18

POLLUTION PREVENTION

IN RHODE ISLAND

Case studies of the Rhode Island On-Site Technical Assistance Program

Coatings Manufacturing
Xylene

Recycling/reuse reduces hazardous waste and makes business sense.

Industry \ Contact
SIC Code: 3079, 3081 Coatings Manufacturer, Rhode Island.
Contact: DED #3

Technology Description
The company is principally engaged in the manufacture of polytetraflouroethane coatings and tapes as well as pressure sensitive coatings. The company employs an average of 50 people at this facility.

In 1988, the company purchased 3,905 gallons of xylene and manifested 880 gallons of spent xylene for off-site treatment/reclamation. Xylene is used as a solvent in the polytetraflouroethane manufacturing process. After receiving a voluntary pollution prevention assessment provided by the Rhode Island Department of Economic Development's Technical Assistance Program, the company began to investigate decreasing the use of xylene in their catalyst and adhesive mixing operation. The study found that 25% of xylene use was for cleaning purposes. As a result of the assessment, management at the facility began to use spent xylene in place of virgin xylene for cleaning purposes. Although production at the facility had increased by 20%, this process change had achieved a 15% purchase reduction and a 12% reduction in manifested shipments of xylene annually.

Feedstock Materials
3,905 gallons of xylene

Wastes
880 gallons of waste xylene sent off-site for reclamation annually

Costs
None

For more information, contact: RI Department of Environmental Management, Office of Technical and Customer Assistance, 235 Promenade Street, Providence, RI 02908 Phone: (401) 222-6822

Operation \ Maintenance
None

Savings
Annual xylene purchase savings of 550 gallons: $1,562
Annual savings realized in off-site transportation and treatment costs: $750

Payback Period
Immediate

Impact
The company conducted an operational assessment and found that 25% of the facility's virgin xylene was being used for cleaning purposes. Management replaced the use of virgin xylene with spent xylene in cleaning procedures and found a 15% purchase reduction of xylene, and a 12% reduction in disposal costs, despite a 20% increase in production at the facility. The company has found that conducting a simple assessment of plant operations can lead to changes that save money and reduce the generation of hazardous waste.

It is significant to note that management at the facility continues to research the use of other low solvent content adhesives and non-solvent based cleaners. Management stated that even though it may initially cost them more to purchase and/or formulate low solvent content adhesives, they felt they would be better off in the long-term, as less hazardous materials and wastes would be used and produced, and future liabilities would also be reduced.