

POLLUTION PREVENTION

IN RHODE ISLAND

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

Metal Parts Manufacturing Oil

Metal parts manufacturer saves money by recycling oil

Industry \ Contact

SIC Codes: 3722, 3599 Metal Working, Rhode Island.

Contact: DED #2

Technology Description

The company is primarily engaged in the manufacture of machined metal parts. The company employs 50 people at this location.

The facility uses a wide variety of cutting and lubricating oils in the production of steel, brass, and aluminum parts. A large barrel-type centrifuge is used to recover oil residue from scrap metals produced during the manufacturing processes. In 1989, the facility purchased 2,695 gallons of various cutting and lubricating oils and manifested 1,600 gallons of waste oil for disposal. After receiving a voluntary hazardous waste assessment by the Rhode Island Department of Economic Development's Technical Assistance Program, management at the facility purchased a Barrett Clarifuge. This unit, when used in conjunction with the existing centrifuge, allows the facility to reclaim a higher grade of oil for on-site reuse. In 1990, the facility reduced its purchase and disposal of cutting and lubricating oil by approximately 50%. Production levels remained constant since the project was initiated and up and running in 1991.

Feedstock Materials

2,695 gallons of cutting and lubrication oils

Wastes

1600 gallons of waste oil manifested annually for off-site treatment.

800 gallons of waste oil manifested annually for off-site treatment after installation of clarifuge.

Costs

Purchase and installation of Barrett Clarifuge: \$11,000

Operation \ Maintenance

Minimal energy costs

Savings

Annual total purchase savings of \$2,750

Disposal

Periodic disposal concentrated waste oil

Payback Period

Less than 4 years

Impact

The company has found that, by installing a Barrett Clarifuge, (to work in conjunction with the existing centrifuge) a higher grade of oil can be recovered for on-site reuse. With the installation of the new clarifuge, the company has reduced its purchase of cutting and lubricating oils by 50%. The company has also realized a 50% reduction in waste oil disposal.