DOE TECHNICAL STANDARDS PROGRAM PROCEDURES

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ESTABLISHING THE NEED FOR A TECHNICAL STANDARD

U.S. Department of Energy
Office of Nuclear Safety Policy and Assistance
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CONTENTS

1. SCOPE

1.1 Purpose

This procedure provides guidance on how to determine if a technical standard is needed.

1.2 Applicability

This procedure applies to all DOE Headquarters and field organizations, management and operating contractors, and laboratories (hereafter referred to collectively as "DOE Components") working to the latest revision of DOE Order 252.1, "Technical Standards Program."

2. ESTABLISHING THE NEED

2.1 Process Description

2.1.1 Preferential Use of Standards. In accordance with Public Law (PL) 104-113 and OMB Circular A-119, DOE organizations, sites, and facilities preferentially use existing, suitable non-Government standards (also referred to as voluntary consensus standards) for all DOE programs and applications. Once the need for a technical standard is identified, VCSs should be considered and used first; Government standards should be considered and used next; and, lastly, a DOE Technical Standard should be developed and used only when no adequate non-Government or Government standard either exists or can be developed on a schedule consistent with Department priorities.

Also, in accordance with OMB Circular A-119, DOE gives preference to performance standards when such standards may reasonably be used in lieu of prescriptive standards.

2.1.2 Screening for Need. The DOE and contractor program managers determine when a technical standard should be applied to a program or process. Prior to initiating development of any new or revised DOE Technical Standard, each manager screens the proposed application and assesses the need for developing or applying any new or additional technical standards within DOE. Since the development of a DOE Technical Standard involves commitment of an organization's resources and extensive coordination with the TSP and other participating DOE organizations, the authorization to proceed with a new standard comes from a senior manager with budget authority (i.e., SES-level). This screening activity is particularly important in situations where a

DOE Office of Primary Interest (OPI) already exists for the subject matter of the standards development project (see DOE-TSPP-4 for more details). Line management can establish the need to use or develop technical standards based on the development of a set of standards (e.g., through the "work-smart" process) needed to meet requirements and safely conduct operations and activities.

2.1.3 Searching for Existing, Suitable VCSs. Staff members involved in the development of DOE Technical Standards first conduct information searches to identify existing VCSs that could be effectively used by DOE before proceeding with internal technical standards development efforts (verified/assisted by the PA TSM or TSPO). The Technical Standards Program Office staff can provide summary listings of existing standards for review for possible application (see paragraph 2.1.7 for additional information on locating standards).

2.1.4 Use Standards Development Organizations (SDO). When existing VCSs are either not applicable or inappropriate for meeting DOE needs and technical standards development is necessary, the responsible DOE organization works through existing Technical Standards Program processes and appropriate SDOs (i.e., voluntary consensus standards bodies) to revise existing VCSs or develop new VCSs to meet DOE needs.

2.1.5 Processing of Technical Standards. All technical standards development activities are coordinated through each organization's Technical Standards Manager and conducted through the Technical Standards Program. DOE managers, following screening for need, might approve internal technical standards development for situations in which no standards are available from another source, where programmatic constraints require internal development, or where technical needs unique to DOE preclude coordination with SDOs. Working through the Technical Standards Program and the Directives System precludes the development by any DOE organization of standards documents that have not been properly screened and coordinated (such documents are commonly referred to as "rogue" standards). If documents have been developed outside the Technical Standards Program or the Directives System and the documents are serving as "de facto" standards, they should be processed through the Technical Standards Program or treated under Directives System processes for "unauthorized documents."

2.1.6 Justification to the Office of Management and Budget (OMB). When a federal agency or department chooses to internally develop a new technical standard in lieu of adopting an existing VCS, the head of that agency/department, in accordance with OMB A-119 requirements, must provide written justification to OMB as to why an internal standard was developed. PL 104-113 and related Federal policy in OMB Circular A-119 require that this justification be submitted by the agency/department heads (i.e., Secretary of Energy) to OMB on an annual basis. Consequently, the cognizant DOE managers are to provide justification to the Technical Standards Program Office for the development of any new DOE Technical Standard.

2.1.7 Use the Technical Standards Program Resources. A commercial data base is available within the Technical Standards Program Office for conducting searches to identify existing, suitable VCSs. For individuals with access to the Health, Safety and Security (HSS) Local Area Network (LAN), the same data base can be found under the "Environment, Safety and Health Menu." In addition, the National Standards System Network Web site provides links to information sources on available standards. The site address (URL) is:

http://www.nssn.org/

The Technical Standards Program Web Site provides access to all current DOE Technical Standards, "hot links" to SDOs, lists of current standards development activities in *Standards Actions*, information on and listings of proposed and canceled DOE Technical Standards, and telephone numbers and e-mail addresses for key Technical Standards Program contacts (e.g., designated Technical Standards Managers and Technical Standards Program Office staff). Also, information on Technical Standards Program processes and procedures for developing technical standards is available in the form of a "tool kit." The tool kit provides both electronic and hard copies of procedures, forms, and contacts related to technical standards activities. The site address (URL) is:

http://www.hss.energy.gov/nuclearsafety/ns/techstds/

2.1.8 Issue Resolution. The Technical Standards Program Office can provide recommendations on whether applicable and appropriate technical standards are already available for use in lieu of developing new internal standards. Issues relating to disagreement on which course of action to pursue will be referred to the Technical Standards Program Manager and the manager of the Preparing Activity for resolution. Any additional actions required to resolve such disagreements will be handled by the Technical Standards Program Manager through the Technical Standards Managers' Committee and, if necessary, senior DOE management (i.e., Field Management Council or the responsible Cognizant Secretarial Officer/Program Senior Official).

2.2 Sources of Technical Standards

When determining the need for a technical standard, consider the source of the technical standard. The different sources of technical standards used by DOE are described below.

2.2.1 VCSs. VCSs (i.e., voluntary consensus standards) are developed by independent organizations (collectively referred to in these procedures as SDOs or non-government standards bodies), such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), American Nuclear Society (ANS), American Society of Mechanical Engineers (ASME), and American Society for Testing and Materials (ASTM). Technical standards developed by international organizations, such as ISO and IEC, are referred to as international standards. Technical standards developed by U.S.-based organizations are generally referred to as national or U.S. voluntary consensus standards. In

many cases, national standards, when developed in accordance with procedures approved by the American National Standards Institute (ANSI), are designated as American National Standards.

2.2.2 Government Standards. Government standards used by DOE include Federal standards and specifications developed under the procedures of the Federal Property Management Regulation (FPMR) 101-29.

2.2.3 DOE Technical Standards. DOE Technical Standards are developed and maintained through the Technical Standards Program. DOE Technical Standards are prepared to be primarily applicable to DOE functions. In some instance, they may be useful to commercial plants and facilities through the process of conversion to VCSs. DOE Technical Standards should not be prepared for components, materials, test methods, operations, or processes intended for a single application. Where practical, technical standards developed under DOE procedures should be written considering subsequent SDOs conversion to VCSs.

2.3 Potential Uses for Technical Standards

The following criteria outline potential uses for technical standards that can also be used to determine if a technical standard would be of value for the work at hand. The criteria apply equally to all sources of technical standards—non-Government, Government, and DOE. The list is not exhaustive. Each project is unique and should be considered on its individual merit.

a. There are multiple applications of the process described by the standard.

b. The product or technology addressed by the standard is mature and stable.

c. The process described by the standard is repetitive and lends itself to standardization (e.g., maintenance).

d. Application of the standard will result in improved economy of scale.

e. The standard provides information on how to implement Departmental requirements (e.g., it is part of the "work-smart" set of standards for a site, facility, or activity).

f. The standard contributes to the uniformity of facility operations.

g. The standard can serve as the basis document for the development of procedures used to support operations, maintenance and management of DOE facilities, activities, and programs.

2.4 Technical Standards as "Requirements"

As a general rule, technical standards (non-Government, Government, or DOE) do not, upon approval/publication, establish requirements with which DOE Components must comply; however, all or part of the provisions in a standard can become

requirements under the following circumstances:

a. they are explicitly stated to be requirements in a DOE policy or requirements document (i.e., order);

b. they are identified as mandatory in DOE-approved contractor documents, such as Safety Analysis Reports (SARs), Standards/Requirements Identification Documents (S/RIDs), and Work Smart Standards (WSS) sets.

c. the organization makes a commitment to meet a standard in a contract or a plan/program required by a DOE policy or requirements document.

Generally, within a standard, the word "shall" is used to denote actions that must be performed if the standard is to be met. The term "should" is also used to denote an action that may need to be completed but is not required to meet the criteria of the standard. (This is the convention used by virtually all SDOs and industry for over the last 100 years!) If the provisions in the standard are made requirements through one of the means discussed above, the "shall" statements would become requirements. Interpretation of the "should" statements would not change.

Where a technical standard is adopted in whole or in part to meet safety requirements, it may be necessary to conduct some level of safety evaluation (e.g., SAR, S/RIDs, Work Smart, hazards analysis, unresolved safety question) to ascertain whether the selected standards, or those portions of the standards "in part" designated or eliminated, meet the needs of the requirement. For instance, if the adoption of a criticality standard "in part" does not designate a certain section on "contamination levels", and this may have safety implications (e.g., a potential effect on workers, the public, or the environment) it may be necessary to conduct and document a safety review related to that section.

2.5 Determination of Document Type

As previously stated, a DOE Technical Standard should be developed and used only when no adequate non-Government or Government standard already exists or can be developed on a schedule consistent with Department priorities. However, once the need for a DOE Technical Standard has been confirmed by line management, the document type that will best fill the need must also be determined. There are four types of DOE Technical Standards based on function and expected use.

2.5.1 DOE Standards (DOE-STD). DOE Standards are used to provide information on "how to" accomplish a task, develop a plan, format a document, describe a program, etc. DOE Standards, in general, are expected to be developed to meet the needs of multiple DOE programs and projects; as such, these documents will normally be coordinated with all DOE Components (through their designated Technical Standards Manager) as described in DOE-TSPP-6.

"Limited" standards are DOE Standards that are used to establish provisions that are applicable only to one DOE Component (e.g., NE, EM). They are

intended to exist for a limited time (e.g., less than 2 years) and are only used to fill an immediate need where the time necessary to develop a fully coordinated DOE standard or VCS is not available. Typically, limited standards, when prepared, are coordinated only with a selected number of Review Activities (through their Technical Standards Managers). However, limited standards should be upgraded to a fully coordinated (i.e., DOE-wide) standard to ensure that consensus throughout DOE is maintained. Information on coordination of limited standards is also provided in DOE-TSPP-6.

2.5.2 DOE Specifications (DOE-SPEC). DOE Specifications are prepared specifically to support repetitive acquisitions of products or items. These documents clearly describe essential technical requirements for purchasing material. The documents also provide receipt inspection criteria to determine that the material covered by the specification meets the need. DOE Specifications are coordinated in the same manner as DOE Standards (see DOE-TSPP-6) and have provisions for limited use.

2.5.3 DOE Handbooks (DOE-HDBK). DOE Handbooks are used to provide general information on a variety of subjects (e.g., lessons learned, technical training fundamentals, textbooks, etc.) to DOE Components. Coordination of DOE Handbooks is discussed in DOE-TSPP-6.

2.5.4 DOE Technical Standards Lists (DOE-TSL). DOE Technical Standards Lists are special indices or listings of technical standards that are tailored to a specific family of programs or limited subject matter. In general, coordination of DOE Technical Standards Lists is not needed (see DOE-TSPP-6).

2.6 Cost Benefit Analysis

Development of a DOE Technical Standard can be an expensive undertaking of budgetary resources, personnel time, and long term maintenance resources. The proposer, Technical Standards Manager, and appropriate line management should discuss the benefits that would be gained by developing a DOE Technical Standard in lieu of working with a non-Government standards body to develop or modify a VCS that will meet DOE needs.

Because VCSs often take a considerable amount of time to complete, an alternative that would satisfy the immediate DOE need is to develop the necessary DOE Technical Standard and concurrently work with the appropriate non-Government standards body to develop or modify a VCS. When the VCS is approved and released for use, the DOE Preparing Activity should cancel the DOE Technical Standard (see DOE-TSPP-9). In this case, two DOE projects should be registered: one for the DOE Technical Standard and one for the VCS to ensure that both are tracked and the resulting documents get adequate review (See DOE-TSPP-4 regarding project registration).

Alternatively, many SDO can expedite development of a VCS when funding is provided to cover extraordinary costs, such as meetings and mailings. For example,

ASTM has previously operated under contract for standards development with the NRC, EPA, and U.S. Navy. This option should be explored through the DOE representative to the appropriate non-Government standards body (refer to DOE-TSL-4, *Directory of DOE and Contractor Personnel Involved in Non-Government Standards Activities*, for a listing of these individuals).

2.7 Procedure for Determining the Need for a Technical Standard

The following paragraphs describe the typical sequence of events that occur during identification of the need for a technical standard. This process is shown in the flow chart in Figure 1.

Person(s) Responsible	Action
a. Proposer	1. Identify problems, repetitive processes, procurement actions, or other criteria that establish the need for a technical standard. Discuss the need with the appropriate DOE Component Technical Standards Manager.
b. Technical Standards Manager	1. Validate the need for a technical standard with the proposer and verify agreement on the part of line management to expend the resources necessary to develop and coordinate a technical standard 2. Work with the Technical Standards Program Office (TSPO) and the Office of Primary Interest (OPI) to determine if any existing standards or standards being developed would cover the same or related subject matter. In accordance with PL 104-113 and OMB Circular A-119, use of VCSs must be pursued as the primary means to satisfy a DOE need prior to developing a new DOE Technical Standard. 3. Determine whether existing VCSs can be tailored (through DOE guides, facility implementation plans, or sets of "work-smart" standards) to meet current needs. 4. Discuss project with TSPO and OPI to ensure that the proposed standards development project will support the DOE Technical Standards Program policies and objectives. 5. Review references as necessary and assess cost effectiveness for the technical standard project. 6. Discuss the need for the technical standard with other interested Technical Standards Managers to see if other DOE Components have similar needs.

Person(s) Responsible	Action
c. Technical Standards Program Office	1. Assist the Technical Standards Manager, OPI, and the proposer with information searches to determine if another document or project to develop a document already exists for the same or a related subject matter. Identify existing voluntary consensus standards and other Government standards that appear to duplicate the scope of the proposed project. 2. When appropriate, discuss alternative action with the Technical Standards Manager or the line managers. A recommendation for alternative action may be made if the project justification indicates that such a project may not be necessary or does not support DOE Technical Standards Program objectives. For example, alternative action should be pursued if the proposal would result in duplication or unnecessary effort. 3. If alternative action is recommended, work with the Technical Standards Manager to determine other means of meeting DOE needs.
d. Technical Standards Manager	1. If a technical standard is to be developed, determine the type of standard needed (non-Government or DOE) and register the project in accordance with DOE-TSPP-4.

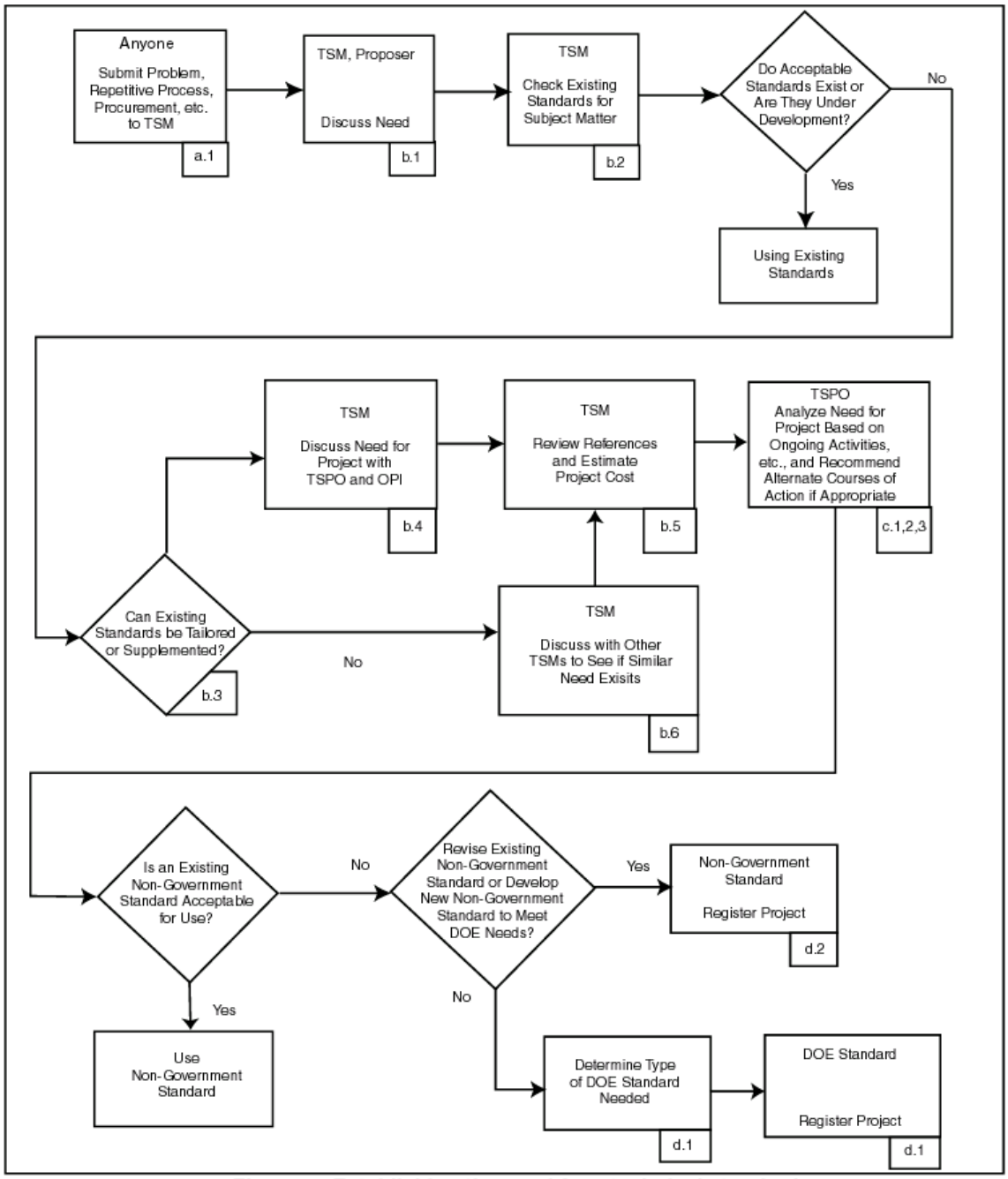

Figure 1. Establishing the need for a technical standard.