager, Matt served in both CBRD and the Homeland Security Advanced Research Projects Agency (HSARPA) as a Science and Technology Policy Fellow from the American Association for the Advancement of Science (AAAS) where he worked in the same areas of biological countermeasures.

Prior to joining DHS, Matt was a postdoctoral fellow studying the biochemical mechanisms that control replication of the genome and the repair of genome when it becomes damaged; two processes that are involved in the development of cancer when they go awry. He began his fellowship at The Johns Hopkins School of Medicine and then followed his advisor to the Memorial Sloan-Kettering Cancer Center in New York City to complete his work. Matt earned his doctorate from the Department of Microbiology and Immunology at the University of North Carolina at Chapel Hill. While in Chapel Hill, Matt studied how Epstein-Barr Virus, which is associated with infectious mononucleosis and a number of human cancers, maintains a life-long persistent infection in its human host. Matt also holds a B.S. in microbiology from North Carolina State University and is a native of North Carolina.

Bob Dix

Bob Dix currently serves as the Vice President of Government Affairs & Critical Infrastructure Protection for Juniper Networks. During his career, he has served in senior leadership roles in industry and government, including serving as Staff Director for the House Government Reform Subcommittee on Technology, Information Policy, Intergovernmental Relations and the Census during the 108th Congress.

He represents Juniper as the Industry Executive Point of Contact for the President's National Security Telecommunications Advisory Committee (NSTAC), where he chaired the Cybersecurity Collaboration Task Force in 2009. He served as Chair of the Information Technology Sector Coordinating Council (IT SCC) from 2008 – 2010 and currently remains a member of the Executive Committee. Mr. Dix was elected in May, 2011 as Chair of the Partnership for Critical Infrastructure Security (PCIS). He also serves on the National Security Task Force for the U. S. Chamber of Commerce.

He is a member of the AFCEA Cyber Security Committee and Chairs the Supply Chain Assurance Subcommittee for TechAmerica. Additionally, Dix has actively worked to insure and coordinate private sector participation and collaboration with the FEMA National Exercise Program, intended to test our nation’s preparedness and resiliency. He served as Chair of the National Private Sector Working Group for National Level Exercise 2011 and 2010.

In 2007 and 2009, Mr. Dix was honored with a prestigious Federal 100 Award, and was recognized in March, 2010 as the industry recipient of the annual Fed 100 Eagle Award. He also served as a local government elected official in Northern Virginia for 12 years and in his spare time coaches AAU/Travel girls basketball.

Christian Dubay

Christian Dubay is vice president and chief engineer for the National Fire Protection Association (NFPA). In this role, he oversees the codes and standards operations including electrical engineering, fire protection systems engineering, industrial and chemical engineering, public fire protection, and building fire protection and life safety. In addition, he oversees NFPA's codes and standards administration which is responsible for the development process of the 300+ fire safety codes and standards that comprise the national fire codes. Dubay also serves as the chief technical spokesperson for the association

Christian Dubay holds a BS in Fire Protection Engineering from the University of Maryland. He is a registered professional engineer in the states of Connecticut and Massachusetts and is a member of the Society of Fire Protection Engineers.

Gordon Gillerman

Gordon Gillerman, Director of Standards Services at the National Institute of Standards and Technology (NIST), coordinates and advises federal agencies, US industry and other stakeholders on standards and conformity assessment policy. NIST Standards Services operates the U.S. Inquiry Point for the World Trade Organization's Technical Barriers to Trade Agreement and is a key information source for US industry on standards related market access issues.

Mr. Gillerman has extensive experience coordinating standards policy and development across a wide range of critical issues in the U.S. including homeland security, safety, health and protection of the environment. He is the Public Sector Co-Chair of the American National Standards Institute's (ANSI) Homeland Security Standards Panel, an expert on conformity assessment systems and their nexus with regulatory and trade issues and a sought after lecturer on standards, conformity assessment and regulation.

Prior experience include leading government affairs for the largest U.S. product safety certification and standard development organization, Underwriters Laboratories (UL) in Washington, DC, and Staff Engineer for the medical device and information technology sectors at UL's Northbrook, IL headquarters.

Mr. Gillerman has worked collaboratively within the standards community to enhance health, safety, the environment and security throughout his career. In 2008 he received an Environmental Protection Agency Gold Medal, a Department of Commerce Bronze Medal and the ANSI Meritorious Service Award. In 2010 he received a Department of Commerce Gold Medal for leadership in enhancing the performance standards and certification program for law enforcement body armor.

William Haskell

Mr. Haskell is a Project Officer in the Policy & Standards Development Branch (PSDB) of the National Institute for Occupational Safety and Health (NIOSH) - National Personal Protective Technology Laboratory (NPPTL). NPPTL was established in 2001 to provide world leadership for the prevention and reduction of occupational disease, injury and death for workers and emergency responders who reply on personal protective technologies (PPT). The NPPTL Mission is to prevent work-related illness and injury by ensuring the development, certification, deployment and use of personal protective equipment and fully-integrated ensembles. Mr. Haskell is a member of the Interagency Board (IAB) for Equipment Standardization and Interoperability serving as the Federal Co-Chair

for the Equipment Subgroup. He is a member of the National Fire Protection Association (NFPA) and serves as the Chairman of the Technical Correlating Committee for Fire and Emergency Services Protective Clothing and Equipment. He is also a member of the NFPA Technical Committees for hazard materials, electronic safety, structural/proximity, special operations, and emergency medical service protective clothing and equipment. Mr. Haskell is a member of the American Society for Testing and Materials (ASTM International) F23 Protective Clothing and Equipment's Executive Committee and the E54 Homeland Security Committees. He is a member of the DHS S&T Standards Working Group and the National Institute for Justice (NIJ) CBRN Ensemble Standard - Special Technical Committee. He also represents NPPTL on the International Association of Chiefs of Police (IACP) – Homeland Security Committee. Prior to joining NIOSH Mr. Haskell worked for 24 years for the Department of Defense at the Army Research Laboratory and the Army Soldier Systems Center.

Larry Hudson

Dr. Larry Hudson is the lead NIST researcher in x-ray diffraction spectroscopy and has led projects on the medical, industrial, astrophysical, and security applications of x rays. After the deliberate contamination of the US mail with anthrax, Dr. Hudson assisted in design and coordination of experiments for the White House Task Force on Mail Irradiation resulting in the development of the protocol still in use to sanitize parcel mail with industrial x-ray sources. Dr. Hudson currently serves as the NIST project leader for the development of a suite of national and international standards related to the technical imaging performance and radiation safety of x-ray and gamma-ray security-screening technologies, particularly for bulk-explosives detection.

George Huff

George Huff is the Attorney-Advisor for the Space and Facilities Division of the Administrative Office of the U.S. Courts (AO). He advises the U.S. Judicial Conference's Committees on Space and Facilities and Judicial Security. In his work with the federal Judiciary, he has served as a law clerk in the Court of Federal Claims in Washington, DC, in the Court of Appeals for the Seventh Circuit in Chicago, and in a variety of legal positions at the AO associated with court management, facilities and security. As a former Deputy Attorney General of Indiana, he is the attorney of record on a number of reported cases. Mr. Huff retired from the U.S. Army Reserve after service in various senior-level operational positions.

His primary additional duty has been as the Attorney-Advisor to the Judiciary Emergency Preparedness Office at the AO during more than 60 disaster-related incidents affecting court operations throughout the U.S. He has published cover articles on business continuity and pandemic preparedness in journals of Federal and American Bar Associations. Mr. Huff is a Certified Business Continuity Professional and a Business Continuity Management Systems Auditor. In addition, he serves as the advisor to the Judiciary's Emergency Preparedness Program, providing guidance and assistance for operational continuity management programs nationwide. He participates in the activities of the federal Interagency Continuity Advisory Group. He conducts continuity exercises for the AO and U.S. courts, and teaches business continuity in continuing legal education programs.

He is a member of the Board of Directors of the ANSI-ASQ National Accreditation Board, which assesses and accredits certification bodies that demonstrate competence to audit and certify organizations conforming to management systems standards, including the PS-Prep standards. He serves currently as a U.S. representative on ISO's Technical Committee 223, Working Group 4.

Mr. Huff is a graduate of the Park-Tudor School in Indianapolis. He holds an undergraduate degree from Hanover College, attended the Graduate School in Forensic Studies at Indiana University, and the College of Law of Northern Illinois University. A former U.S. Army Airborne-Ranger, George earned the Green Beret. He also completed the U.S. Army Command and General Staff College, the British Territorial Army Command and Staff College, and the Air War College. He was awarded the Legion of Merit and other military decorations. He serves currently as a Member of the American Bar Association's Special Committee on Disaster Response and Preparedness.

Harry Massey

Harry Massey has worked at NEMA since 2003. He has managed six product sections including: Carbon/Manufactured Graphite, Industrial Automation Control Products and Systems, Power Electronics, Industrial Imaging and Communications, Fuse and Electric Vehicle Supply Equipment/Systems.

His experiences include: expanding partnerships with manufacturers in support of building codes and marketing awareness activities; coordinating member recruitment and connecting top decision-makers of new member companies with association services; organizing industry efforts to identify future engineering and e-commerce standards; marketing association projects, products, meetings and publications to major international and national companies; coordinating development of consumer and market surveys for products, publications and education/certification programs; coordinating national advertising campaign for association and certification programs; and serving as "industry specialist" to the association, media, industry and consumers.

Prior to NEMA, he was executive director at the Plumbing-Heating-Cooling Contractors - National Association where he lead a campaign to bring manufacturers and contractors together in promoting quality product and quality installation. He also worked for the Consumer Electronics Association (CEA), Arlington, Virginia where he managed the Mobile Electronics Division where he worked closely with major automobile manufacturers. Originally from North Carolina, Harry graduated from East Carolina University.

Kevin Morley

Kevin M. Morley is the Security & Preparedness Program Manager for the American Water Works Association (AWWA). Water sector security and preparedness is one of the primary issues he has addressed since joining AWWA in 2003. In this role he works closely with a variety of organizations tasked with advancing the security and preparedness of the Nation's critical infrastructure, including DHS, EPA, CDC and the Water Sector Coordinating Council, which is part of National Infrastructure Protection Plan (NIPP) sector partnership. Recently this has included facilitating the expansion of mutual aid and assistance networks within the water sector based on the "Utilities Helping Utilities Action Plan" developed by AWWA in 2005. In addition, he has supported the development of standards, such as ANSI/AWWA G430: *Security Practices for Operations and Management,* ANSI/AWWA G440: *Emergency Preparedness* and ANSI/ASME-ITI/AWWA J100: *Risk Analysis and Management for Critical Asset Protection (RAMCAP®) Standard for Risk and Resilience Management of Water and Wastewater Systems*. Most recently he led the development of a resource guide entitled *Planning for an Emergency Water Supply* in collaboration with the USEPA to support requirements of the 2002 Bioterrorism Act.

Prior to AWWA, he worked with Delon Hampton & Associates where he was involved in several security projects, including water utility vulnerability assessments and perimeter security for the U.S. Supreme Court and the office complex of the U.S. Senate and House of Representatives. In addition, he spent several years providing

environmental and regulatory consulting services to *Fortune 500* companies. Mr. Morley received an M.S. from SUNY College of Environmental Science and Forestry and a B.A. from Syracuse University. Currently he is a doctoral candidate in the Department of Environmental Science and Policy at George Mason University focusing on security issues in the water sector.

Captain Charles Piersall

Captain Charles H. Piersall is Chairman of ISO technical committee ISO/TC 8, *Ships and marine technology* (for 16 years). He is a retired US Navy Captain with over 52 years of distinguished maritime service – first as a senior naval officer and then as an industry executive. He is recognized worldwide as a leader in the field of international maritime and supply chain security standards. In addition to the highest military awards and honors, Captain Piersall is also recipient of numerous high-level awards based on his contributions to international standardization, including the ANSI Astin-Polk International Standards Medal and the U.S. Coast Guard's Distinguished Public Service Award. Captain Piersall is a member of Sigma Xi (honorary science research society), the American Society of Naval Engineers (gold medal winner and life member), Fellow and former member of the Board of Directors of ASTM International, a Fellow of the Society of Naval Architects and Marine Engineers and a Principal, Partnership for Public Service (formerly the Council for Excellence in Government).

Adam Thiel

With two decades in the field, Adam Thiel is a recognized thought leader across the fire and emergency services. For the past fifteen years, Chief Thiel has provided strategy, planning, leadership, and management consulting to international organizations, non-profits, government agencies at all levels, educational institutions, and private firms. Currently fire chief for the City of Alexandria, Virginia – a diverse and densely populated urban community in the National Capital Region--Chief Thiel provides overall leadership and strategic direction for the city's fire/injury prevention, all-hazards emergency response, emergency medical services, building/fire code administration, and emergency management functions. Adam's operational experience includes serving with distinction in four states (MD, NC, AZ, and VA) as a chief officer, incident commander, company officer, hazardous materials team leader, paramedic, technical rescuer, structural/wildland fire fighter, and rescue SCUBA diver. Chief Thiel directly participated in response/recovery efforts for several major disasters including the 9/11 tragedy, Hurricanes Gustav and Isabel, and the 2009/10 mid-Atlantic blizzards.

In 2002, Adam was appointed by then-Governor Mark Warner to lead the Virginia Department of Fire Programs (VDFP) through a critical post-9/11 transition and state fiscal crisis. Executive Director Thiel transformed VDFP—modernizing systems, adding capacity, and enhancing capabilities—by engaging employees and stakeholders in charting the agency's course. During his tenure in state government, Adam was a member of the *Commonwealth Preparedness Working Group*, *Virginia Emergency Response Council*, *State Hazardous Materials Emergency Response Advisory Committee*, *Critical Infrastructure Working Group*, and *Child Day-Care Council*.

Chief Thiel earned undergraduate degrees in history and fire science from the University of North Carolina- Chapel Hill and University of Maryland University College, respectively. He holds a master's degree in public administration from George Mason University and is finishing his doctoral degree in public administration at Arizona State University. Beyond completing the Virginia Executive Institute and Harvard University's Kennedy School of Government Program for Senior Executives in State and Local Government, Adam is a Certified Emergency Manager® (CEM), Chief Fire Officer® (CFO) designee, and Member of the Institution of Fire Engineers (MIFireE). Adam has authored numerous publications and presented at conferences in multiple states/countries.

He teaches graduate-level public administration courses; writes a regular column in Fire Chief magazine; serves as a technical adviser for the FireRescue1 website; chairs the program advisory board for 24-7 FIRE; teaches in the International Association of Fire Chiefs (IAFC) New Chiefs Leadership and Executive Edge programs; and is an IAFC/International Association of Fire Fighters (IAFF) Labor-Management Initiative facilitator.

Chief Thiel is active in a number of professional groups, boards and committees. He chairs the National Fire Protection Association (NFPA) Technical Committee on Emergency Services Organization Risk Management; serves on the NFPA Fire Service Section board; is vice-chair of the National Fire Academy Board of Visitors; is a Fire 20/20 board member; and serves on the steering committee for George Washington University's Homeland Security Policy Institute. Beyond his professional activities, Adam is a volunteer youth mentor, Ironman® triathlon finisher, Crossfit enthusiast, martial artist, SCUBA diver, and father of two energetic children.

Cathy Tilton

Mrs. Tilton is the VP for Standards & Emerging Technologies at Daon, a leading provider of identity assurance software products focused on meeting the needs of governments and commercial organizations worldwide.

She has over 25 years of engineering and management experience, including over 17 years in the biometrics industry. She has lead or been involved in the design, development, and deployment of numerous biometric systems in both the commercial and government domains. These include the US-VISIT program, the Transportation Worker Identification Credential (TWIC), US Registered Traveler and in a previous life, FBI IAFIS. Past work also included several contracts prototyping the use of biometrics with smartcards and a number of international projects. Most recently, she has been involved in the Unique Identity (UID) project in India.

She is very active in the development of national and international biometric standards, currently serving as the US head of delegation to ISO/IEC JTC1 SC37 subcommittee on biometrics. She also chairs the BioAPI Consortium, is an officer of the International Committee on Information Technology Standards (INCITS) M1 technical committee on biometrics, and chairs the Biometric Identity Assurance Services (BIAS) Integration technical committee at OASIS. She has a B.S. in nuclear engineering from Mississippi State and an M.S. in systems engineering from Virginia Tech.

Kenneth Willette

Kenneth R. Willette, E.F.O., has 35 years experience in fire service and emergency preparedness planning. He has served as an airfield/structural firefighter for the Department of Defense and served the Wilbraham, MA, Fire Department for 26 years, rising through the ranks to serve 7 years as Chief of Department and Emergency Management Director. In 2003, he accepted command of the Concord MA, Fire Department, serving as Fire Chief and Emergency Management Director until 2009. In 2010, he joined the National Fire Protection Association as Manager of the Public Fire Protection Division. He earned a B.S. in Fire Protection Administration from Empire State University, Stony Brook, NY, and is a Past President of the Fire Chiefs Association of Massachusetts and has completed the Executive Fire Officer program of the National Fire Academy.