

Subject:	Photon Sciences Environmental Awareness for Vacuum System Maintenance (Course Code PS-ENV-VAC)					
Number:	PS-TRN-CRM-0008	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: Significant Environmental Aspects are associated with vacuum system maintenance. This course has been designed to provide you with the job-specific information that you need know to protect the environment and to meet Laboratory and Government regulations for handling the waste streams produced by this operation. The contents of this training have been extracted from the PS PRM and BNL Subject Area.

Description of Significant Environmental Aspect: Changing the oil in vacuum pumps and cleaning vacuum pumps and other oily parts result in the generation of wastes that need to be controlled. A parts cleaning system using: "Bio Circle Cleaner" is used to clean oil contaminated pumps and parts. "LPS Precision Clean," AC 500 and other solvents may be used as an alternative if needed. Waste pump oil, oily debris and used LPS cleaning solutions produced by the maintenance of the vacuum pumps are not RCRA¹ hazardous wastes. However, these "industrial" wastes contain oil and other chemical compounds that are banned from being disposed of in the regular trash by Federal and State regulations. Waste solvents, and waste AC 500, if generated, are RCRA hazardous wastes.

Training Requirements: The Vacuum Group Supervisor and the vacuum technicians are required to take RCRA Hazardous Waste Generator training. The Vacuum Group Engineer is required to read and sign this form.

Operational Controls: Waste oil and waste "LPS Precision Clean" shall be labeled with a green, non-hazardous waste label and shall be kept closed, except for adding and removing waste. Oily rags shall be discarded into a fireproof container. When the waste containers become full, they shall be transferred as described below:

- Waste oil containers shall be emptied into the designated waste oil drum (between NSLS west roll-up doors).
- Waste "LPS Precision Clean" containers shall be emptied into the designated waste cleaner drum (located in the NSLS Vacuum Shop area). Do not mix oil and "LPS Precision Clean."
- Oily debris shall be bagged and identified with a green label and brought to the 90-day Storage Area.
- Waste solvents and waste AC 500 should be accumulated in a satellite accumulation area until ready to be moved to the 90-Day Area in B725 for disposal. The containers must be labeled with a red, hazardous waste label, a description of the contents and kept closed.
- A non-radioactive waste control form shall be filled out describing the above wastes before the wastes are sent to the 90-Day Area.

Use of cleaners other than those listed above must be assessed by the department's ES&H staff to determine if use of the cleaners would create a waste management concern.

Response to Leaks/Spills: If oil or other chemical product is spilled, take prompt action to prevent it from discharging to floor drains or sinks. Any discharge to a drain or to the outdoors must be reported to the Lab emergency response number (x2222) and, for those in Building 725, to the NSLS Control Room Operator (x2550) or member of the PS ES&H staff. Any indoor spill of oil greater than five gallons shall also be reported as described above. You can clean up other spills on your own, if you are familiar with the hazards present and are comfortable doing so.

¹ Federal regulations for hazardous waste are contained in the Resource Conservation and Recovery Act (RCRA).

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Your Role and Responsibility: You are responsible for the proper management of your waste and to take prompt action in the event of spills. If you are ever in doubt regarding the proper course of action, contact your supervision or a member of the PS ESH Staff.

Potential Regulatory and Environmental Impacts: Mismanagement of waste can result in violations of RCRA hazardous waste regulations. Discharge of oils and other chemicals to drains can result in violations of BNL sanitary release limits. Both can ultimately result in contaminated soil or groundwater. 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: Cooperate with PS's recycling efforts by depositing all empty aerosol cans into the designated empty aerosol-can recycling container (located by NSLS Stockroom in B725). Please offer any suggestions and comments to your supervision about pollution prevention and waste minimization in order to help the NSLS reduce disposal costs and achieve waste minimization goals.

