

TEMPORARY CHANGE REQUEST

TCR NO. **TCR-ESHD 5008, Sect. 2,
Chapt 16, R6-002**

(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: Jerry Levine Phone Ext: 3439

Department Name: ES&H

Document Number: ESHD 5008 Section 2 Chapter 16 Revision No.: 6

Document Title: References (Electrical Safety)

Reason for change:

Revisions to and elimination of some outdated references

Change description: (Summarize and attach changed pages, with changes clearly indicated)

Changes are in Items K, M & N. See attachment.

1. Does this TCR significantly alter the intent or scope of the document? YES: _____ NO: X

2. Does this TCR significantly impact ES&H? YES: _____ NO: X


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

Jerry Levine 6/28/16
Department/Division Head Approval Date

John DeLooper 6/30/16
Head, Best Practices and Outreach/designee Date

Release/Effective date of this TCR: 7/1/16

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

PPPL	PRINCETON PLASMA PHYSICS LABORATORY ES&H DIRECTIVES		
	ES&HD 5008 SECTION 2, CHAPTER 16 References		
Approved	Date: 07/07/05	Revision 6	Page 1 of 4

CHAPTER 16 REFERENCES

NOTE: All references below may not be current editions. The latest revision should be used when referring to references (with the exception of NFPA 70 and NFPA 70E).

A. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C2	National Electrical Safety Code (NEC)
ANSI C39.5	Safety Requirements for Electrical and Electronic Instrumentation.
ANSI C84.1	Voltage Ratings (60 Hertz) for Electrical Power Systems and Equipment.
ANSI Z87.1	American National Standard for Occupational and Educational Eye and Face Protection
ANSI Z89.2	Protective Headware for Industrial Workers
ANSI Z535.2	Environmental and Facility Safety Signs
ANSI Z535.3	Criteria for Safety Symbols
ANSI Z535.4	Product Safety Signs and Labels
ANSI Z535.5	Accident Prevention Tags (for Temporary Hazards)

B. AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)

ASTM Specification D178	Standard Specification for Rubber Insulating Matting
ASTM Specification F855	Standard Specifications for Temporary Grounding Systems to be used on De-Energized Electric Power Lines and Equipment
ASTM Specification F1236	Guide for Visual Inspection of Electrical Protective Rubber Products
ASTM Specification F1506	Standard Specification for Protective Wearing Apparel for Use by Electrical Workers when Exposed to Momentary Electric Arc and Related Thermal Hazards

C. CABLE INSTALLATION MANUAL (Published by the Anaconda Co., Wire and Cable Div.)

D. CODE OF FEDERAL REGULATIONS (CFR)

Title 29, Part 1910 and Part 1926	Occupational Safety and Health Standards (OSHA)
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E. FACTORY MUTUAL ENGINEERING CORPORATION (FMEC)

Loss Prevention Data Sheet 5-4/14-8	Transformers
Loss Prevention Data Sheet 5-19/14-21	Switchgear and Circuit Breakers
Loss Prevention TAB 5-20/14-22	Recommendations for Electrical Testing
Loss Prevention Data Sheet 5-27/14-27	Programmable Controllers
Loss Prevention Data Sheet 5-31/14-5	Cables and Bus Bars

F. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)

IEEE Standard 80	Guide to Safety in Substation Grounding
IEEE Standard 100	Dictionary of Electrical and Electronic Terms
IEEE Standard 142	Recommended Practice for Grounding of Industrial and Commercial Power Systems
IEEE Standard 446	Recommended Practice for Emergency and Standby Power Systems for Industrial and Commercial Applications
IEEE Standard 510	Recommended Practices for Safety in High-Voltage and High-Power Testing
IEEE Transactions Vol. PAS-102, No. 5, May 1983 (82-SM-476-0) - A Range of Body Impedance Values for Low-Voltage, Low-Source Impedance Systems of 60 Hz - by M.S. Hammam	

G. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)

Publication No. P-32-382	Short-Circuit Characteristics of Insulated Cables
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H. INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

Pub. 479-1	Effects of current passing through the human body
Pub. 900	Hand tools for live working (sic) up to 1000 V ac and 1500 V dc
Pub. 903	Specifications for gloves and mitts of insulating material for live working (sic)

I. INTERNATIONAL ELECTRICAL TESTING ASSOCIATION (NETA)

ATS Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems
MTS Maintenance Testing Specifications for Electrical Power Distribution Equipment and Systems

J. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA Standard ICS 1	General Standards for Industrial Control and Systems
NEMA Standard ST 20	Dry-Type Transformers for General Applications

K. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	National Electrical Code (NEC) (2005)
NFPA 70E	Standard for Electrical Safety in the Workplace (2004)
NFPA 70HB	National Electrical Code Handbook
NFPA 70B	Electrical Equipment Maintenance
NFPA 77	Static Electricity
NFPA 79	Electrical Standard for Industrial Machinery
NFPA 101	Life Safety Code
NFPA 780	Lightning Protection Code
NFPA 791	Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation

L. NATIONAL SAFETY COUNCIL (NSC)

OS&H Textbooks	MORT Safety Assurance Systems
Data Sheet I 598	Flexible Insulating Protective Equipment for Electrical Workers
Data Sheet I 670	Working Alone in R&D Laboratories

M. US DEPARTMENT OF ENERGY (DOE)

10 CFR 851	Worker Safety and Health Program
DOE-HDBK-1092	DOE Handbook- Electrical Safety

N. PRINCETON PLASMA PHYSICS LABORATORY (PPPL)

ES-ELEC-005	Electrical Systems Safe Work Practices
ENG-011	Interlock Key Control
ENG-023	Electrical Equipment Approval
ENG-028	Core Boring, Cutting and Drilling
ESH-001	Use of Safety, Accident Prevention, and Equipment Protection Tags
ESH-002	Facility Safety Signs and Barricade Tapes
ESH-004	Job Hazard Analysis
ESH-014	National Environmental Policy Act (NEPA) Review System.
ESH-016	Control of Hazardous Energy (Lockout/Tagout)
P-046	Cable Tagging and Removal
P-107	Approval of Electrical Equipment and Electrical Installations
P-109	Grounding of Experimental Devices and Electrical Equipment

O. OMITTED**P. UNDERWRITERS LABORATORIES, INC. (UL)**

UL Standard 96A	Installation Requirements for Lightning Protection Systems
UL Standard 467	Grounding and Bonding Equipment
UL Standard 1063	Machine-Tool Wire and Cables UL Standard 1244 - Electrical and Electronic Measuring and Testing Equipment
UL Standard 1244	Electrical and Electronic Measuring and Testing Equipment