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POLLUTION PREVENTION
IN RHODE ISLAND

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

Electronics Mfg.
Vibratory Solution

Parts manufacturer uses ultrafiltration to recycle vibratory solution.

Industry \ Contact
SIC Code: 3451 Electronics Hardware Manufacturer, Rhode Island.
Contact: Company #55 - Vemaline, Inc.

Technology Description
The company manufacturers metal and molded plastic parts, using a variety of finishing processes. It employs about 35 people.

The company had been discharging 800 gallons-per-day (GPD) of spent vibratory solution into the sewer. After consulting with DEM's Pollution Prevention Program, the company installed a 100 GPD Infinitex ultrafiltration system (UF) to allow reuse of the vibratory solution. This effort has successfully eliminated sewer discharge of the vibratory solution.

Feedstock Materials
Up to 1000 gallons of water per day and about 300 gallons of Roto Finish soap annually.

Wastes
Up to 1000 gallons per day of wastewater discharged to the sewer system

Costs
The 100 GPD Ultrafiltration system, manufactured by Infinitex, cost $44,000 (including tanks and filter press)

Operation \ Maintenance
The system requires about 10 hours a week in maintenance and one hour a week of cleaning. Membranes need to be replaced once every 2-3 years at a cost of about $6,000.

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
**Savings**
1000 gallons of water conserved daily; about 2/3 of the soap is recycled, resulting in soap savings of around $2,000.
The company had not been paying to discharge wastewater. However, impending regulatory action would have resulted in significant fines. Other disposal costs to remove dried solids have arisen, but disposal of this non-hazardous waste is minimal.

**Payback Period**
Undetermined. Avoided costs may have been significant.

**Impact**
The company has been off the city sewer system since May of 1994. It can now avoid dumping any water down the drain.

Initiating a pollution prevention program led to improvements in the way the company handles chemicals, including more efficient labeling and storage of clean and used oils and cleaners.

Switching to a cleaner manufacturing process has made the company eligible for economic development incentives offered by local municipalities.