

Subject:	Photon Sciences Environmental Awareness for Lead Work (Course Code PS-ENV-LEAD)					
Number:	PS-TRN-CRM-0004	Revision:	B	Effective:	04/27/2012	Page 1 of 3

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*Approval signatures on file with master copy.

[Revision Log](#)

Instructions: Read the material below and then close this document. You will receive credit for training through the BNL training system.

Course Objective: Cutting or machining lead in the Photon Sciences machine shops needs to be carefully controlled to prevent exposures to personnel and to ensure that lead wastes are properly handled. This training is provided to ensure that machining of lead is conducted in compliance with environmental and safety requirements. The contents of this training have been extracted from the Photon Sciences PRM and BNL Subject Areas.

Description of Significant Environmental Aspect: Machine shop operations involving lead create hazardous wastes other than the lead itself, such as personal protective equipment (e.g. gloves), machine coverings, mop water, oil, and oily rags that become contaminated with lead during the process. These wastes must be properly handled to ensure compliance with federal regulations.

Training Requirements: Managers of shops involved in the machining of lead are required to read and acknowledge this training and to take RCRA Hazardous Waste Generator training. Shop users who machine lead are required to read and acknowledge this training. All personnel involved in lead handling must complete the BNL Lead in the Workplace course.

Operational Controls: ALL LEAD BRICK CUTTING MUST BE DONE IN THE MACHINE SHOP IN BUILDING 726 OR THE ROOM ACROSS THE HALL FROM THE USER MACHINE SHOP IN BUILDING 725, using band saws in those shops designated for lead cutting. Contact the Shop Manager before starting any lead cutting in one of the shops. Exceptions are allowed and shall be covered by a Work Permit.

- A coarse-toothed blade operating at low speed is best for minimizing airborne lead during cutting. Operations of less than 2 hours in length do not require respirators or other ventilation controls
- Personnel cutting lead must wear protective clothing and gloves (apron or cloth lab coat with sleeves rolled up to the elbows). Personnel should be certain to wash hands and arms after handling lead.
- The band saw must be cleared of debris before cutting any lead to isolate the lead scrap and shavings from other metals.
- Oil or oily rags contaminated with lead are RCRA hazardous waste and must be labeled with a red hazardous waste label.
- Waste from the shop vacuum used to pick-up lead chips and lead dust shall be managed as a hazardous waste when the vacuum is emptied. Only the dedicated lead HEPA filtered vacuum shall be used for clean up.
- The lead-contaminated protective clothing and surface-covering materials must be bagged and labeled in accordance with the SBMS Subject Area, Lead, after use, and either, disposed of as hazardous waste through BNL Waste Management Division, or stored properly for re-use.
- Lead scrap is recycled through BNL Central Shops. All lead scrap should be placed in the plastic container labeled "Lead Scrap for Recycling" located in the Building 725 and 726 machine shops. This collection is for lead only; be careful not to place any other materials in the lead container. Close the container when done.
- Heavy paper used to protect the floor from lead cuttings shall be disposed of with other lead waste. Floors under the saw are usually cleaned by wet-wiping and vacuuming with the HEPA vacuum. If the floors are cleaned by wet-mopping, the water and mop heads used must be disposed as RCRA Hazardous waste. Contact PS ESH Staff or Environmental Compliance Representative (ECR) for guidance on disposing of the waste.

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Brookhaven National Laboratory/ Photon Sciences Directorate

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Your Role and Responsibility: You are responsible for the safe machining of lead and the proper management of your waste. If you are ever in doubt regarding the proper course of action, contact your supervision or a member of the PS ESH Staff for advice.

Potential Regulatory and Environmental Impacts: Mismanagement of waste can result in violations of RCRA hazardous waste regulations. Discharge of lead-contaminated wastewater to drains can result in violations of BNL sanitary release limits. BNL is subject to fines and penalties for such violations, and is responsible for the clean-up costs associated with any required remediation. BNL has also suffered poor public perception due to poor waste management practices and contamination events in the past. Proper management of waste and spills will help us maintain a positive relationship with regulators and the public.

Pollution Prevention and Waste Minimization: Make sure that all scrap lead you produce is collected and deposit it in the proper container for recycling. Make every effort to prevent the generation waste oils and oily rags that are contaminated with lead.

