

**DOE TECHNICAL STANDARDS  
PROGRAM PROCEDURES**

**DOE-TSPP-2-2013**  
September 2013

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**INITIATING DOE TECHNICAL STANDARDS**

U.S. Department of Energy  
Office of Nuclear Safety  
Washington, D.C. 20585

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## 1. SCOPE

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### 1.1 Purpose

This procedure provides guidance on how to establish and justify the need for a Department of Energy (DOE) Technical Standard and register a DOE Technical Standard Project.

### 1.2 Applicability

This procedure applies to all DOE Headquarters and field organizations, management and operating contractors, and laboratories (hereafter referred to collectively as Technical Standards Program (TSP) participants) working to DOE Order (O) 252.1A, *Technical Standards Program*.

## 2. ESTABLISHING THE NEED

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### 2.1 Preferential Use of Standards

In accordance with Public Law (PL) 104-113, OMB Circular A-119, and DOE O 252.1A, DOE organizations, sites, and facilities preferentially use existing, suitable voluntary consensus standards (VCSs) for all DOE programs and applications. Once the need for a standard is identified, VCSs should be considered and used first; existing Government standards should be considered and used next; and, lastly, a DOE Technical Standard should be developed and used only when no adequate voluntary consensus 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-based standards when such standards may reasonably be used in lieu of prescriptive standards.

PL 104-113 requires that DOE use VCSs, both domestic and international, in its regulatory and procurement activities in lieu of government-unique standards, unless use of such standards would be inconsistent with applicable law or otherwise impractical. In all cases, DOE has the discretion to decline to use existing voluntary consensus standards if DOE determines that such standards are inconsistent with applicable law or otherwise impractical, where "use" and "impractical" are defined as below.

- "Use" means incorporation of a standard in whole, in part, or by reference for procurement purposes, and the inclusion of a standard in whole, in part, or by reference in regulation(s).

"Impractical" includes circumstances in which such use would fail to serve the agency's program needs; would be infeasible; would be inadequate, ineffectual, inefficient, or inconsistent with agency mission; or would impose more burdens, or would be less useful, than the use of another standard. The different sources of standards used by DOE are described below.

2.1.1 VCSs. VCSs are developed by private sector and international organizations (collectively referred to in these procedures as Standard Developing Organizations (SDOs) or voluntary consensus standards bodies), such as the International Organization for Standardization (ISO),

International Electrotechnical Commission (IEC), American Nuclear Society (ANS), ASME International (ASME) (formerly known as American Society of Mechanical Engineers), National Fire Protection Association (NFPA), ASTM International (ASTM) (formerly known as American Society for Testing and Materials), American Society for Civil Engineers (ASCE), and the American Concrete Institute (ACI). Standards developed by international organizations, such as ISO and IEC, are referred to as international standards. 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.

- 2.1.2 Government Standards. Government standards that may be used by DOE include, but are not limited to: Federal Information Processing Standards (FIPS) issued by the National Institute of Standards and Technology (NIST); Department of Defense Military Standards (DoD MILSTDs); and standards and specifications that are developed under the procedures of the Federal Property Management Regulation (FPMR) 101-29.
- 2.1.3 DOE Technical Standards. DOE Technical Standards are developed and maintained through the TSP. DOE Technical Standards are prepared to be primarily applicable to DOE functions. In some instances, 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 appropriate, DOE Technical Standards developed under DOE procedures should be written considering subsequent SDOs conversion to VCSs.

## 2.2 Screening for Need

The DOE and contractor program managers make the initial determination regarding whether a standard is 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 DOE Technical Standards. 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 line manager with budget authority (i.e., Senior Executive Service (SES)-level).

- 2.2.1 Searching for Existing, Suitable VCSs. Potential writers, assisted by the Preparing Activity's TSM or the TSP, first conduct information searches to identify existing VCSs that could potentially be used by DOE.

Note: VCSs may be adopted in whole, in part, or by reference.

The National Standards System Network website provides links to information sources on available standards. The site address (URL) is: <http://www.nssn.org/>.

The TSP staff can provide summary listings of existing VCSs for review for possible application and provide recommendations on whether applicable and appropriate standards are already available for use in lieu of developing new internal standards. The TSP website also provides access to all current DOE Technical Standards, "web links" to SDOs, and lists of current standards development activities in Standards Actions. The site address (URL) is:

<http://www.hss.energy.gov/nuclearsafety/techstds/>

- 2.2.2 Interfacing with Standards Development Organizations (SDO). When existing VCSs are either not applicable or inappropriate for meeting DOE needs and standards development is necessary, the responsible DOE organization may pursue development of a new VCS or revision of existing VCSs to meet DOE needs (see TSPP-3-2013 for information on working with SDOs). Many SDOs 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 voluntary consensus standards body (see the TSP website for the DOE Directory of personnel involved in voluntary consensus standards activities).
- 2.2.3 Interfacing with DOE Offices of Primary Interest (OPIs). If a DOE OPI already exists for the subject matter of the standards development concept, the OPI should be contacted to discuss the concept and whether other methods, such as changes to existing directives, are advised.
- 2.2.4 Dealing with Rogue Standards. DOE documents that have been developed outside the Technical Standards Program or the Directives System and serve as "rogue" standards should be processed through the Technical Standards Program or treated under Directives System processes for "unauthorized documents."

### 3. JUSTIFYING THE NEED

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#### 3.1 Preparing the Project Justification Statement (PJS)

After the need for a DOE Technical Standard is established, the Preparing Activity prepares a Project Justification Statement (PJS) (see Attachment A for template). The PJS must: (a) identify how this DOE Technical Standard will benefit the DOE; (b) identify related and potentially applicable VCSs, and provide justification why these are not adequate for DOE needs; (c) identify any specific DOE rules or directives that would invoke the proposed DOE Technical Standard; and, (d) identify the type of DOE Technical Standard to be developed.

- 3.1.1 Potential Uses and Benefits for DOE Technical Standards. Development of a DOE Technical Standard can be an expensive undertaking of budgetary resources, personnel time, and long term maintenance

resources. The proposer, TSM, and appropriate line management should discuss the benefits that would be gained by developing a DOE Technical Standard in lieu of working with a voluntary consensus standards body to develop or modify a VCS that will meet DOE needs.

The following criteria outline potential uses and benefits for DOE Technical Standards. 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.
- f. The standard contributes significantly to mission accomplishment, consistent implementation of requirements, and the safety and uniformity of facility design and operations.
- g. The standard can serve as the basis document for the development of procedures used to support design, operations, maintenance and management of DOE facilities, activities, and programs.

In some cases, DOE may satisfy immediate needs through development of a DOE Technical Standard, while concurrently working with the appropriate voluntary consensus standards body to develop or modify a VCS. When that VCS is approved and released for use, the Preparing Activity would cancel the DOE Technical Standard (see DOE-TSPP-7-2013).

- 3.1.2 Documenting the VCS Search. The PJS must describe the VCSs considered for applicability and the justification as to why they are not being used (see Section 2 above).
- 3.1.3 Impact on DOE Rules and Directives. As a general rule, standards (voluntary consensus, Government, or DOE) do not, upon approval/publication, establish requirements for DOE and contractor organizations; however, all or part of the provisions in a standard may become requirements under the following circumstances:
  - a. the standard or its provisions are explicitly stated to be requirements in a DOE requirements document (e.g., rule, regulation, order or notice);

- b. the standard or its provisions are identified as mandatory in a contract or a plan/program required by a DOE requirements document; or,
- c. the standard or its provisions are identified as mandatory in DOE-approved contractor documents, such as Documented Safety Analyses (DSAs).

Within a standard, the word "shall" must be used to denote actions that must be performed if the standard is to be met. The term "should" is used to denote recommended actions. The term "may" is used to denote a permissible action that may be completed but is not required to meet the criteria of the standard.

The PJS must clearly and explicitly identify all DOE requirements documents that would invoke the new DOE Technical Standard as a requirement.

3.1.4 Types of DOE Technical Standards Documents. There are three types of DOE Technical Standards documents based on function and expected use.

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 TSP participants (through their designated TSM) as described in DOE-TSPP-5-2013.

An important subset of DOE Standards is the Functional Area Qualification Standards (DOE-STD-FAQS) that are called for in DOE O 426.1 Chg 1, *Federal Technical Capability*. As these are applicable only to the DOE Federal workforce, their review and approval is coordinated only with the Federal organizations.

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-5-2013) and have provisions for limited use.

DOE Handbooks (DOE-HDBK). DOE Handbooks are used to provide general information on a variety of subjects (e.g., good practices and lessons learned; technical training fundamentals; basic science, engineering, and mathematics; etc.). DOE Handbooks may not include requirements statements. Coordination of DOE Handbooks is discussed in DOE-TSPP-5-2013.



3.1.5 Approval and Transmission. The completed PJS is signed by the PA's senior line manager (SLM), and submitted to the Organization's TSM for review and subsequent submittal to the TSP.

### **3.2 Coordinating the Project Justification Statement**

The Technical Standards Program Manager coordinates the PJS for a period of 15 days with all applicable TSMs. The Preparing Activity must resolve all non-concurrences received from commenting TSMs from DOE top-level organizations (i.e., Headquarters TSMs) on the PJS before the project may be approved. Where such non-concurrences cannot be resolved with TSMs, a dispute resolution process will be used where the non-concurrence issues are escalated to the responsible SLMs. Applicable DOE top-level organizations' non-concurrences must be resolved before a DOE Technical Standard project may be initiated and registered. For the purposes of PJS concurrence, a non-vote or an abstention will be taken as a concurrence.

The TSP Manager advises the Directives Review Board (DRB), which is responsible for review and approval of directives, of any new DOE Technical Standard that is planned to be invoked as a requirement in a DOE order or notice. This is accomplished by the TSP Manager forwarding a copy of the PJS to the DRB, via the designated DRB representative, in parallel with the 15 day coordination period. The DRB may require submittal and approval of a Justification Memorandum (JM) in accordance with DOE O 251.1C, Departmental Directives Program, for the associated directives change prior to development of the DOE Technical Standard.

## **4. REGISTERING A PROJECT**

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### **4.1**

After a PJS has been concurred upon, the Technical Standards Program Manager assigns the technical standard project number and informs the Preparing Activity. For new standards, the project number includes the year and a sequential number (e.g., P2012-0001) After the project number has been assigned, the TSP records the project in the Technical Standards Information System (TSIS) data base and announces project initiation in the TSP Newsletter, *Standards Actions*.

The Preparing Activity uses the project number on all drafts and correspondence related to the standard until its completion. In addition, a statement is added to all drafts of the document indicating that the document is a draft copy and has not been approved for issue.

## **5. MONITORING PROJECTS**

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### **5.1 Monitoring Technical Standards Projects**

The TSP and the TSM of the Preparing Activity monitor the progress of approved technical standards projects to ensure their timely completion and adherence to program objectives.

## 5.2 Discontinuing Projects

The TSP, working with the Preparing Activity's TSM, may recommend to the Technical Standards Program Manager that a project be discontinued if the need for the project changes or the project is not following program procedures. If the Preparing Activity does not agree with the recommendation to discontinue a project, the decision is referred to the DOE Technical Standards Managers' Committee to make a determination. Projects that remain for extended periods of time and show no apparent activity should be brought to the attention of the cognizant TSM annually by the TSP. A decision can then be made regarding the continued need for the activity.

## 6. PROCESS FLOWCHART

The following figure describes the typical sequence of activities that need to occur to initiate a DOE Technical Standard.

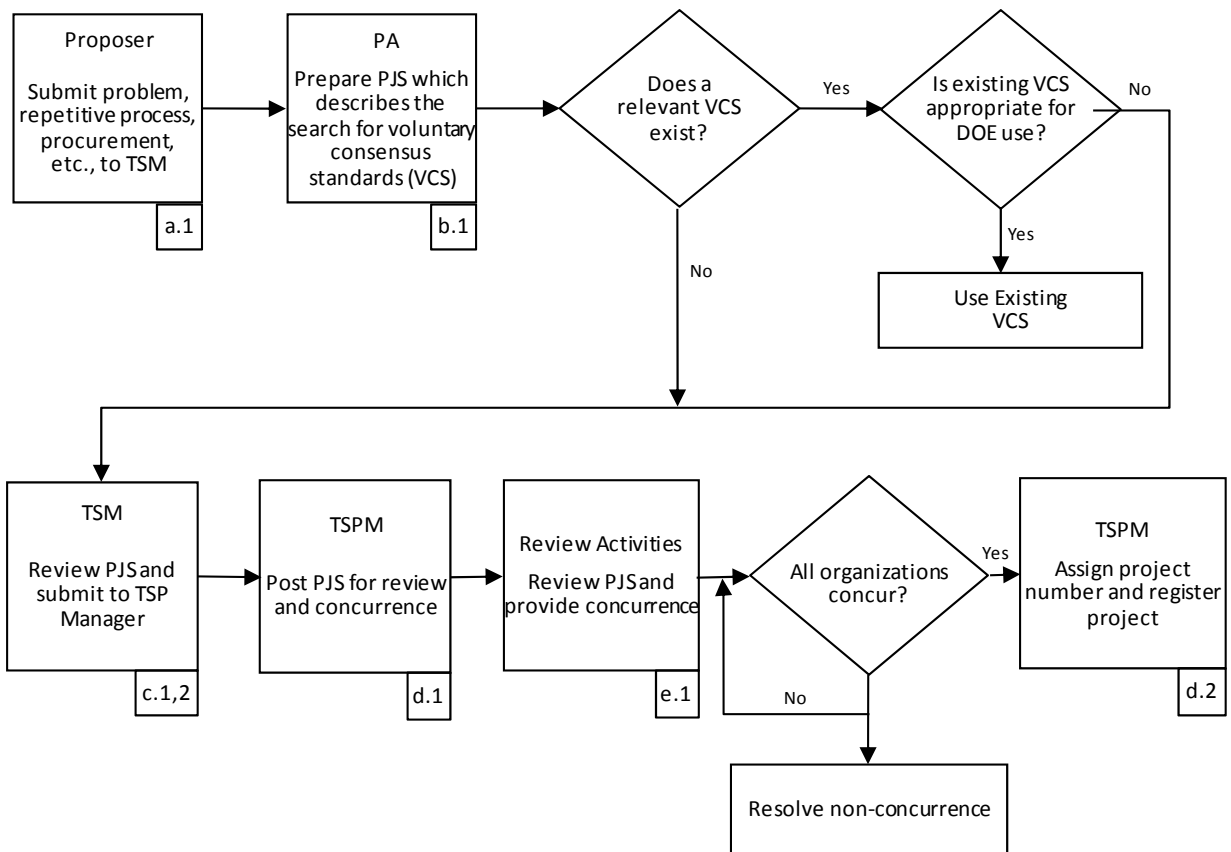


Figure 1: Initiating a DOE Technical Standard

<b>Figure 1 Legend</b>	
Person(s) Responsible	Action
a. Proposer	1. Identify problems, repetitive processes, procurement actions, or other criteria that establish the need for a DOE Technical Standard. Discuss the need with the senior line manager, and the appropriate DOE element Technical Standards Manager (TSM).
b. Preparing Activity	1. A Project Justification Statement (PJS) is prepared by the Preparing Activity (PA), signed by the PA's Senior Line Manager, and submitted to the TSM and the Technical Standards Program Manager. The PJS must include a description about (a) how the DOE Technical Standard will benefit the DOE, (b) the search of existing voluntary consensus standards, and why they do not fully satisfy DOE needs, and (c) whether and how the proposed DOE Technical Standard will be invoked by the Directives Program.
c. Technical Standards Manager for Preparing Activity	1. Review the PJS submitted by the Preparing Activity, and validate the need for a DOE Technical Standard with the Preparing Activity. 2. Submit the PJS to the TSP Manager.
d. Technical Standards Program Manager	1. Coordinate the PJS, via TSP RevCom, with all applicable TSMs and the DRB, where applicable, for a period of 15 days. 2. Assign project number and register project.
e. Technical Standards Managers for Reviewing Activities	1. Review PJS and provide concurrence.

**ATTACHMENT A**  
**DOE TECHNICAL STANDARDS PROGRAM PROJECT JUSTIFICATION STATEMENT**

Department of Energy (DOE) Order (O) 252.1A, *Technical Standards Program*, requires DOE Technical Standards to be justified and registered prior to development. As part of this justification process for developing or revising DOE Technical Standards, please provide the following information (in numeric format) in a Project Justification Statement (PJS) which addresses the following in numeric format:

1. Organization Name/Code.
2. Author's Name and Signature (Contact Information: Phone, E-mail).
3. Senior Line Manager's Name and Signature (First SES-level manager above the author).
4. How will this new or proposed revision to the DOE Technical Standard support the DOE?  
Note: For revised DOE Technical Standards, please describe why the DOE Technical Standard was originally developed, and the major changes anticipated in the revision.
5. After conducting a search for Voluntary Consensus Standards (VCSs) what possible standards were considered for use in lieu of developing or revising the subject DOE Technical Standard? Note: VCSs may be adopted in whole, in part, or by reference.
6. Provide reasoning for concluding that potentially applicable Voluntary Consensus Standards will not fully meet DOE needs.
7. Will this new or proposed revision to the DOE Technical Standard be invoked as a requirement in any DOE Directives or a Rule? If so, please list the impacted Directive(s) or Rule(s).
8. Provide reasoning for selecting document types (DOE Standard, DOE Handbook, DOE Specification). Please refer to DOE O 252.1A, Appendix A, *Technical Standard Document Types*. Note: DOE Handbooks may not include requirements statements ("shall" statements).
9. Provide target development milestones:
  - Planned Start (Month/Year) -- Start developing draft
  - Planned Coordination (Month/Year) -- Submit for TSP RevCom Review
  - Planned Completion (Month/Year) -- Approval and Issuance

If the new or revised DOE Technical Standard will be invoked as a requirement in a DOE Directive or rule, a formal DOE Memorandum must be prepared which addresses the above information. This memorandum is addressed to the Technical Standards Program Manager, with a copy to the Program Secretarial Officer's (PSO) Technical Standards Manager (TSM) sponsoring the DOE Technical Standard, and signed by the Preparing Activity's senior line manager.

If the new or proposed revision to the DOE Technical Standard will not be invoked as a requirement in a DOE Directive or rule, an email may be used in lieu of a formal DOE Memorandum; the email is sent from the Preparing Activity to the Technical Standards Program Manager addressing the information above, with a copy to the PSO's TSM sponsoring the DOE Technical Standard.

