

SOURCE REDUCTION / WASTE MINIMIZATION CASE STUDIES AT LCRA.

3. SGP P2 Project # 03-0009.94

Pollution Prevention Project Name: Disposable Rag Reduction - Source Reduction

Project Identification:

This project involves the reduction of disposable "Chemtec" shop rags at SGP through employee awareness and training and the use of reusable red rags. The implementation of the project will help reduce the generation of Class I non-hazardous industrial waste from the facility. Stores reports that two products are primarily used (absorbent pads and "Chemtec" disposable shop rags).

In 1993, a combined total of 20,900 pads and rags were used at SGP, generating approximately 1,000 pounds of waste. Last year 3,400 absorbent pads and 17,500 disposable rags cost SGP \$3,323.00 to purchase and \$5,747.50 to manage and dispose.

Project Classification: Source Reduction

Project Prioritization: High

Explanation:

SGP employees use an average of 58 "Chemtec" disposable rags per day, generating approximately 0.5 tons of Class I non-hazardous industrial solid waste per year. The reported annual volume of petroleum contaminated solid waste generated in 1993 was 1.08 tons. The absorbent rags and disposable pads were estimated to make up approximately 1,000 lbs or 46% of the petroleum contaminated solid waste reported.

The initial goals of the project are to inform employees of the cost associated with the use of the pads and rags and also train employees how to get more use out of the pads. The program would encourage employees to use at least 75% of an absorbent pad before discarding. Employees would be encouraged to use reusable red rags for cleaning all materials. Reusable rags could be used with solvents; however, they will be classified as a hazardous waste.

Technical Considerations:

Space is available to set up collection bins for used red rags in high use and department areas. Storage of clean rags can be in tool lockers located in the same area. No new construction is required for this project.

This project primarily involves employee education, training initiatives and procedural changes. It will not require the installation of utilities.

There are no regulatory barriers to the implementation of this project. The vendor is permitted as an industrial cleaning service who discharges effluent to a POTW. Rags contaminated with listed waste (solvent) may not be laundered.

Economic Considerations:

The cost savings of this project relate to waste management and disposal costs. Basing calculations on 1993 data, an average of 3,400 absorbent pads and 17,500 disposable rags were used, generating approximately 1,000 pounds of Class I non-hazardous industrial solid waste at a total cost of \$9,070.00 per year.

The average rental price for the red rags is \$0.14 per rag. SGP estimates it will need to circulate approximately 700 rags every two weeks, costing \$2,548 per year. Current cost for purchase of disposable rags is only \$714 per year; however, the cost to manage and dispose disposable rags is \$3,150 per year. As the use of red rags will eliminate a wastestream, no waste management or disposal costs will be incurred, saving approximately \$1,722.50 per year.

When fully implemented, the education and training project could reduce the current Class I non-hazardous waste generation of petroleum contaminated solids by more than 500 lbs or 23%.

Estimation of Reductions:

The estimation of reductions is conservative figure based on elimination of disposable rags and a 50 percent reduction in absorbent pad use. The estimate assumes that all end users at SGP will make a best effort to utilize a minimum of 75% more surface area on a pad and use a reusable rag as much as possible.

Overall reductions of Class I non-hazardous industrial waste generated from rags and pads is estimated to be 50 percent. Because rags and pads only contribute to 46 percent of the total volume of petroleum contaminated solid waste, the 1993 reported quantity of Class I non-hazardous waste at SGP will only be reduced by approximately 0.02 percent or 0.25 tons. If the reported Class I waste generated from the demineralizer is excluded from the calculation, the overall waste reduction would be 3.5%

Incremental Costs and revenues:**\$ Per Year**

Operating Costs/Revenue Item

Operating Costs:

Decrease (or Increase) in Disposal: 3,150.00

Decrease (or Increase) in Raw materials: (1,834.00)

Decrease (or Increase) in Utility: N/A

Decrease (or Increase) in Quality:

Decrease (or Increase) in Labor: 330.00

Decrease (or Increase) in Supplies:

Decrease (or Increase) in Insurance:

Decrease (or Increase) in Overhead: 76.50

Total Decrease (Increase) in Operating Costs: \$1,722.50

Incremental Revenue:

Revenue from Increased (Decreased) productivity:

Revenue from Marketable By-products:

Total Incremental Revenue:**\$1,722.50**