



## Pollution Prevention Project Proposal

### Title: Replacement of Mercury Switches in C-A Power Supplies

#### Benefits at a glance:

- ✓ Reduces onsite use of a toxic metal (mercury).
- ✓ Reduces the potential of mercury spills in the work environment and thereby improves worker safety.
- ✓ Reduces Ozone Depleting substances in keeping with meeting Federal and State Air Program Requirements to reduce the use and eventual phase out of ODS.



Figure 1 Picture of Mercoïd Control Unit as removed from Power Supply



Figure 2 Picture of Mercoïd Control with cover off showing Mercury element.

#### Description:

This proposal is to replace the mercury switches in 300 C-A power supplies with non-mercury mechanisms. It is estimated that total replacement costs will be \$116,100.00. The cost breakdown is as follows: \$20,100.00 for parts, \$66,000.00 for labor and \$30,000.00 for disposal. In an effort to accomplish this project, C-AD proposes cost-sharing and a multi-year replacement schedule. The C-A Department would pay for the labor of removal and request funding for replacement parts and disposal. The replacement would occur over a three year time period resulting in a request for P-2 funds in the amount of \$16,700.00 per year for the next three years. This effort supports BNL's Performance Track goals for Hg reduction, removes mercury spill risk, and improves safety of power supplies.

**Project Title: Replacement of Mercury Switches in C-A Power Supplies**

**Project Features:**

**Host Site** Brookhaven National Laboratory  
**Host PSO** Office of Science  
**Dept/Div** Collider Accelerator Dept.  
**Point of Contact** Melvin Van Essendelft, Bldg. 911A, X2905, mvaness@bnl.gov  
**Benefits** Reduces the volume of hazardous waste, removes mercury spill risk and supports BNL's Performance Track Hg reduction goal.

Project Type	Source Reduction
Primary Wastes Avoided	Mercury and Freon Hazardous waste
Projected Waste Reduction	900 grams of Mercury and xx cc's of Freon
Projected Useful Life	One time reduction
Requested Capital Funds	0
Requested Expense Funds	One switch per unit at the cost of \$67.00; disposal costs of \$100.00 for each switch(20 lbs. x \$5.00/lb.); and labor for removal of old and installation of new at \$220.00 (4hours @\$55.00). The total replacement cost is \$387.00 x 300 = \$116,100.00. Requested P-2 funds (less labor) per year for three years: \$16,700.00.
TOTAL PROJECT COST	\$116,100.00
	Current Waste Disposal Cost: 6,000 lbs X \$5.00/lb = \$30,000.00
PAYBACK PERIOD	N/A
Non-financial Benefits	Supports BNL's Performance Track Hg reduction goal, removes mercury spill risk, and improved safety of power supplies.
Regulatory Drivers	RCRA Pollution Prevention Requirements, DOE Executive Order 13148, Section 503, EPA Performance Track Program goal.
Critical Outcomes	Pollution Prevention and Waste Minimization
Implementation Schedule	120 days after funding is approved

**Potential for Broader Application:**

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