SOURCE REDUCTION WASTE MINIMIZATION CASE STUDIES AT LCRA.

2. FPP P2 Project # 02.0001.94

Pollution Prevention Project Name: CRC Bulk Replacement - Source Reduction

Project Identification:

This project involves the reduction of CRC aerosol products at FPP through bulk purchasing. The project will eliminate the generation of hazardous waste by eliminating CRC aerosol cans from the facility. A total of 1,228 cans of CRC products were used last year at FPP. Stores reports that two products are used (CRC 2000 and CRC 3-36) and 608 cans are currently available for use and 508 cans have already been used this year. Last year the CRC products cost FPP $4,944.30 to purchase and $6,483 to manage and dispose. To date FPP has spent approximately $4,679.84 in CRC aerosol product purchases, waste management and disposals.

Project Classification: Source Reduction

Project Prioritization: High

Explanation:

FPP generates an average of 6 pounds of flammable solvent related waste per day. The reported annual volume of flammable solvent waste generated in 1993 was 1.09 tons. The CRC aerosol cans were estimated to make up approximately 307 lbs or 14% of the flammable solvent waste reported.

The initial goals of the project are to use all remaining CRC aerosols in stock, purchase no additional CRC aerosols, and remove all empty, broken or discarded CRC aerosols from the work areas by setting up an exchange program.

The waste coordinator has requisitioned a depressurizing device to render the existing CRC aerosol containers non-hazardous. The contents of the aerosols will be collected and disposed as a hazardous waste and the containers will be recycled as scrap metal.

The second phase involves the substitution of CRC aerosols with bulk containers and the purchase of approved spray dispensers for employees. Following the purchase of materials, employees who use the products should be trained how to use the spray containers. Departments can then purchase as much as 5 gallons from FPP Stores. The containers will be reused, consequently no waste will be generated once phase two is in place.

Technical Considerations:

Training will be required for all employees which use aerosols in their activities. For most employees, the training in phase one will require more of an explanation. FPP Stores personnel will require some training regarding the exchange procedures and storage of empty/damaged aerosols. The second phase will require employees to be instructed how to operate the reusable spray dispenser and how to obtain a refill.

Economic Considerations:

The cost savings of this project relate to the savings in raw materials, waste management and disposal costs. Basing calculations on an average of 1,228 spray cans used per year generating approximately 307 lbs of hazardous waste at a total cost of $10,003.66 per year. When fully implemented, the project will reduce the current hazardous waste generation by an estimated 307 lbs or 100%. The project will require the purchase of 100 spray dispensers and 170 gallons of CRC products for a total cost of $2,175. The annual net savings on bulk purchase is estimated at $3,672 per year and a disposal and waste management cost savings of $4,823.36 per year with a pay back of less than two months. These figures are conservative and do not include savings associated with the reduction of future labilities and insurance premiums.

Estimation of Reductions:

The first phase of the project will purge the facility of empty or broken aerosol paint cans which are widespread throughout the facility. The house cleaning activity may initially increase the volume of flammable solvent waste generated. Overall reductions of hazardous waste generated from aerosol cleaners and solvents is expected to be 100 percent. Because CRC aerosols contributes only to 14 percent of the total volume of flammable solvent waste, the 1993 reported quantity of hazardous waste at FPP will be reduced by approximately 1.9 percent or 0.15 tons.

Incremental Costs and revenues:	**$ Per Year**
Operating Costs/Revenue Item	
Operating Costs:	
Decrease (or Increase) in Disposal:	1,289.40
Decrease (or Increase) in Raw materials:	3,672.30
Decrease (or Increase) in Utility:	N/A
Decrease (or Increase) in Quality:	
Decrease (or Increase) in Labor:	905.00
Decrease (or Increase) in Supplies:	2235.00
Decrease (or Increase) in Insurance:	
Decrease (or Increase) in Overhead:	389.10
Total Decrease (Increase) in Operating Costs:	$8,490.80
Incremental Revenue:	
Revenue from Increased (Decreased) productivity:	
Revenue from Marketable By-products: (scrap metal)	33.25
Total Incremental Revenue:	**$8,523.25**