Subject:	Effective Date:	Initiated by:
Use of Safety, Accident Prevention, and Equipment Protection Tags	July 18, 2004	Head, ES&H/Infrastructure Support
	Supersedes: Revision 1dated 1/29/01	Approved: Director

Applicability

This procedure is applicable to all PPPL Sites and Facilities where administrative controls for alerting persons to temporary hazards are used to identify unsafe, damaged, or deficient systems, components, or equipment; to prevent improper operation when a component, system, or portion of a system is isolated or in an abnormal condition.

Exclusions

This procedure does not apply to work being done at PPPL where lockout/tagout is required (i.e., isolating a hazardous energy source for personnel protection). For this application, refer to procedure ESH-016, Control of Hazardous Energy Sources (via Lockout/Tagout of Energy Isolation Devices), for the use of Safety (DANGER) tags.

This procedure does not contain the principles and practices of safing equipment or machinery.

Definitions

See Attachment 1 for definitions of terms used throughout this procedure.

Introduction

There are three types of safety related tags used for administrative control at PPPL: Safety Tags (DANGER Tags), Accident Prevention Tags (WARNING Tags), and Equipment Protection Tags (CAUTION Tags). DANGER Tags are to be used for Lockout / Tagout.

DANGER Tag descriptions and uses are provided in procedure ESH-016, Control of Hazardous Energy Sources (via Lockout/Tagout of Energy Isolation Devices).

WARNING and CAUTION Tags are described within this procedure. These tags are to be used for all purposes relating to personnel safety, equipment and environmental protection, and preservation of process operations.

Reference Documents

Note: ANSI Standard is used as a guideline only and is not mandatory.

ANSI Z535.1	Safety Color Code
ANSI Z535.2	Environmental and Facility Safety Signs
ANSI Z535.3	Criteria for Safety Symbols
ANSI Z535.5	Accident Prevention Tags (for Temporary Hazards)
ESH-016	Control of Hazardous Energy Sources
ESHD 5008	PPPL Environment, Safety, and Health Manual
QA-002	Self-Assessment/Audit Program

Procedure

A. Identification and Implementation of WARNING Tags

Responsibility	Action
Cognizant Individual	1. Determines, either by inspection or advice received from an Authorized Employee, which system, component, or equipment (under Cognizant Individual's jurisdiction) is unsafe, damaged, or defective.
	2. Directs an Authorized Employee to place the WARNING Tag (Attachment 2) on the identified system, component, or equipment.
Authorized Employee	3. Fills in all information on the front of the WARNING Tag.
	4. Describes the problems on the back of the WARNING Tag.
	5. Attaches the WARNING Tag to the identified defective system, component, or equipment.
	6. Notifies the responsible Facility Manager (FM), as needed, that there is a WARNING Tag on a defective system, component, or equipment in the FM's area.
	7. Arranges for the appropriate repair, decommissioning, or removal of the defective system, component, or equipment.
Authorized Worker	8. Repairs, decommissions, or removes the defective system, component, or equipment.
Authorized Employee	9. Removes the WARNING Tag, in agreement with the Cognizant Individual, after the problem of the system, component, or equipment has been corrected.
	a. If placing Cognizant Individual is not available, contacts the Cognizant Supervisor to obtain agreement to remove the WARNING Tag.
	b. If placing Cognizant Individual or Cognizant Supervisor are not available, uses existing safing procedure or initiates a memorandum/checklist describing: problem of the system, component, or equipment and corrective action(s), and obtains ES&H Division concurrence.

B. Identification and Implementation of CAUTION Tags

Responsibility	Action
Cognizant Individual	1. Determines, either by inspection or advice received from an Authorized Employee, which system, component, or equipment (under Cognizant Individual's jurisdiction) requires unusual care in its operation; or when components are to be aligned in a restricted operating mode.
	2. Directs an Authorized Employee to place a CAUTION Tag (Attachment 3) on the identified system, component, or equipment.
Authorized Employee	3. Fills in all the information on the front of the CAUTION Tag.
	4. Describes the restrictions or conditions on the back of the CAUTION Tag.
	5. Attaches the CAUTION Tag to the identified system, component, or equipment.
Authorized Worker	6. Reviews the information on the CAUTION Tag before operating the identified system, component, or equipment.
	7. Performs the necessary actions on the system, component, or equipment.
Authorized Individual	8. Removes the CAUTION Tag, in agreement with Cognizant Individual, after the restriction, limitation, or abnormal condition has been cleared.
	a. If placing Cognizant Individual is not available, contacts the Cognizant Supervisor to obtain agreement to remove the CAUTION Tag.
	b. If placing Cognizant Individual or Cognizant Supervisor are not available, uses existing safing procedure or initiates a memorandum/checklist describing: problem of the system, component, or equipment and corrective action(s), and obtains ES&H Division concurrence.

Attachments

1. Definition of Terms.
2. WARNING Tag Use Requirements and Description
3. CAUTION Tag Use Requirements and Description

Administrative Control	Controls including management direction and control over operations, maintenance, inspections, surveillance, and other activities that pose potential safety hazards. Examples include written procedures and verbal instructions.
Authorized Worker	An individual who will perform work on a system or equipment which has been safed by an Authorized Employee. In some cases, the Cognizant Individual, Authorized Employee, and Authorized Worker may be the same individual.
Authorized Employee	An individual who performs the tagging of a system or equipment and verifies that the equipment is safed for Authorized Workers to work or maintain. In some cases, the Cognizant Individual, Authorized Employee, and Authorized Worker may be the same individual.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and property damage. It may also be used to alert against unsafe practices that may cause property damage.[1]
Cognizant Individual	An individual who is the "owner" of valves, switches, circuit breakers, and other major components in a system or subsystem. This may be an engineer, technician, or other individual who is responsible for the system. In some cases, the Cognizant Individual, Authorized Employee, and Authorized Worker may be the same individual.
DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations. Danger tags shall only be used to render a component safe to work on by locking and tagging out and should not be used for property damage hazards unless personal injury risk appropriate to this level is also involved .[1]
Energized	Connected to an energy source or containing residual or stored energy.

[1] DANGER or WARNING Tags should only be considered for property damage accidents, if personal injury risk appropriate to these definitions is involved. CAUTION Tags are normally permitted for property damage, and minor or moderate injury accidents only. CAUTION Tags, as used herein, may also be used to notify operating personnel that a component has been aligned in a manner which differs from the baseline operating mode for that system. Refer to ANSI Z535.2, "Environmental and Facility Safety Signs", Section 5.

Restricted operating mode	A mode limited by the conditions of a system, component, or equipment.
Safing	Safing is the procedure of rendering the subject system/equipment safe to work on by removing the energy source(s) as well as any accumulated energy and positively preventing reenergizing.
Signal Word	The word that designates a degree or level of hazard seriousness. The signal words for tags are DANGER, WARNING, and CAUTION.
Isolation Device	A device that physically prevents the transmission or release of fluids, electric power, gasses, or waste. This includes, but is not limited to, the following: • Circuit breakers • Physical removal of a section of transmission line • Removal of bus links or fuses • Opening a second series isolating link • Line valve close or open • Disconnect switches • Application of temporary ground • Removal of a valve handle • Breaker rackout • Devices adequately rated to block the energy source involved
WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury and should not be used for property damage hazards unless personal injury risk appropriate to this level is also involved.[1]
SAFETY ALERT SYMBOL	Is a triangle with an exclamation symbol that is used next to the signal word. This symbol indicates a possible human injury hazard exists and may be used on new tags that are procured.

[1] DANGER or WARNING Tags should only be considered for property damage accidents, if personal injury risk appropriate to these definitions is involved. CAUTION Tags are normally permitted for property damage, and mnor or moderate injury accidents only. CAUTION Tags, as used herein, may also be used to notify operating personnel that a component has been aligned in a manner which differs from the baseline operating mode for that system. Refer to ANSI Z535.2, "Environmental and Facility Safety Signs", Section 5.

A. General Requirements for Use of WARNING Tags

1. Tags should be placed in such a way that they do not interfere with or obscure indicators, switches, or other control devices, but are readily apparent to an individual prior to the operation of the tagged device.
2. Restrictions or conditions described on the back of tags must state the specific reasons why the tag was installed.
3. Should an Authorized Employee and a Cognizant Individual disagree on the necessity of a tag, they shall obtain guidance from the ES&H Division.

4.* Equipment, components, or systems having a WARNING Tag may not be operated, but may be removed for repair, decommissioning, or excessing.

5. Tags must not be removed from decommissioned or excessed systems, components, or equipment.
6. Tags may be uniquely identified by using the Tag ID # line.

B. WARNING Tag Description

Physical Description:

1. Tags shall be constructed of plastic material.
2. Dimensions shall be 3.125 inches wide by 5.625 inches long.
3. Grommets shall be 0..375 inch inside diameter (minimum).
4. Surface shall accept ball point pen or felt tip marker without smearing.
5. Manufacturer's print shall be black on an orange background. The signal word “WARNING” shall be in black letters within an orange truncated diamond on a black rectangular background per ANSI Z535.2 "Environmental and Facility Safety Signs." All new tags procured may have the “Safety Alert Symbol” as a prefix before the “Signal Word”
6. Tags shall be suitable for indoor or outdoor use.

Type:	Accident prevention tag
Protects:	Personnel
Placed on:	Equipment
Application:	Used to notify personnel that a system, component, or equipment is unsafe, damaged, or defective, and that injury or death could occur if instructions on the tag are not followed.
Examples:	Placed on the ON/OFF switch of a lathe which has a worn chuck. Placed on the plug of a hand drill with a defective cord.
Life:	To be periodically reviewed by authorized employee or area cognizant individual until equipment is made safe and hazards removed.

* See ES&HD 5008, Section 2, Chapter 4.22 for applications of "WARNING" and "CAUTION" tags during deactivating and decommissioning. Also, see PPPL Policy P-046, Cable Tagging and Removal.

FRONT REAR

Typical Signal Word format for existing tags

Signal word may have the Safety Alert symbol on all new tags that are procured as shown below

Safety Alert Symbol

Typical Safety Alert format for future procured tags

A. General Requirements for Use of CAUTION Tags

1. Tags should be placed in such a way that they do not interfere with or obscure indicators, switches, or other control devices, but are readily apparent to an individual prior to the operation of the tagged device.
2. Restrictions or conditions described on the back of tags must state the specific reasons why the tag was installed.
3. Should an Authorized Employee and a Cognizant Individual disagree on the necessity of a tag, they shall obtain guidance from the ES&H Division.

4.* Tags must not be removed from decommissioned or excessed systems, components, or equipment.

5. Tags may be uniquely identified by using the Tag ID # line.

B. CAUTION Tag Description

Physical Description:

1. Tags shall be constructed of plastic material.
2. Dimensions shall be 3.125 inches wide by 5.625 inches long.
3. Grommets shall be 0.375 inch inside diameter (minimum).
4. Surface shall accept ball point pen or felt tip marker without smearing.
5. Manufacturer's print shall be black on a yellow background. The signal word “CAUTION” shall be in Black letters within a Yellow rectangular background per ANSI Z535.2 "Environmental and Facility Safety Signs."
6. Tags shall be suitable for indoor or outdoor use.

Type: Equipment protection tag.

Protects: Equipment, facilities, personnel, and/or operations.

Placed on: Equipment.

Application: Used to notify personnel that a system, component, or equipment has a requirement, limitation, or abnormal condition applied, and that unusual care must be used to prevent equipment damage, mis-operation, or if not avoided may result in minor or moderate injury. It also indicates a position other than the normal operating position of a system, component, or equipment.

Examples: Placed on the ON/OFF switch of a functional piece of test equipment which is out of calibration. Placed on TFTR Tritium system components when they are not aligned in the base-line operating mode.

Life: To be periodically reviewed by authorized employee or cognizant individual until equipment is made safe and hazards removed.

- See ES&HD 5008, Section 2, Chapter 4.22 for applications of "WARNING" and "CAUTION" tags during deactivating and decommissioning. Also, see PPPL Policy P-046, Cable Tagging and Removal.

SAFETY ALERT symbol

Typical Safety Alert format for future procured tags

Note the change in the color of the letters and background

Typical Signal Word format for existing tags

FRONT

REAR