

Types of Standards and Their Use by Emergency Managers

By Lucien G. Canton, CEM

In the June 2009 issue of the *IAEM Bulletin*, I discussed what constitutes a standard. This article looks at different types of standards and their potential use by emergency managers. Standards can be roughly divided into two very broad categories: technical standards and management system standards. However, as with many things involving standards, these are not sharply defined categories and definitions can vary by industry.

Technical Standards

A technical standard is sometimes referred to as a specification, defined by ASTM (formerly the American Society for Testing and Materials) as “an explicit set of requirements to be satisfied by a material, product or service.” A technical standard is essentially a set of objective requirements that tend to be fairly unambiguous.

This objectivity and lack of ambiguity make technical standards particularly useful in fostering concepts such as interoperability. Elysa Jones, in the September and October 2009 issues of the *IAEM Bulletin*, discussed the importance of data standards to communication across various platforms.

Technical standards also serve as a means of ensuring a safe operating environment. Standards provide consistency and accountability in the installation of equipment or construction of facilities where failure to meet standards can result in charges of negligence. An example of this is the *NFPA 70 National Electrical Code*.

Technical standards also can describe acceptable levels of performance for critical tasks, such as minimum protective equipment and procedures. An example of this type of standard is *NFPA 471: Recommended Practice for Responding to Hazardous Materials Incidents*.

Management System Standards

Where technical standards target specific components or procedures, management system standards target the management of processes and activities. Focusing on outcomes rather than specific components makes the measurement of management system standards much more subjective than for technical standards. You can readily measure the extent to which a technical standard is met; compliance with a management system standard must be inferred from indicators such as program documentation, interviews and observation.

This difficulty in measuring management system standards has led to some frustration on the part of organizations trying to implement standards such as NFPA 1600. Unlike technical standards, management system standards do not lend themselves to a checklist-type approach. It is the interrelationship of the components of the standard and the process that the organization uses to implement the standard that is important, not the individual components alone.

Management system standards are generally, but not always, built around a model of the management system. ISO (International Organization for Standardization) standards, for example, are built around the Plan-Do-Check-Act (PDCA) cycle that establishes objectives, implements the plan, measures results, and corrects deficiencies. The 2010 edition of NFPA 1600 will also use the Plan-Do-Check-Act model. This emphasis on a cycle of continuous improvement is what makes a management system standard effective.

Meeting Standards

There is considerable ambiguity in dealing with standards, particularly management system stan-

dards, that extends to measuring how well a standard is met. Two words that come up frequently are *compliance* and *conformance*, and there is considerable disagreement over what each means in relation to standards. Like the word *standard* itself, the two terms are used out of context so often that they have become interchangeable.

■ *Conformance* is usually used as a measure of how well you meet a technical standard or specification. As mentioned earlier, this is a fairly objective measure – either you conform to the specification or you do not.

■ *Compliance* is not so well defined, but is generally taken as a measure of your ability to operate in the way defined by a standard. As a general rule of thumb, one complies with management system standards and conforms to technical standards, but the distinction is neither generally agreed upon nor all that critical.

■ *Certification*, on the other hand, has a very specific meaning. Certification is a formal procedure by which an accredited individual or agency assesses and verifies that you meet a standard. There are three levels of assessment:

◆ *First Party Audit*. This is a self-assessment, where you measure yourself against the standard.

◆ *Second Party Audit*. This is an assessment by someone with a connection to your organization, e.g. a consultant, in-house auditing team, or invited peer reviewer.

◆ *Third Party Audit*. This is an assessment by someone completely unconnected with your organization, such as an independent auditor. Certification usually requires a third party audit. Results of the audit are reviewed by the certifying body, which – if the audit is validated – issues the certification.

