

# POLLUTION PREVENTION

## IN RHODE ISLAND

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

### Electronics Mfg. Cutting Oil

**Parts manufacturer uses chip wringer (centrifuge) to recover cutting oil.**

#### **Industry \ Contact**

SIC Code: 34S 1 Electronics Hardware Manufacturer, Rhode Island.

Contact: Company #55 - Vemaline, Inc.

#### **Technology Description**

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

The company had been purchasing two to three drums of various types of cutting oil per week. Installation of a Barrett chip wringer, which uses a centrifuge to remove excess oil from parts, allows the company to collect the excess oil. When enough spent oil accumulates, the contractor (Lubryx of Massachusetts) comes on site to clean the oil, allowing it to be reused.

The chip wringer required the company to use only one type of oil. The company found it could also replace certain cutting oils with a single, less expensive water-soluble cutting oil, which is also recovered and reused with the chip wringer.

#### **Feedstock Materials**

About 10 drums of oil per year

#### **Wastes**

About 40 drums of contaminated oil and metal chips were shipped off-site annually

#### **Costs**

The Barrett chip wringer cost \$20,000.

**Operation \ Maintenance**

This system requires about 4 hours/week maintenance, and minimal electricity is used.

**Savings**

The company had been purchasing one drum of oil almost every month at a cost of \$580 per drum. Now, one to two drums of both oil and water-soluble concentrate are bought annually, resulting in a net savings of around \$6,000.

The company had been paying \$2,000 annually to dispose 40 drums of waste oil and chips: disposal costs are now \$200-\$300/year.

**Payback Period**

Based on this information, the chip wringer will pay for itself in 4-5 years.

**Impact**

The company has reduced oil purchase and disposal by 90%.

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.