

<b>Subject:</b>  <b>PPPL Engineering Standards</b>	<b>Effective Date:</b>  <b>October 24, 2014</b>	<b>Initiated by:</b>  Mike Williams Associate Director, Engineering & Infrastructure
	<b>Supersedes:</b> Revision 3 Dated 2/26/08	<b>Approved:</b>  Stewart Prager Director

**Management System (Primary):** 03.00 Engineering  
**Management System Owner:** Associate Director for Engineering and Infrastructure  
**Management Process:** 03.04 Engineering Programs and Processes  
**Process Owner:** Associate Director for Engineering and Infrastructure  
**Sub-Process:** 03.04.08 Standards Management  
**Sub-Process Owner:** Associate Director for Engineering and Infrastructure  
**Subject Matter Expert (SME):** Head, Project Management Office; Head, Best Practices (PPPL Technical Standards Manager)

**Applicability**

This procedure applies to Engineering Standards developed by PPPL personnel and to industry or governmental Engineering Standards that are proposed to adapt for use on Laboratory experimental projects or technical infrastructure.

**Introduction**

This procedure describes the method and responsibilities for the development, review, approval, and revision of PPPL Engineering Standards. These guidelines are presented in the following sections:

- A. Creating New Engineering Standards
- B. Revising Engineering Standards
- C. Five Year Review of Engineering Standards

**Reference Documents**

GEN-003, Document Distribution Control  
 PPPL Engineering On-line Standards Manual

**Definitions**

**Engineering Standard** A standard may be a specification, test method, classification definition, or practice that has been reviewed by the PPPL Engineering Standards Committee and approved for use at PPPL. Standards may include guidelines, charts, tolerances, tables and reference photographs. Standards are developed to assure performance, quality, and reliability of equipment and installations at PPPL. These may be in addition to an interpretation of nationally recognized standards, regulations, or requirements.

**Procedure**

**A. Creating New Engineering Standards**

**Responsibility**

**Action**

Associate Director  
Engineering and  
Infrastructure (ADEI)

1. Appoints individuals as members of the Engineering Standards Review Committee (ESRC). Committee members will include individuals from the Project Management, Mechanical Engineering Division, Electrical Engineering Division, Fabrication & Operations Division, Facilities and Site Services Division, QA, and the PPPL Technical Standards Manager.
2. Requests individuals from other PPPL Departments and Projects to serve as pro tem resource members of the ESRC, if determined appropriate. This determination is at the discretion of the ADEI based on the subject of the standard to be reviewed.

Initiator

3. Identifies the need for an Engineering Standard (either developed by the initiator or from outside sources).

ADEI

4. Accepts the proposed standard and identifies it as a draft standard or informs Initiator of refusal of the proposed standard, citing reasons for the refusal.
5. Assigns the appropriate ESRC member to lead the review of the draft standard.
6. Provides the ESRC Review Leader with a copy of the draft standard.

ESRC Review Leader

7. Reviews the draft standard with the initiator to assure that it meets the intent of PPPL Standards (refer to Definitions).
8. Provides the draft standard to the Best Practices Office for distribution.

Best Practices

9. Distributes the draft standard for review and comments to members of the ESRC and any others designated by the ESRC Review Leader or ADEI.

ESRC Members

10. Review the draft standard and provide comments to Best Practices.

Note: ESRC members should solicit input and comments from other individuals within their organization, as appropriate.

Best Practices

11. Compiles all comments and provides them to the ESRC Review Team Leader or Initiator.

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|--------------------|---|
| Initiator          | 12. Resolves comments with each ESRC Member, requesting ESRC Review Leader assistance, if necessary. Documents all comment resolutions.   |
|                    | 13. Submits the comment resolutions and draft standard to the ESRC Review Leader for concurrence.   |
| ESRC Review Leader | 14. Obtains ADEI approval of the final standard after resolving any comments.   |
| ADEI               | 15. Approves and forwards the final standard to the Best Practices for issuance and distribution. Returns unapproved standards to the initiator for further resolution of issues. |
| Best Practices     | 16. Distributes the approved Engineering Standard per procedure GEN-003.  |
|                    | 17. Maintains system for documenting and controlling PPPL Engineering Standards following procedure GEN-003.  |

**B. Revising Engineering Standards**

When it is determined that a change to an Engineering Standard is required, refer to Section A, step 4 and follow the same sequence of responsibilities and actions. The steps for initiating a revision to an Engineering Standard are the same as for the development of the original Standard except that an ESRC Review Team Leader may not be necessary.

**C. Five Year Review of Engineering Standards**

An Engineering Standards review is required every five years from the original date of issue or latest approved change. This review is intended to provide a means of periodic updates to an Engineering Standard that may require changes. The Engineering Standard review by the ESRC or ADEI may indicate that changes are not necessary at this time. When an Engineering Standard is due for a five-year review, the following outlined sequence of responsibilities and actions are to be followed.

**Responsibility**

**Action**

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|----------------------|--|
| Best Practices       | 1. Reviews approval dates of all Engineering Standards. At five years from date of latest approval notifies the Author listed by the Engineering Standards Manual. Responsible Line Manager (RLM). |
| ADEI Department Head | 2. Ensures that each Engineering Standard is reviewed every five years.  |
| ESRC and Author/RLM  | 3. Review Engineering Standards for any required updates and changes.  |

- ESRC and Author/RLM
4. Documents the review and indicates whether any revisions are required. Indicates updates and changes by marking-up the Engineering Standard. If no revisions are necessary, extends the Standard for five more years from the time of the last approved revision or change, if approved by the ADEI and notifies Best Practices.
  5. Sends marked-up copy to ADEI for processing per Section B.

**Training for this procedure**

- Best Practices
1. Notifies PPPL Supervisors of revisions or changes to this procedure via email.

**Records Requirements Specific To This Procedure**

Records Custodians must assure records are maintained as follows:

<b>Record Title</b>	<b>Record Custodian</b>	<b>Location</b>	<b>Retention Time</b>
Final Engineering Standard with Comment Resolutions	Head, Best Practices	Best Practices Files	Cut off at end of each FY. Transfer to NARA in 5 yr. blocks when most recent record is 25 yrs. old. <i>Reference DOE Admin 16 Administrative Management Records, 1.1</i>
Draft Engineering Standard	Head, Best Practices	Best Practices Files	Destroy/delete when dissemination, revision or updating is completed <i>Reference DOE Admin 20 Electronic Records, 13</i>