

TEMPORARY CHANGE REQUEST

TCR NO. TCR-ESHD 5008-8.13 R2-003

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: William Slavin

Department Name: ESH&S

Phone Ext: 2533

Document Number: ESHD 5008-8.13

Revision No.: 2

Document Title: ES&H REVIEW OF PROCUREMENTS

Reason for change: To clarify the requirements regarding Environmental Services Division approval for chemicals to be used in Radiological Controlled Areas.

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

13.1 Added bullet 4: "Prevent the generation of mixed waste in Radiological Controlled Areas."

13.2.1.B added: "and those MSDS's for chemicals to be used in Radiological Controlled Areas (RCA)."

13.3.3.G Removed reference to an approved list of materials allowed in RCA – no longer exists. Added requirement for approval "in writing" for chemicals to be taken into an RCA.

13.3.9 added "or for chemicals to be used in an RCA."

Removed outdated flow charts in appendix B & C.

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 1/25/11
Department/Division Head Approval **Date**

John DeLooper 1/25/11
Head, Best Practices and Outreach **Date**

Release/Effective date of this TCR: 1/26/11

Incorporate this TCR into next revision of this document? Yes X No

PPPL	PRINCETON PLASMA PHYSICS LABORATORY ES&H DIRECTIVES		
	ES&HD 5008 SECTION 8, Chapter 13 ES&H Review of Procurements		
Approved:	Date: 10/30/08	Revision 2	Page 1 of 10

CHAPTER 13 ES&H REVIEW OF PROCUREMENTS

13.1 INTRODUCTION

Almost all equipment, supplies, and construction activities can be hazardous to some degree. It is not uncommon for a product to have different degrees of hazard according to the circumstances of its use. A review and evaluation of all chemicals, items which could have an adverse affect on safety, health or the environment, and items pertinent to improving safety are necessary to:

- preclude the introduction of unnecessary hazards into the Laboratory environment.
- allow the Laboratory to meet the requirements of federal and state laws governing the use of toxic substances by employees.
- assure that equipment used is proper and safe for the job to be performed.
- prevent the generation of mixed waste in Radiological Controlled Areas.

13.2 POLICY

13.2.1 Chemicals

A. All chemicals coming into the Laboratory, regardless of the source, shall receive the evaluation required by this chapter. For the purposes of this chapter, a chemical includes:

1. All solids, liquids, and gases not excepted below;
2. All stock materials such as wood, metal and plastic that will be cut or formed into other shapes; and
3. Solder, welding rods, grinding wheels and any other materials that will be used up or worn down as part of their use.

Exceptions include:

1. Articles – items sold in their finished shape where their use is a function of that shape. (NOTE: This does not include liquids or powders; such items are considered chemicals);
2. Wood products that are not treated, and will not be cut;
3. Tobacco, food and beverages, drugs, cosmetics;
4. Hazardous waste (refer to Section 7 of ESHD 5008); and
5. Items having radiological or biological hazards (refer to Section 10 of ESHD 5008 for rules pertaining to radiological hazards, contact Industrial Hygiene for information on biological hazards).

For further information, refer to Section 8, Chapter 12, “Hazard Communication,” for the nature of chemicals.

- B. Procurement of chemicals may not proceed until an appropriate Material Safety Data Sheet (MSDS) has been reviewed by Industrial Hygiene (IH). The MSDS must contain either a listing of hazardous components (by chemical name) or a statement to the effect that there are no hazardous components present. An MSDS, which contains neither or lists components as “trade secret” only, and those MSDS’s for chemicals to be used in Radiological Controlled Areas (RCA) must be reviewed by the Environmental Services Division (ESD) to determine if the material can be disposed of properly. An inability to obtain either an MSDS or the appropriate information for an MSDS will result in the delay or cancellation of the requisition. Chemicals for which the manufacturer has determined that an MSDS is not required must be documented (refer to IH Directive 5008, Section 8, Chapter 12.) **ESHG5008, SECT 8, Chapt. 13, R2-003**

13.2.2 Non-Chemicals

Procurement of items which could have a direct impact on safety and health of personnel, or that are to be used to provide protection from safety and health hazards shall be reviewed by IH or other cognizant personnel to ensure that proper precautions will be taken when using the item to avoid adverse effect. Items for which there is a lack of supporting information describing compliance with appropriate standards, or which do not meet those standards will have the procurement process slowed or canceled. Materials listed in Appendix A are examples of those items for which this review is required.

13.2.3 Contract Services

All contractual services for construction, alteration, or maintenance shall also be reviewed for safety impacts. Any materials brought on site by contractors that meet the definition of a chemical, as above, shall be reviewed by IH prior to the introduction of those materials on-site.

13.2.4 Implementation

IH shall coordinate the implementation of this Chapter and serve as the central point of contact for these environment, safety and health reviews.

13.3 RESPONSIBILITIES & PROCEDURES (SEE APPENDICES B & C)

13.3.1 Requisitioners, PCard Holders and Cost Center Managers

Shall take the following actions for acquisitions covered by this Chapter:

- A. Complete the Requestor input portion of Form 8.13-1 for chemical materials or Form 8.13-2 for non-chemical materials and oil-filled equipment. [Note: Forms are available on-line for electronic filing.]
- B. Submit the appropriate form to IH with the purchase requisition (if applicable).

- C. Ensure that a Form 8.13-1 or Form 8.13-2 is completed and approved by IH before obtaining materials or equipment by any means [purchase requisition, University stores, by personal purchase, procurement card purchase (PCard), free samples, blanket ordering agreement (BOA), etc.].
- D. Ensure that an MSDS is available to IH with the Form 8.13-1 for the chemical being purchased.
- E. Provide additional information regarding the chemical and its use to Industrial Hygiene if available or upon request. This information could include: a written procedure, a completed Job Hazard Analysis (JHA), vendor supplied usage or operating instructions.

13.3.1.1 Reorder Approved

When the user has an approved Form 8.13-1 or 8.13-2 with the “Reorder Approved” block checked and initialed by IH, and when none of the information on the requisition review sheet has changed, then another Form 8.13-1 or 8.13-2 is not required. The purchaser should attach a copy of the previously approved form to the requisition or note the approval number in the comment field of a PCard log entry. If any of the conditions of use have changed, a new Form 8.13-1 or 8.13-2 is always required to be processed through IH. Note that a change in the number or size of containers does not void the reorder approval, but a change in use or location requires a new approval. Stockroom items previously approved by the IH for disbursement from the C-Site Stockroom do not require Form 8.13-1 or 8.13-2 to place reorders.

Regardless of the source of chemicals, the user shall have an MSDS available in the work area prior to use of a chemical (refer to Chapter 12) and an approved Chemical Requisition Review Sheet (Form 8.13-1) on file.

13.3.1.2 Pre-Approved List

A list of commonly used chemicals shall be published and maintained by IH. The chemicals on this list are considered to be “pre-approved” and may be purchased without further approval forms or requirements. The purchaser need only review the list to determine if the desired material is on it, and then indicate “pre-approved” on the requisition or PCard log (if appropriate). [Note: This list is available on-line for electronic access.]

13.3.1.3 Non-Chemical Requisitions

In addition to steps A. through C. in paragraph 13.3.1 above, copies of supporting data, such as catalog information which specifically describes the item and its conformance to various standards (OSHA, ANSI, EPA, etc.) or provides additional information (e.g., on safety

features, devices, or guards, or describes oil-filled equipment enclosures), shall be provided when required by IH or other cognizant personnel. Only the item, brand, and/or model specifically described is being reviewed; therefore, substitution for the item after approval will require reevaluation.

13.3.2 Responsible Line Managers (RLM) or Accountable Technical Individuals (ATI) are responsible for:

- A. Considering a peer review as per procedure ENG-033 for new processes involving hazardous chemicals (including situations where a previously used hazardous chemical will be used in a new way) to aid in identifying previously unrecognized hazards and identifying the appropriate controls.
- B. Utilizing the information gained from the peer review and other sources for input into a Job Hazard Analysis (JHA) as per procedure ESH-004.

13.3.3 Industrial Hygiene (IH) is responsible for the following:

- A. Reviewing requests for chemicals and supporting data, such as Material Safety Data Sheets (MSDS), to ensure that potentially hazardous items or services that could cause undue risk to the Laboratory, its employees, or equipment are not introduced without adequate safeguards.
- B. Suggesting the substitution of less hazardous compounds or processes, when possible.
- C. Obtaining an MSDS when none is available, or obtaining additional information when the MSDS is inadequate to judge the hazards for the chemical to be purchased, from the supplier.
- D. Performing a field inspection for planned uses of extremely or unusually hazardous chemicals prior to permitting use of the chemical.
- E. Forwarding the MSDS to ESD, when the chemical components are not specifically listed on the MSDS, for review and approval of the purchase with respect to potential disposal difficulties.
- F. Forwarding the Chemical Requisition Review Sheet and supporting information to the Environmental Engineer for review of ozone depleting or other environmentally hazardous materials. Ozone depleting materials must be approved by the Environmental Engineer as well as Industrial Hygiene.
- G. Materials that are to be used in Radiological Controlled Areas (RCA) must be approved in writing by ESD as well as IH. **ESHD5008, SECT 8, Chapt. 13, R2-003**
- H. Completing the bottom section of the Chemical Requisition Review Sheet (Form 8.13-1), indicating approval or disapproval, any precautions to be followed, and signing the form.

- I. Forwarding the completed form to the purchaser and to the Occupational Medicine Office (OMO) and posting the form on the Procurement server for inclusion into the online Requisition System.
- J. Notifying the Site Protection Division Head of the impending purchase of unusually hazardous materials such as flammable solids, pyrophoric or explosive materials.
- K. Notifying Health Physics of the purchase of Deuterium.
- L. Forwarding Non-Chemical Requisition Review Sheets (Form 8.13-2) to the cognizant individual for completion as appropriate.
- M. Maintaining, updating and periodically publishing the “Pre-Approved” List of chemicals to allow for simplified purchasing of commonly used, low hazard chemicals.
- N. Notify Procurement in writing of the review and approval of the use of chemicals on site for which a contractor has provided MSDSs as specified in paragraphs 13.2.3 and 13.3.8. **ESHD 5008-Sect. 8, Chapt. 13, R2-001**

13.3.4 The Environmental Engineer is responsible for:

- A. Determining status of potential ozone depleting substances in accordance with the Clean Air Act (CAA).
- B. Recommending substitute products or processes for which more environmentally friendly materials are available.
- C. Reviewing contracts for service or other activity which involve ozone depleting substances to determine compliance with the CAA.

13.3.5 Other cognizant personnel are responsible for:

- A. Reviewing requests accompanied by Non-Chemical Requisition Review Sheets (Form 8.13-2) which apply to their area of specialization.
- B. Suggesting less hazardous substitute materials, equipment, or processes as appropriate.
- C. Completing the bottom section of the Form 8.13-2, indicating approval or disapproval and any comments or precautions to be followed.
- D. Forwarding the completed form to the purchaser and to IH.

13.3.6 Procurement Division

- A Procurement Personnel shall take the following actions for acquisitions covered by this Chapter when an approved Form 8.13-1 or 8.13-2 has been received:
 - 1. For Chemical Requisitions: Obtain an MSDS from the vendor or manufacturer when required by IH.

2. For Non-Chemical Requisitions:
 - a. Obtain IH approval prior to substituting brand, model, style, etc., of an item that has already been reviewed and approved.
 - b. Obtain certificates of proof test and conformance with standards (OSHA, ANSI, NEC, etc.) when required.
 - c. Requisitions for wood to be used for structural purposes (as in platform floors, walls or framing) that have not been treated to be fire retardant shall only be processed when approved by the fire protection engineer.

B If no Requisition Review Sheet was received with a Purchase Requisition for a chemical or materiel requiring a non-chemical review sheet, the purchase requisition shall be declined and returned to the purchaser with a comment indicating the cause of the return.

13.3.7 Materiel Control Division

A. Warehouse

Warehouse personnel shall notify Health Physics (HP) upon their receipt of radioactive materials and ionizing radiation producing equipment. Warehouse personnel shall notify Industrial Hygiene (IH) upon receipt of non-ionizing radiation producing equipment. Other notification for receipt of hazardous materials will be specified by IH on the Form 8.13.1 or 8.13.2. Cognizant personnel shall authorize the release of the material or equipment after review. In cases where the purchase order indicates an MSDS is required, Materiel Control may not release a chemical from Receiving unless an MSDS has been supplied or approval is obtained from IH. If material is received without the proper authorization, warehouse personnel will alert IH to the problem and will not release the material until authorized by IH.

B. Stockroom

Stockroom personnel shall obtain Chemical and Non-Chemical Reviews for all new products being added to the Stockroom inventory which fall under the scope of this Chapter. All persons withdrawing materials from the Stockroom will be notified of the availability of an MSDS when applicable.

13.3.8 Maintenance and Operations Division

This division shall obtain IH review and comment on all major construction projects (such as those contracted out) as determined by the Manager of Maintenance and Operations. They shall require that all construction contractors and subcontractors be familiar with and abide by all PPPL safety policies, procedures, and rules. For any activities where contractors or subcontractors will

be bringing chemicals on site, copies of the MSDS's for these chemicals shall be provided to the IH at least 24 hours in advance.

13.3.9 Environmental Services Division (ESD)

ESD shall review any MSDS forwarded to them by IH due to lack of sufficient component listing or trade secret listing or for chemicals to be used in an RCA. Approval of the MSDS shall then be communicated to IH for further processing of the chemical approval. If analysis of the compound is required to determine components, purchaser shall be responsible for the costs incurred for analysis before the chemical is brought on site. **ESHD5008, SECT 8, Chapt. 13, R2-003**

13.4 REFERENCES

13.4.1 Department of Energy, 10 CFR 851, Worker Safety and Health Program

13.4.2 Occupational Safety and Health Administration - Title 29, Part 1910 and Part 1926 - Occupational Safety and Health General Industry and Construction Standards

13.4.3 Factory Mutual Engineering Corporation (FMEC) - Loss Prevention Data sheet 5-4/14-18 - Transformers

13.4.4 National Fire Protection Association (NFPA) - National Fire Codes

13.4.5 National Safety Council (NSC) - Data Sheet 1-598 - Flexible Insulating Protective Equipment for Electrical Workers

APPENDIX A

Categories of Non-Chemical Items which may have a direct impact on safety are listed below. This listing is not a comprehensive list and should not be used exclusively to determine the need for review. Questions as to the applicability of this Chapter for any item should be referred to IH for determination of status.

1. Fire Protection Equipment - (extinguishers, smoke/fire detectors, etc.)
2. Lifting Equipment and Devices - (hoists, slings, cranes, jacks, etc.)
3. Power Hand Tools - (drills, saws, power actuated tools, riveting tools, etc.)
4. Heavy Shop Equipment - (presses, saws, grinders, shears, etc.)
5. Ventilation Equipment - (exhaust systems, hoods, vents, booths, etc.)
6. Health Testing/Sampling Equipment - (explosive atmosphere detectors, oxygen deficiency detectors, etc.)
7. Personal Protective Equipment - (safety glasses, safety belts, gloves, etc.)
8. Respirators - (air purifying, self contained breathing apparatus, airline respirators, dust masks, etc.)
9. Ladders/Scaffolds - (portable or fixed)
10. Radioactive Materials or Radiation Producing Machines/Devices (Ionizing and Non-ionizing) (Microwave/RF equipment, Lasers, Calibration sources, etc.)
11. Pressure Vessels
12. Cryogenic Equipment
13. Personnel Safety Interlocks (Kirk - Key)
14. Electrical apparatus operating at voltages in excess of 600 volts which are not listed or rated by UL, IEEE, NEMA or ANSI as appropriate.
15. Personal protective equipment for electrical hazards (rubber gloves, mats, blankets, and hot sticks.)
16. Oil filled equipment or apparatus having a total free-fluid capacity and/or volume of three or more gallons.

**Princeton Plasma Physics Lab
CHEMICAL REQUISITION REVIEW SHEET**

C-

•INFORMATION SUPPLIED BY REQUISITIONER•

Requested by: _____ Ext.: _____ Dept.: _____ Date: _____

E-mail _____

Type of Purchase: _____ Requisition #/Comment: _____

Item Trade Name and Description:

Number of Containers: _____ Size of Containers: _____

How will this item be used?

Where will this item be used and/or stored?

Will this item be used in a Radiologically Controlled Area (RCA)? _____

Is the MSDS available? _____ List MSDS ID from Online System: _____

•INDUSTRIAL HYGIENE APPROVAL INFORMATION•

The Following Information Applies Only To The Use Specified Above

HAZARDS	PERSONAL PROTECTIVE EQUIPMENT	SPECIAL REQUIREMENTS
<input type="checkbox"/> Flammable	<input type="checkbox"/> Apron	<input type="checkbox"/> Air Monitoring
<input type="checkbox"/> Corrosive	<input type="checkbox"/> Face shield	<input type="checkbox"/> Training
<input type="checkbox"/> Reactive	<input type="checkbox"/> Coveralls	<input type="checkbox"/> Medical Surveillance
<input type="checkbox"/> High Toxicity	<input type="checkbox"/> Gloves	<input type="checkbox"/> Other
<input type="checkbox"/> Special Hazard	<input type="checkbox"/> Safety Glasses	
	<input type="checkbox"/> Chemical splash goggles	
	<input type="checkbox"/> Respirator	
	<input type="checkbox"/> Other	

Contact Industrial Hygiene, Ext. 2533 for Inspection Before Use

Comments:

APPROVED for use specified
 APPROVED ONLY with equipment/requirements indicated above
 REORDER APPROVED IF no changes in use or location
 NOT APPROVED (see Comments above)

Signature: _____

C-
Approval # _____ Date _____

