



Guidance for Using Standards When Selecting and Purchasing Responder Equipment

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FOREWORD

The National Urban Security Technology Laboratory (NUSTL) is a federal laboratory within the U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T). Located in New York City, NUSTL is the only national laboratory focused exclusively on supporting the capabilities of federal, state, local, tribal, and territorial responders to address the homeland security mission. The laboratory assists responders with the use of technology to prevent, protect against, mitigate, respond to, and recover from homeland security threats and incidents. NUSTL provides expertise on a wide range of subject areas, including chemical, biological, radiological, nuclear, and explosive detection, personal protective equipment, and tools for emergency response and recovery.

NUSTL manages the System Assessment and Validation for Emergency Responders (SAVER) program, which provides information on commercially available equipment to assist response organizations in equipment selection and procurement. SAVER publications provide information on equipment that falls under the categories listed in the DHS Authorized Equipment List (AEL), focusing primarily on two main questions for the responder community: “What equipment is available?” and “How does it perform?” The SAVER program works with responders to conduct objective, practitioner-relevant, operationally-oriented assessments and validations of commercially available emergency response equipment. Having the right tools provides a safer work environment for responders and a safer community for those they serve.

NUSTL is responsible for all SAVER activities, including selecting and prioritizing program topics, developing SAVER publications, and coordinating with other organizations to leverage appropriate subject matter expertise.

For more information on NUSTL’s SAVER Program or to view additional reports on responder technologies, visit www.dhs.gov/science-and-technology/SAVER.

Visit the NUSTL website at www.dhs.gov/science-and-technology/national-urban-security-technology-laboratory or contact the lab at NUSTL@hq.dhs.gov.



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EXECUTIVE SUMMARY

Through its System Assessment and Validation for Emergency Responders (SAVER) program, the National Urban Security Technology Laboratory (NUSTL) publishes information for responders about protective and operational equipment. This document provides guidance related to the use of standards when selecting and purchasing protective and operational equipment for public safety organizations, including law enforcement agencies, fire departments, and emergency medical service (EMS) agencies.

SAVER publications, including market survey reports, TechNotes, and assessment reports, oftentimes contain a list and description of standards relevant to an equipment type. This document explains how to make practical use of that information for a procurement. This document informs readers on what standards are, why they are important, how to verify standards are met, and how to include requirements for use of standards in procurement efforts. It is not intended to educate readers on the procurement process.

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1.0 INTRODUCTION

Knowing how to use standards when selecting and purchasing protective and operational equipment for public safety organizations, including law enforcement agencies, fire departments, and emergency medical service (EMS) agencies, is relevant for federal, state, local, tribal, and territorial purchasers. This document explains what standards are, why they are relevant, and how to take advantage of their use in procuring equipment. It is not intended to teach the procurement process or to preclude other processes for equipment procurement or procured equipment training.

End users as well as procurement officials, agency leadership, budgeting and finance personnel, and others involved in decision-making for responder equipment stand to benefit from increased understanding of how standards may apply. Responders who are the end users of the equipment have mission and operational requirements; they must identify the key capabilities, features, and technical specifications for narrowing the equipment choices and ultimately selecting the product that is best suited to meet their needs. Those tasked with procurement and carrying out the details of purchasing may be responsible for purchasing everything from pens to office furniture to life safety equipment, or they may never have carried out a procurement before. For responders who select the equipment and purchasers who complete the order, it is important to understand when and how to use standards.

When purchasing such things as office equipment, it is unlikely that standards need to be considered – either because there is no need, there is no standard, or because the standards are embedded into regulations or laws that suppliers must meet before selling a product. Laptops and their power supplies, for example, are required to comply with many safety standards before being sold in the marketplace, so the purchaser need not consider those standards.¹

Standards are relevant, however, when purchasing protective or operational equipment that a responder will use in the field. Why? Because, while there are many standards for responder equipment, there is not a requirement for all products to meet those standards before being offered for sale in the marketplace.² Table 1-1 lists some types of emergency response equipment for which standards are recommended in procurement, but it is important to note that not all products offered for sale meet those standards. Knowing how to leverage applicable standards can help decision-makers identify, select, and purchase equipment that will meet their needs.

¹ The bottom of a laptop power supply displays dozens of conformity assessment marks identifying the requirements and standards that must be met prior to the device being sold. The UL mark, for example, indicates safety standards are met.

² Procuring responder equipment using grant funds may require compliance with standards; see Section 4.

Table 1-1 Examples of Equipment for Which Standards are Recommended in Procurement

Law Enforcement Equipment	Fire Fighting Equipment	EMS Equipment
Body armor	Helmet	Ambulance
Ballistic helmet & shield	Hood	Automatic external defibrillator
Public order helmet & shield	Turnout gear	Patient examination gloves
Less lethal device	Respiratory protection	Needles
Restraints	Personal alert safety system	Respiratory protection

2.0 UNDERSTANDING STANDARDS

For the purposes of this guidance, the term “standard” is defined as *a document that provides requirements, specifications, characteristics, and/or test methods that can be used to consistently ensure that products or materials are fit for purpose.*

The standards referred to in this guidance are those published by recognized standards developing organizations (SDOs) that create standards based on the consensus of involved stakeholders, generally using the principles of openness, balance of interests, transparency, and due process. Some well-known SDOs include the National Fire Protection Association (NFPA), ASTM International, UL Standards & Engagement³, and the International Safety Equipment Association.⁴ SDOs manage and facilitate the development process and publish the standards, however, they do not determine the content of standards. SDO staff members may assist with writing, but volunteers representing stakeholder groups, such as end users, researchers, testing experts, product manufacturers, and component suppliers decide on the content of consensus standards. Each SDO has a process to ensure balance among interest categories, so no interest category constitutes a majority when voting to approve the content of a standard. For example, a common practice among many SDOs is limiting the representation of any interest category (e.g., manufacturing) to no more than one-third of the voting membership for a standards development effort.

There are many types of standards. Two types relevant for procurement are explained below:

2.1 PRODUCT PERFORMANCE STANDARDS

A product performance standard specifies baseline performance requirements for a product (i.e., acceptance criteria) and often includes test methods by which the product’s performance may be evaluated – either by embedding test methods in the standard or referencing published test methods. Other terms for product performance standards include “mandatory standard,” “voluntary standard,” “product standard,” and “performance specification.”⁵

Examples of product performance standards include:

- ASTM E3368, *Specification for Ballistic-Resistant Helmets Worn by U.S. Public Safety Officers*. [1] This specification details performance requirements, references some test methods, and specifies requirements for reporting test results. The standard is relevant to

³ ASTM International and UL Standards and Engagement may be more familiar by their former names, the American Society for Testing and Materials and Underwriters Laboratories, respectively.

⁴ Some federal agencies develop standards as part of their mission, such as the National Institute of Justice (NIJ).

⁵ A “product performance standard” is different from a “purchase specification” that is written by a responder agency or end user for a procurement. A purchase specification may require that a product meet a specific performance standard and additional agency requirements.

items that fall under the FEMA Authorized Equipment List (AEL) number, “01LE-01-HLMT – Helmet, Ballistic.”

- UL 752, *Standard for Safety: Bullet-resisting Equipment*. [2] This standard applies to barriers, building components (including walls and windows), and any ballistic-resistant equipment other than personal protective equipment. UL 752 is relevant to items that fall under the FEMA AEL number, “14EX-00-BSIR – Systems, Building, Blast/Shock/Impact Resistant.”
- NFPA 1977, *Standard on Protective Clothing and Equipment for Wildland Fire Fighting and Urban Interface Fire Fighting*. [3] This standard establishes design and performance requirements for protective clothing and equipment, includes some embedded test methods, references some other test methods, and specifies certification requirements. NFPA 1977 is relevant to items that fall under the FEMA AEL number, “01WF-01-GARM – Garment, Wildland Fire Fighting Protective.”

2.2 STANDARD TEST METHODS

A standard test method describes one or more exact procedures for assessing an attribute, characteristic, or function of a product, and the outcomes are documented as test results. A standard test method does not typically include performance requirements (but may suggest appropriate acceptance criteria for consideration). In other words, the key difference between a product performance standard and standard test method is that standard test method specifies *how* to test a feature of a product but does not specify what the result of that test should be. Standard test methods are typically the accepted means for measuring features of a product.

Example of standard test methods are listed below:

- (1) ASTM E3276/E3276M, *Standard Test Method for Assessing Impact Energy and Precision of Direct-fire, Single-projectile Less Lethal Impact Rounds Used by Public Safety Officers*. [4] This test method provides procedures for evaluating the performance of less lethal impact rounds. (There is no FEMA AEL number for this product.)
- (2) ASTM E2853/E2853M, *Standard Test Method for Evaluating Ground Response Robot Capabilities: Search Tasks*. [5] This is one in a suite of ASTM test methods for evaluating the capabilities (e.g., mobility, visual acuity, radio communications, operator proficiency) of ground, marine, or aerial robots used by responders. This standard is relevant to products that fall under the FEMA AEL number, “03OE-07-ROBT – Robots.”

3.0 HOW STANDARDS HELP PURCHASERS AND END USERS

As noted in the introduction, when standards are embedded into regulations or laws that suppliers must meet before selling a product, it simplifies the purchase in terms of standards compliance. In the absence of such regulations or laws, there may be federal or state funding requirements for standards compliance for what is allowable for purchase. For example, a federal funding source may stipulate that only equipment that meets a specific standard can be purchased with those funds. Another example is a requirement to use standards-compliant equipment for meeting the terms of a regulatory license. In such cases, the response personnel identifying and selecting equipment for purchase need to know how to verify and stipulate in procurement documentation that a product complies with that standard. (Section 5 explains how to go about this.) In other cases, responder agencies may choose how to use standards and whether to require that purchased equipment meets standards. This section provides some considerations for that decision.

Requiring purchased equipment to meet standards benefits both an agency and end users. Below are some reasons for choosing to use standards in selection and procurement:

- (1) Standards identify key capabilities that end users can compare to their requirements or use to help identify and quantify their requirements.
- (2) Standards reduce liability or civil litigation concerns that arise should equipment fail to perform or result in personnel injury.
- (3) Standards can greatly reduce the effort an agency expends in the selection and procurement process because:
 - a. Product performance standards specify baseline performance requirements that can be used to identify – or to build upon to meet – their particular needs and requirements.
 - b. Standards provide an efficient way of communicating end user needs and requirements to potential suppliers.
 - c. Standards help purchasers compare what a product offers against what is required.
 - d. Standards reduce (or possibly eliminate) an agency's need to do their own testing of equipment prior to purchasing.⁶
 - e. Standards reduce (or possibly eliminate) the challenges caused by unverified supplier claims of equipment performance; incomplete, confusing, or misleading information about equipment performance; and false advertising about equipment performance.
- (4) Responder performance and confidence in their personal safety may be enhanced by having equipment that meets standards and has demonstrated capabilities suitable for their needs.

In some cases, equipment that complies with standards may be more expensive than alternative choices. While greater up-front cost is a concern, agencies should weigh that against the potential

⁶ As examples, standard test methods could be used by purchasers in their evaluation of products to meet their needs or could be written into a procurement document, requiring the supplier to use specific standard test methods and report results (that may then be compared to the department's own baseline performance requirements).

cost savings noted in item (3) above and the costs that may be incurred should equipment fail in the field.

4.0 VERIFYING THAT EQUIPMENT HAS MET A STANDARD

“Conformity assessment” is the method of assessing whether a product meets one or more standards. There are many accepted processes for conformity assessment. This document highlights three that are relevant for responder equipment: “certification of products,” “approval or verification of products,” and “supplier’s declaration of conformity.” Simple explanations of these three processes are provided below. Each of these processes requires either a product performance standard or standard test method as the basis.

When there is no product performance standard or standard test method, conformity assessment is not possible. In such a case, the purchaser is in the position of having to trust the supplier’s claims without independent evidence. When this happens, the purchaser should seek the advice of other trusted agencies or purchasers.

4.1 CERTIFICATION OF PRODUCTS

Certification of products is a decision and statement by a third-party authoritative body⁷ that a product is compliant with a product performance standard based on all of the following:

- (1) Pre-market product testing by an accredited testing laboratory⁸
- (2) Periodic product testing by an accredited testing laboratory to a limited set of critical tests (to ensure products on the market continue to comply with the standard)
- (3) Manufacturing facility inspections
- (4) Supplier management system audits

The certifying body is responsible for reviewing test reports to determine if the product is in compliance with requirements at the time of initial testing and for performing periodic testing to determine whether the product continues to meet requirements.

Certified products are listed by the certifying body in a publicly accessible listing and are authorized to be labeled with the certification body’s mark. Body armor and firefighter bunker gear are examples of certified products. Certification is valuable to a purchaser because they need only to look at the publicly accessible listing to determine whether a product of interest has been certified to be compliant with standards.

⁷ The “third-party authoritative body” may be a private-sector certification body, such as Safety Equipment Institute or UL Solutions, or a government agency, such as the National Institute of Justice (NIJ) or the National Institute for Occupational Safety and Health (NIOSH). When speaking of conformity assessment, the “first party” is typically the supplier or manufacturer, the “second party” is the customer, and the “third party” is an organization recognized as being independent of the other two.

⁸ Testing laboratories themselves follow standards to ensure quality, with an accreditation process in accordance with the international standard ISO/IEC 17025 [6].

Certification to recognized standards offers the highest level of confidence in a product's performance and is the preferred conformity assessment process. However, participating in a certification program is very expensive for a supplier, with up-front costs for initial certification and recurring costs for maintaining certification.⁹ This means there must be a driver to establish a certification program and to mandate or motivate a supplier to submit products for certification.

In some cases, federal regulations or grant programs may be the driver. An example is the Department of Justice's Bulletproof Vest Partnership program for body armor that requires agencies using program funds to purchase only products that have been certified by the National Institute of Justice (NIJ).¹⁰ Another example is the Department of Homeland Security's Homeland Security Grant Program that specifies what categories of equipment its various grants may be used to purchase through its [Authorized Equipment List](#) (AEL) and also requires standards compliance for some of those categories.

In other cases, the driver may be a cooperative purchasing contract with a large volume of sales and, therefore, one of high value for suppliers, such as the [National Association of State Procurement Officials \(NASPO™\) ValuePoint](#) contract for ballistic protection products. This contract requires that suppliers' body armor be NIJ-certified.¹¹

For some products, the driver is that the general purchasing community will not accept anything less than certification. The best example here is the fire service, which typically will not purchase firefighting or life-safety equipment unless it has been certified to NFPA standards.

Appendix A provides a partial listing of responder equipment, associated FEMA AEL numbers, relevant standards, and links to certification programs. Responders tasked with selecting equipment can go to the list of certified products to narrow their search.¹² After a selection has been made and prior to purchase, agencies' procurement personnel should request that the supplier provide the associated certificate of conformity, as described in section 5.1.

If there is not an established certification program, there may be a verification program available.

4.2 VERIFICATION OF PRODUCTS

Verification is a decision and statement by a third-party authoritative body that a product is compliant with a product performance standard based on both:

⁹ Upfront and recurring costs include certification body fees, testing laboratory fees, test sample costs, and facility audit costs.

¹⁰ Note that there are body armor products available commercially that are not NIJ-certified.

¹¹ NASPO ValuePoint is the cooperative purchasing division of the National Association of State Procurement Officials (NASPO™) and administers more than 60 public safety contracts currently (at the time of this publication).

¹² Where there is a federal certification program, the certified products list is all-inclusive. Where there are private-sector certification programs, there could be certified products lists published by more than one certification body.

- (1) Pre-market product testing by an accredited testing laboratory and
- (2) Periodic product testing by an accredited testing laboratory to a limited set of critical tests.

The verifying body is responsible for reviewing test reports to determine if the product is in compliance with the standard. Verified products are listed in a publicly accessible listing and authorized to be labeled with the verification body's mark. Verification is valuable to a purchaser because they need only to look at the publicly accessible listing to determine whether a product of interest has been verified to be compliant with standards.

Verification of responder products to recognized standards is a fairly new practice. Verification is different from certification in that quality system audits and manufacturing facility inspections are not required, making verification the less expensive option. It offers a slightly lower level of confidence in a product's performance than certification, but the cost is significantly less, making it more likely that a supplier will be willing to submit products for verification. Verification is an acceptable choice for products used by responders.

As with certification, there must be an established program for the verification and a driver mandating or motivating a supplier to submit products for verification. Appendix A provides information on some currently established verification programs for emergency responder equipment.¹³ Responders tasked with selecting equipment can go to the list of verified products to narrow their search. After a selection has been made and prior to purchase, agencies' procurement personnel should request that the supplier provide the verification certificate, as described in section 5.2.

An example of a verification framework is the [ASTM International Homeland Security/Law Enforcement Verification Program](#). This program has been established as a conformity assessment method for products that have not previously had any type of formal conformity assessment. The program is expected to include ballistic helmets, ballistic shields, public order helmets, walk-through metal detectors, and tourniquets¹⁴. While no federal regulations or grant programs currently require verification for these products, purchasers may specify a requirement for ASTM verification as part of a procurement.

Suppliers may choose not to have their products verified and may decline to submit bids. This may happen, for example, if the value of the procurement is not financially worth it to the supplier or if they are not sure whether their product will meet the requirements for verification. If this occurs, then the only other option for conformity assessment is a suppliers' declaration of conformity¹⁵.

¹³ There may be verified products lists published by more than one verification body.

¹⁴ Additional products may be included in the program.

¹⁵ If demand from purchasers grows, suppliers may reconsider having their products verified.

4.3 SUPPLIER'S DECLARATION OF CONFORMITY

When there is no certification or verification program, but there is a relevant standard, that standard can still be useful in equipment selection. Purchasers can use the standard to help identify and quantify their requirements to the supplier; that in turn helps the supplier to demonstrate that their product meets those requirements using a supplier's declaration of conformity (SDOC). Use of an SDOC is valuable for the purchaser because it helps the supplier to understand the purchaser's requirements through specifying standards, or relevant portions of standards, that should be met.¹⁶

An SDOC is a formal, written statement by the supplier (i.e., manufacturer) stating that the product meets the requirements of a product performance standard or has been tested to one or more standard test methods. To have significant value to the purchaser, the SDOC should be accompanied by standards-based test reports and documentation to support the supplier's claims of conformity.

The SDOC puts the responsibility for the product meeting requirements on the supplier and puts the responsibility for verifying that a product meets requirements on the purchaser, who must either review test reports provided with the SDOC or perform their own verification testing.

Caution Regarding Use of an SDOC

An SDOC is likely not sufficient for a product on which a responder's life, well-being, or performance depends because the purchaser or end user will be responsible for determining whether the product meets requirements; those individuals may not have the necessary knowledge or experience to make the determination.

For the purposes of this guidance, an SDOC, and supporting documentation, provides the minimum acceptable assurance that the product meets the product performance standard or standard test methods.

¹⁶ Depending on their application and mission requirements, purchasers may not need all portions of a standard to be met, and it is the purchaser's choice to specify the entire standard or only relevant portions.

5.0 RECOMMENDATIONS FOR PLANNING TO PURCHASE

How can a purchaser know if there are standards applicable to the equipment they are purchasing, or if there is an applicable certification or verification program? For many responder products, NUSTL's [System Assessment and Validation for Emergency Responders \(SAVER\) Program](#) provides TechNotes and market survey reports which include relevant standards information.

Additionally, a helpful decision tool based on the guidance in the previous section is provided as Figure 5-1. The diamonds represent a sequential order of questions that should be asked.

If the purchaser does not know the answer to any question in Figure 5-1, they should go to the Department of Commerce, National Institute of Standards and Technology (NIST) Standards Information Center. The Center provides a [website](#) to help users find information on standards, regulations, conformity assessment, and other requirements. The simplest step a purchaser can take is to submit a question via email to standardsinfo@nist.gov. Free of charge, the Center provides guidance and quick research in response to queries on national/international standards and current or proposed technical regulations.

As a purchaser proceeds through the decision tool, the most appropriate outcome should become apparent.

Figure 5-1 Decision Tool for Purchasers

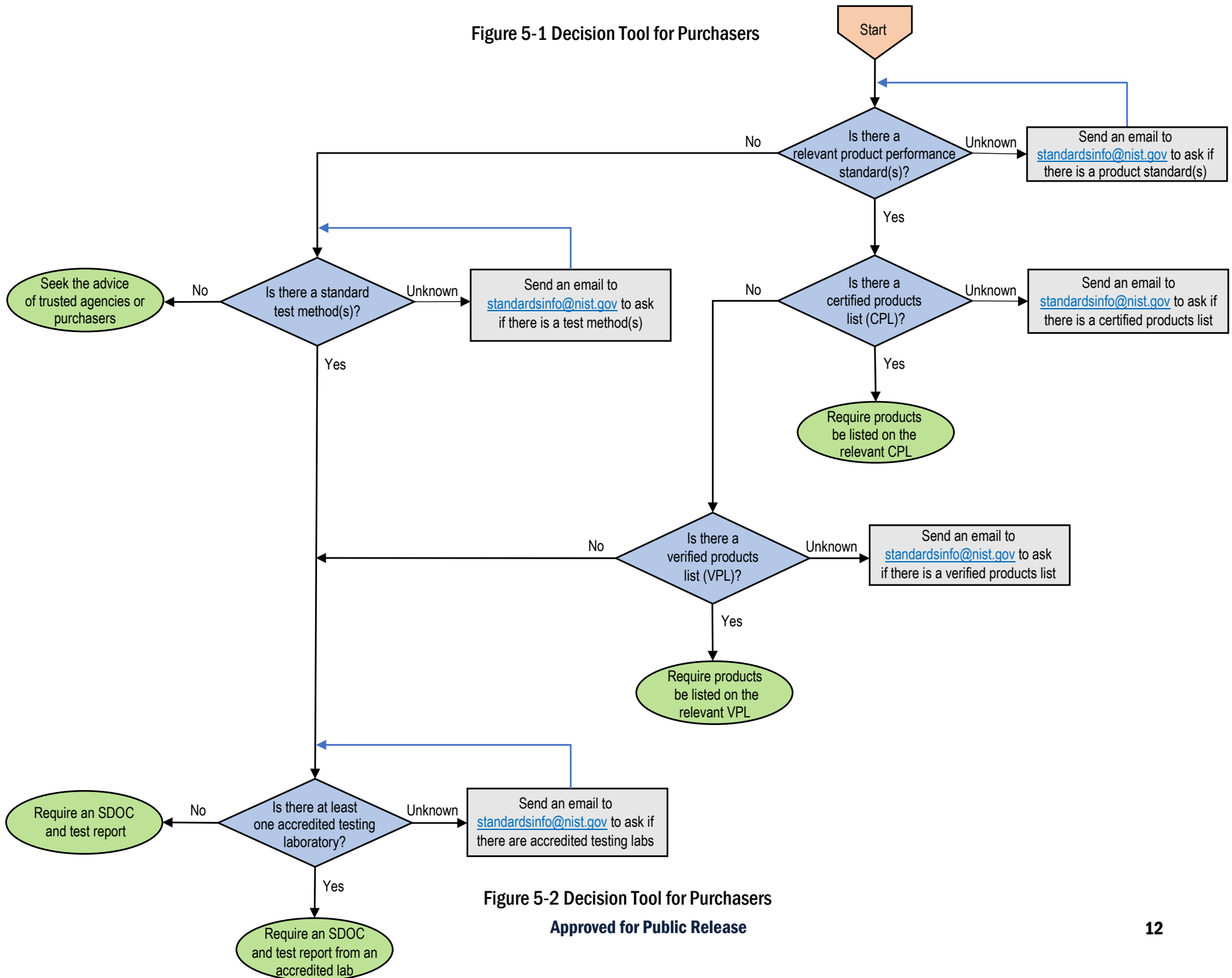


Figure 5-2 Decision Tool for Purchasers

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5.1 GUIDANCE FOR SPECIFYING EQUIPMENT SUPPLIER COMPLIANCE WITH STANDARDS

Using the decision tool, purchasers should be able to determine the appropriate type of standards compliance for their procurement depending on the available conformity assessment process. Once that has been selected, NUSTL recommends including the corresponding suggested text below in their purchase specification.

Suggested Text for Certification of Products

“The manufacturer/supplier shall provide evidence (e.g., a certificate) that the product has been certified by an independent conformity assessment body to meet the requirements of Standard WXYZ 1234. The product shall be listed on a certified products list published by the conformity assessment body.”

Example of Certification using the Decision Tool

Structural firefighting boots: A purchaser has to ask only two questions to find that requiring products to be listed on a certified products list is the best choice.

Is there a product performance standard? Yes, NFPA 1971-2018, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*.

Is there a certification program? Yes, see:

https://seinet.org/index.php/search.htm#sections=FireandEmergencyServices_collapse3

Suggested Text for Verification of Products

“The manufacturer/supplier shall provide evidence (e.g., a certificate) that the product has been verified by an independent conformity assessment body to meet the requirements of Standard WXYZ 1234. The product shall be listed on a verified products list maintained by the conformity assessment body.”

Example of Verification using the Decision Tool

Ballistic-resistant helmet: A purchaser has to ask only three questions to find that requiring products be listed on a verified products list is the best choice.

Is there a product performance standard? Yes, ASTM E3368, *Specification for Ballistic-Resistant Helmets Worn by U.S. Public Safety Officers*.

Is there a certification program? No.

Is there a verification program? Yes, see: www.seinet.org/verification.htm

Suggested Text for Supplier's Declaration of Conformity

A Supplier's Declaration of Conformity is appropriate when applicable product performance standards or standard test methods exist, but there is no certification or verification program.

"The manufacturer/supplier shall provide a Supplier's Declaration of Conformity (SDOC) containing at least the following information:

- (1) Unique identifier for the SDOC (i.e., SDOC number)
- (2) Supplier name and contact information
- (3) Identification of what the SDOC covers including such things as product name, model number, and model description
- (4) Identification of applicable product performance standard(s) or standard test method(s) (or subsections of importance to the purchaser) that the declaration is based on
- (5) Statement of conformity
- (6) Date of issue of the SDOC
- (7) Signature, name, function, and contact information of the authorized person issuing the SDOC
- (8) Any limitation(s) on the SDOC (e.g., expiration date; design or material changes in the product)

The manufacturer/supplier shall provide supporting documentation with the SDOC that includes a description of the standard(s) or method(s) used to determine conformity and a test report that identifies the testing laboratory and includes the actual test results. If there is an available testing laboratory accredited to ISO/IEC 17025 [6], then an accredited laboratory shall be used for the required tests."

Example of SDOC using the Decision Tool

Less lethal impact rounds: A purchaser has to ask only three questions to find that an SDOC based on testing by an accredited testing laboratory to a standard test method is the best available choice.

Is there a product performance standard? No.

Is there a test method? Yes, ASTM E3276/E3276M, *Test Method for Assessing Impact Energy and Precision of Direct-fire, Single-projectile Less Lethal Impact Rounds Used by Public Safety Officers.*

Is there at least one accredited testing laboratory? Yes, require an SDOC and test report from an accredited lab.

6.0 STRATEGIC SOURCING AND COOPERATIVE PURCHASING PROGRAMS

Strategic sourcing is an industry and government best practice that saves money, reduces redundancy, drives standardization, streamlines procurements, and improves business efficiency. [7] Strategic sourcing is a collaborative and structured process of critically analyzing an organization's procurement spending and using this information to make business decisions about acquiring and managing commodities and services more effectively and efficiently. [8] Examples of industry strategic sourcing programs are BMW Group, Johnson & Johnson, and General Electric. A government example is the U.S. General Services Administration (GSA)'s federal strategic sourcing initiative for purchasing commodity solutions.

Cooperative purchasing programs allow organizations to share procurement contracts, saving significant time and money in contract production and resulting in lower contract prices through the power of aggregation. There are several national public cooperative purchasing contracts in the U.S. Two examples of programs available in the U.S. are [National Association of State Procurement Officials \(NASPO\) ValuePoint](#) and [Sourcewell](#); both offer the opportunity for agencies to take advantage of public contracts for certain types of responder equipment. Multiple states participate in the development of the request for proposals, review and evaluate vendor proposals, and develop contracts and agreements. There are also state cooperative purchasing contracts that have similar benefits as the national contracts. As examples of three different statewide contracts, links are provided here to [New York](#), [Florida](#), and [California](#) cooperative contracts.

The approach described in section 5 to include requirements that standards be met can also be applied by the administrators of strategic sourcing and cooperative purchasing contracts. Individual localities may wish to explore whether these approaches are available to them.

7.0 CONCLUSION

Understanding how to take advantage of standards in selection and procurement of responder equipment can be complex and challenging. This guidance provides a foundation of understanding upon which the reader can build and learn to effectively use standards and conformity assessment processes to benefit their organization and its responders. The included resources and links can assist with learning about available standards and implementation of this guidance.

8.0 REFERENCES

- [1] ASTM International, "ASTM E3368, Specification for Ballistic-Resistant Helmets Worn by U.S. Public Safety Officers," 2023.
- [2] UL Standards and Engagement, Inc., "UL 752, Standard for Safety - Bullet-resisting Equipment".
- [3] National Fire Protection Association, "NFPA 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting and Urban Interface Fire Fighting".
- [4] ASTM International, "ASTM E3276/E3276M, Standard Test Method for Assessing Impact Energy and Precision of Direct-fire, Single-projectile Less Lethal Impact Rounds Used by Public Safety Officers".
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- [7] U.S. Department of Homeland Security, "DHS Strategic Sourcing: Frequently Asked Questions (FAQs)," [Online]. Available: <https://www.dhs.gov/sspo-faqs>. [Accessed 27 November 2023].
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APPENDIX A. FEDERAL GRANT PROGRAMS AND RESPONDER EQUIPMENT STANDARDS

There are several federal grant opportunities that require standards to be met, including three listed below that are specifically for emergency preparedness and response.

The FEMA Homeland Security Grant Program (HSGP) includes a suite of risk-based grants to assist state, local, tribal, and territorial efforts in preventing, protecting against, mitigating, responding to, and recovering from acts of terrorism and other threats. Two of the grant programs comprising the HSGP require compliance with standards and fund a range of preparedness equipment:

- 1) State Homeland Security Program (SHSP): This program provides funding to support the implementation of risk-driven, capabilities-based state-level homeland security strategies to address capability targets.
- 2) Urban Area Security Initiative (UASI): This program provides funding to enhance regional preparedness and capabilities in designated high-threat, high-density areas.

Another grant program, the Department of Justice's Patrick Leahy Bulletproof Vest Partnership (BVP), reimburses states, units of local government, and federally recognized Indian tribes, for up to 50 percent of the cost of body armor vests purchased for law enforcement officers.

Table A-1 lists several types of responder equipment that have applicable standards and recognized verification or certification programs, if applicable, with their associated website links. When standards are required for federal grant funding, that is noted in the table. Relevant standards that are not currently required for federal grant funding are listed in a different column as these standards may be useful to localities for identifying and verifying that their requirements are met.

Table A-1 Partial Listing of Responder Equipment and Links to Certified or Verified Products Lists

Equipment Type	FEMA Grant AEL Number	Standards Required for Use of Federal Grant Funding	Other Relevant Standards	Link(s) to Certified or Verified Products List ¹⁷
Air-Purifying Respiratory Smoke Escape Devices	N/A	N/A	ASTM E2952	Safety Equipment Institute
Ballistic-resistant Body Armor	01LE-01-ARMR	NIJ 0101.06 or NIJ 0101.07	N/A	NIJ Compliant Products List
Ballistic-resistant Helmets	01LE-01-HLMT	N/A	ASTM E3368/E3368M ASTM E3111/E3111M	Safety Equipment Institute
Ballistic-resistant Shields	01LE-01-SHLD	N/A	ASTM E3347/E3347M ASTM E3141/E3141M	Safety Equipment Institute
Barriers: Fences, Jersey Walls	14SW-01-WALL	N/A	ASTM F2656	N/A
Body Harness for Rappelling or Rope Rescue	03OE-05-HARN	NFPA 1983	N/A	N/A
Body Substance Isolation, including Eye Protection	09MS-03-ISOS	N/A	ANSI/ISEA Z87.1	Safety Equipment Institute
Bomb Suit	02PE-01-BSUT	NIJ 0117.01	N/A	Safety Equipment Institute
Bullet-resistant Products, other than PPE	14EX-00-BSIR	N/A	UL 752	UL Solutions
Chainsaw Protection	01WF-02-CSAW	NFPA 1977	ASTM F3325 (leg protection) ASTM F1897 (leg protection) ASTM F1818 (foot protection) ISO 11393-2 (leg protection) ISO 11393-4 (hand protection) ISO 11393-5 (gaiters) ISO 11393-6 (upper body protection) ISO 17249 (foot protection)	UL Solutions

¹⁷ The list in this table does not include all available certification or verification programs.

Equipment Type	FEMA Grant AEL Number	Standards Required for Use of Federal Grant Funding	Other Relevant Standards	Link(s) to Certified or Verified Products List ¹⁷
Face Covering, Barrier, Reusable or Disposable	01ID-01-BARR	ASTM F3502	N/A	Center for Disease Control and Prevention (CDC) Barrier Face Coverings and Enhanced Performance/Performance Plus Masks
First Aid Kit, Trauma Kit	03OE-03-KTFA	N/A	ANSI/ISEA Z308.1-2021	N/A
High Visibility Safety Apparel	01ZA-06-VEST	ANSI/ISEA 107 or ANSI/ISEA 207	N/A	UL Solutions
Laser Eye Protection	01ZA-03-LASR	N/A	ISO 19818-1 ANSI/LIA Z136.7	N/A
Less Lethal Aerosol Devices	N/A	N/A	ASTM E3187	Safety Equipment Institute
Less Lethal Impact Technologies	N/A	N/A	ASTM E3276/E3276M	N/A
Personal Alert Safety Systems (PASS)	01ZA-01-PASS	NFPA 1982	N/A	Safety Equipment Institute
PPE and Other Equipment Wildland Firefighting	01WF-01-GARM	NFPA 1977	N/A	Safety Equipment Institute; UL Solutions
Public Order Helmets	N/A	N/A	ASTM E3342/E3342M ASTM E3343/E3343M	Safety Equipment Institute
Respirator, Air-Purifying Escape Respirator (APER) Chemical, Biological, Radiological, and Nuclear (CBRN), Single-use	01AR-04-APER	Center for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH) NIOSH Standard for CBRN APER and CBRN SCER	N/A	NIOSH National Personal Protective Technology Laboratory (NPPTL) CBRN APER Certified Equipment List
Respirator, APER, CBRN, Single-Use, with CO Option	01AR-04-APEC	NIOSH Standard for CBRN APER and CBRN SCER	N/A	NIOSH NPPTL CBRN APER Certified Equipment List
Respirator, Particulate, Disposable	01AR-06-DISP	NIOSH under 42 CFR 84	N/A	NIOSH-Approved Particulate Filtering Facepiece Respirators
Respirator, Particulate, Reusable	01AR-06-REUS	NIOSH under 42 CFR 84	N/A	NIOSH NPPTL Certified Equipment List

Equipment Type	FEMA Grant AEL Number	Standards Required for Use of Federal Grant Funding	Other Relevant Standards	Link(s) to Certified or Verified Products List ¹⁷
Respirator, Self-Contained Escape Respirator (SCER), CBRN, Single-Use	01AR-04-SCER	NIOSH Standard for CBRN APER and CBRN SCER	N/A	N/A
Response Robots	03OE-07-ROBT	N/A	ASTM E54 Test Methods	N/A
Self-contained Breathing Apparatus (SCBA)	01AR-01-SCBA	NFPA 1981 and NIOSH Standard for CBRN Open-Circuit SCBA	N/A	Safety Equipment Institute
Stab-resistant Body Armor	N/A	N/A	NIJ 0115.00 ¹⁸	NIJ Compliant Products List
Station/Work Uniforms	01LE-02-BDUS	NFPA 1975 or NFPA 2112	N/A	Safety Equipment Institute
Structural Fire Fighting Ensemble	01SL-01-ENSM	NFPA 1971	N/A	Safety Equipment Institute ; UL Solutions
Structural Fire Fighting Hood	01SF-01-HOOD	NFPA 1971	N/A	UL Solutions
Surface Water Operations Dry Suit, Footwear, and Gloves	01SW-01-FTWR; 01SW-01-GLOV; 01SW-01-SUIT	NFPA 1952	N/A	UL Solutions
Surface Water Operations Wet Suit, Footwear, and Gloves	01SW-02-FTWR; 01SW-02-GLOV; 01SW-02-SUIT	NFPA 1952	N/A	UL Solutions
Thermal Imaging and/or Light Amplification Optics	03OE-02-TILA	N/A	NFPA 1801	Safety Equipment Institute
Tourniquet, Nonpneumatic	09MS-04-TNQT	N/A	ASTM WK56860 under development	To be determined

¹⁸ NIJ Standard 0115.00 is currently under revision, and the next version will be published as “NIJ Standard 0115.01.”