

- 1. Purpose.** The InterAgency Board (IAB) for Equipment Standardization and Interoperability is designed to establish and coordinate local, state, and federal standardization, interoperability, compatibility, and responder health and safety to prepare for, train and respond to, mitigate, and recover from any incident by identifying requirements for an all-hazards incident response with a special emphasis on Chemical, Biological, Radiological, Nuclear or Explosive (CBRNE) issues. An integrated suite of standards is necessary to ensure compliance with minimum requirements for performance, commonality and interoperability of equipment utilized by local, state, and federal First Responders in the public safety and health communities. Such standards, as well as the specifications and test protocols that support them, are needed to guide the efforts of the manufactures and equipment developers; and to serve as a guide for informed procurement decisions by the appropriate agencies. These standards are to support the needs of response organizations to include law enforcement, fire fighters, HAZMAT, emergency medical and other related agencies that consist of the first elements to respond to incidents or attacks, and also pertain to organizations that are involved in the mitigation and recovery phases of such attacks. This document describes the strategy and process to develop such an integrated standards suite.
- 2. Objective.** The objective of this effort is to enhance public safety and health by defining requirements and identifying a set of standards that ensures minimum performance, quality, and reliability, and that are accepted by public safety and health communities. This suite of standards will be disseminated to the local, state, and federal public safety and health communities to facilitate informed equipment procurement and to guide manufacturers, developers, and the test-and-evaluation community to ensure product compliance. Additionally, we seek to facilitate the adoption of standards that can be used by local, state, and federal public safety and health communities. In order to accomplish this, strong working relationships must be established with the public safety and health communities, to the point where the communities' representatives play a key and integral role in all facets of the standards process. Further, the project must be oriented, to the maximum extent possible, toward using the approaches, standards, specifications, etc., that already exist within Standards Development Organizations (SDOs). This project will not reinvent work previously done or provide redundant products, but rather will take advantage of all available information and standards that may be applicable.
- 3. Standards Development Process.** The Office of Law Enforcement Standards (OLES) of the National Institute of Standards and Technology (NIST) serves as the Executive agent for the SCC. OLES has developed an integrated process for guiding the development of standards to facilitate linkage to federally funded equipment grant programs for first responders. This DHS endorsed process takes into account the need to integrate a conformity assessment program within the development process. This process is detail in Appendix 1 of this document.
- 4. Organization and Responsibilities.** The IAB committees and subgroups are critical to development of the suite of standards.

  - The Standards Coordination Committee (SCC) has the primary lead for coordinating standards requirements and priorities for the IAB as outlined in the IAB charter. The Equipment SubGroups identify functional requirements for equipment in their commodity areas, in close collaboration with the user community. They also identify and recommend to the SCC existing technical issues and standards for direct incorporation, standards that could be incorporated with modification, and new standards that need to be developed
  - The Office of Law Enforcement Standards (OLES) at the National Institute of Standards and Technology (NIST) serves as the Executive Agent for the SCC and in accordance with this plan. OLES will:
    - o Maintain a library of all IAB adopted standards

- Provide the list of IAB adopted standards to the Department of Homeland Security (DHS), the National Institute of Justice (NIJ) and other appropriate agencies that may adopt these standards and link them to grants programs.
- Provide the list of IAB standards requirements and priorities to DHS, NIJ and other appropriate organizations that may be in a position to support the development of such standards.
- Coordinate with appropriate agencies to ensure the standards development process as outlined in Appendix 1 is followed.

**5. Execution.** The Standards Suite will be developed, promulgated and administered as outlined above. The work will be conducted during regularly scheduled meetings of the IAB, specially convened SubGroup sessions, and by members of the SubGroups as directed by the SubGroup chairs.

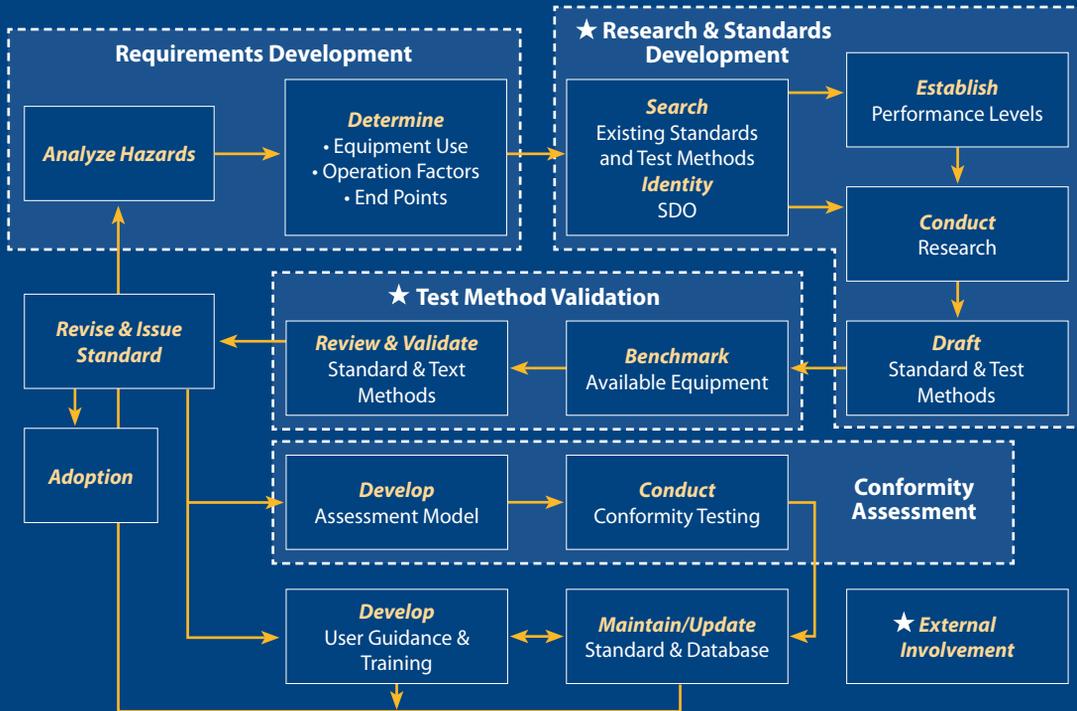
- *Adoption of Existing Standards* – Standards that require no modification will be added ‘as is’ to the Standards Suite. The adoption and inclusion of a standard into the Suite will follow the review and approval process as developed by the SCC. Cognizant SDOs will be notified. These standards will be disseminated to the state, local, and federal public safety and health communities and to manufacturers, developers, and the test-and-evaluation community.
- *Modification of Existing Standards* – If the SCC determines that an existing standard needs to be modified before it can be used, the review process and a discussion of the limitations shall be documented. Modification to standards will be coordinated with the cognizant SDOs for implementation. In cases where existing standards are not able to be modified to meet the specific needs of the IAB, then a new standard will be developed as required. These modified standards will be disseminated to the local, state, and federal public safety and health communities and to manufacturers, developers, and the test-and-evaluation community.
- *Development of New Standards* – This type of document will need the most time and resources to develop as well as the most extensive review process to ensure consensus. Where applicable, the need for new standards will be coordinated with the appropriate sponsor agencies and/or SDOs for development. These standards will be disseminated to the local, state, and federal public safety and health communities and to manufacturers, developers, and the test-and-evaluation community.
- *Methodology for Reviewing Standards* – A process will be put in place so that, on a biannual, periodic basis, the standards included in the Standards Suite will be reviewed in light of evolving threats, evolving technologies, user practices, and user procedures to:
  - Reaffirm still useful standards and disseminate that information to the local, state, and federal public safety and health communities and to manufacturers, developers and the test-and-evaluation community.
  - Recall obsolete standards once a review finds a document obsolete, and disseminate that information to the local, state, and federal public safety and health communities and to manufacturers, developers, and the test-and-evaluation community.
- Provide notification when any standards incorporated into the Standards Suite are updated, modified, revised, replaced, or superseded by the SDO.
- Recommendations for adoption, modification and adoption, as well as the identification of new standards to be developed will be documented.

## Appendix 1: Equipment Standards Suite Development Process

OLES, as the Executive agent for the SCC and in over 30 years of developing standards for the criminal justice community, developed the following standard development process to ensure tie in to federally funded equipment grant programs for first responders. This DHS endorsed process takes

into account the need to integrate a conformity assessment program within the development process. The process has proven so effective that OLES and many of OLES's technical partners have adopted it to guide the development of standards not only for CBRNE equipment but also for other types of equipment standards. Some standards-development activities require following the entire process; others may be more limited in scope and may not require completion of the whole process, as illustrated in the figure below.

### Standards Development Process Management Model



**Requirements Development:** The first step is to develop the requirements for the standard. A threat and hazard analysis is used to determine the requirements of the user, what the responder needs the equipment to do and under what conditions. In the analysis, a number of factors need to be addressed such as: What is the threat that is to be countered? What is the use of the technology? What environmental conditions need to be considered; i.e. temperature, humidity ranges to be considered, flame resistance, etc.? What key endpoints must be measured, i.e. is it detection of specific agents and at what range of concentrations? What operational considerations need to be addressed to ensure that equipment compliant to the standard will be suitable for the users' concept of operations?

**Research and Standards Development:** The next step is the development of the performance requirements and performance standard and appropriate test methods to evaluate the performance of the equipment to the standard. Maximum use is made of the voluntary consensus standards development process, the development and promulgation of the standards through recognized Standards Development Organizations (SDO) such as ASTM International, the American National Standards Institute (ANSI), AOAC International, the National Fire Protection Association and other such organizations. A review of existing standards and test methods is conducted to identify: 1) standards and test methods that meet the requirements as identified, or 2) standards and test methods that if modified could meet the requirement, or 3) if no such standards and test methods exist, then identify the appropriate SDO for development and promulgation of the new standard, and initiate the development of the standard through the SDO. In some cases supporting research must be conducted as part of the standards development process to provide technical support in the development of the standard or supporting test methods. The result of this phase is draft performance standard and supporting test methods.

**Test Method Validation:** Once the draft standard and test methods have been drafted, the next step is to procure commercially available products, and test them to the draft standard. This process validates the test methods, verifying that the test methods can be translated to standard operation procedures that qualified laboratories can use and implement, and it benchmarks currently available equipment. If no benchmarked equipment meets the standard, then the standard must be closely scrutinized. If however, the preliminary benchmarking indicates that no equipment can meet the standard, even with modifications by the manufacturer, then the performance standards and the test methods must be reevaluated. Decisions must be made whether or not to revise the standards and test methods based on the results of the initial benchmark testing without sacrificing health and safety requirements or to maintain the standards as drafted.

**Revise and Issue Standard:** After identifying resolving all concerns, the standard is issued or promulgated by the appropriate SDO. One key component of this program is the adoption of these standards by the appropriate agencies. This includes the IAB, the Department of Homeland Security, or adopting by local jurisdictions or other organizations.. Adoption by DHS or other agencies serves to tie compliance to appropriate standards with the federal grants programs, in compliance with Homeland Security Presidential Directive (HSPD) & (National Preparedness).

**Conformity Assessment:** The development of performance standards and test methods to evaluate performance to these standards does not ensure that the equipment going to the responders does indeed meet these standards. Programs must be put in place to use the test methods to evaluate conformity to the appropriate standards. The details of these conformity assessment programs will vary, depending on the type of technology being evaluated, the consequence of non-conformance to the standard, whether the standard promulgated by a particular SDO contains provisions for conformity assessment and a number of other factors. In some cases appropriate third party test facilities must be identified that satisfactorily conduct the testing, and the appropriate test management and certification program must be established.

**Develop User Guidance and Training:** The standards and associated test methods by necessity are very specific and technical documents. The capabilities and limitations on the performance of the technology must be translated in terms that are understandable and useable by the end users of the equipment. They must know whether the system has been tested against Toxic Industrial Chemicals/Materials (TIC/TIMs) or just against Chemical Warfare Agents. Development and distribution of this type of information is essential for the user, the procurement official, and in the development of concepts of operation and training programs. Training programs and concepts of operations (CONOPS) must be adapted or developed to effectively use and understand the capabilities of technologies that meet these standards.

**Maintenance of Standard:** There must be provisions for the review and update of the standard. As experience is gained in the use of the standard, as new technologies and test methods become available, or in the case of unforeseen problems with the standard and test method, the standard will require periodic revisions. Most SDOs have procedures to accomplish these tasks, and this will be one of the considerations in selecting the appropriate SDO for the development and promulgation of any new standard. A list of compliant equipment must be maintained and available for the user community. One such portal is the DHS-funded Responder Knowledge Base. As Executive Agent for the SCC, OLES will maintain a library of the IAB adopted standards. This also includes addressing standards that are withdrawn by the parent SDO.

**External Involvement:** This process is not conducted in a vacuum. Involvement from external agencies and public comment from users, developers, manufacturers and other concerned individuals and organizations are critical in the development of the standards. There are a number of points within the process where such comment will be actively solicited. Each SDO has its own method for addressing and incorporating public comment in their standards process.