

# TEMPORARY CHANGE REQUEST

TCR NO. **TCR-P-086,R4-001**

(e.g., TCR-ENG-021,R0-001)

The Temporary Change Request (TCR) Form is to be used to process urgent or minor changes for PPPL Policies, Organization/Mission Statements and Procedures. The TCR should be used when changes are:  
1) urgent, and can not wait the 2-4 week period for Department Head review/comment, or  
2) minor, and do not warrant Department Head review.

Person Requesting Change: Jim Graham Phone Ext: 2701

Department Name: Best Practices/QA

Document Number: P-086 Revision No.: 4

Document Title: Specifying, Using, and Calibrating Measuring and Test Equipment

## Reason for change:

As a result of required 3-year review:

- Add newly required Management Systems, Training and Record sections.
- Correct the location of the Organization Chart.

**Change description:** (Summarize and attach changed pages, with changes clearly indicated)  
Added required Management Systems, Training and Record sections.

1. Does this TCR significantly alter the intent or scope of the document? YES:  NO:
2. Does this TCR significantly impact **ES&H**? YES:  NO:

If 1 or 2 is **YES**, Explain why the changes should not be routed for Department Head review:

**Jim Graham**  
Department/Division Head Approval

11/15/16  
Date

**John DeLooper**  
Head, Best Practices and Outreach/designee

11/16/16  
Date

Release/Effective date of this TCR: 11/16/16

Incorporate this TCR into next revision of this document? YES:  NO:

<b>Subject:</b>  <b>Specifying, Using, and Calibrating Measuring and Test Equipment</b>	<b>Effective Date:</b>  <b>March 17, 2010</b>	<b>Initiated by:</b>  Head, Quality Assurance
	<b>Supersedes:</b>  <b>P-086, R3, Dated: November 30, 2006</b>	<b>Approved:</b>  Director
	TCR-P-086,R4-001	

<b>Management System (Primary):</b> <b>Management System Owner:</b> <b>Management Process:</b> <b>Process Owner:</b> <b>Sub-Process:</b>  <b>Sub-Process Owner:</b> <b>Subject Matter Experts (SMEs):</b>	03.00 Engineering Head, Engineering and Infrastructure 03.04 Engineering Programs and Processes Head, Engineering and Infrastructure 03.04.04 Calibration of Measuring and Test Equipment (M&TE) Engineering Deputy for Operations Head, Project Management, Deputy Head of Engineering for Operations,	TCR-P-086,R4-001
--	---	------------------

Inspection, measuring, and test equipment (MTE) used to determine component or system quality are to be calibrated to assure accurate results. MTE are required to be recalibrated if dropped, subject to abusive treatment, or the accuracy is suspect.

Line managers are responsible for identifying when calibrated MTE is required. Calibrated MTE is warranted when:

- the health and safety of personnel or environmental protection could be impacted,
- calibrated tools are important to reduce fabrication or installation risks for a project to an acceptable level,
- the acceptability of a critical component, system, or subsystem is important to the project,
- legal requirements need to be validated, or
- when the use of calibrated MTE is imposed as a contractual requirement or required by Laboratory documents.

The use of calibrated MTE is documented in a PPPL Engineering Work Planning Form, a Statement of Work, a Technical Procedure, a drawing, or a Shop Work Request. Taking critical measurements may also be established as Quality Control hold points.

PPPL Calibration Laboratories are responsible for calibrating MTE directly or via supplier services. Calibration shops use calibrated MTE for in-situ calibrations of systems. The approved list of Calibration Laboratories and Shops are available at <<http://engineering.pppl.gov>>.

Managers of Calibration Laboratories and Shops are responsible for establishing procedures for performing in-house calibrations. Procedures will include:

- Methods for testing and adjusting MTE using standards traceable to the National Institute of Standards and Technology (NIST) or other nationally recognized standards.
- Maintaining a physical environment for such activities.
- Assuring that personnel performing such calibrations are properly trained and qualified.

For calibrations performed either in-house or by a supplier, the Calibration Laboratories and shops are responsible for:

- Maintaining records for each which includes the name of the item, unique identifier, date of the next required calibration, allowable variations, and history of damage, malfunction, modification, or repair.
- Performing calibrations using the methods specified by the equipment manufacturer or an accepted industry standard.
- Documenting, via the Quality Assurance Nonconformance System, instruments failing the initial calibration if adjustments are two times greater than the allowed error or instruments cannot be calibrated at all.

Individuals using MTE must assure it is not overdue for calibration prior to use.

Non-calibrated tools may be marked "Indicator Only". "Indicator Only" tools are to be used for measurements in which accuracy and precision is not significant. Such markings are recommended if the tool could easily be confused with a similar calibrated tool or if it provides value-added clarification to an observer that calibration was considered.

**Training**

TCR-P-086,R4-001

Author

A. Target Audience: All writers of SOW's, Technical Procedures, Work Planning Forms, Shop Work requests and Drafting

Instructor: Head, Best Practices and Quality Assurance

Training Method:

- Read only
- Email distribution only

Frequency:

- Once only

**Records Requirements Specific To This Procedure**

TCR-P-086,R4-001

No additional records are generated as a result of this Policy.