Coolant Recycling at the Ford Automatic Transmission New Product Center.

DESCRIPTION OF THE FACILITY

The Automatic Transmission New Product Center (ATNPC) is a 550,000 square foot facility in Livonia, Michigan. The facility employs 980 individuals. The ATNPC has been operating since 1990 and manufactures, assembles, and tests prototype automatic transmissions and transmission components. The ATNPC contains a Machine Shop, Converter Lab, Gear Lab, and Flexible Machining Shop (FMS) where various machining operations are conducted. The building contains a Garage and Buildup Area where transmissions are torn down, built up or repaired. Transmissions and their components are tested within the facility in the Drivetrain Analysis, Hydraulic and Mechanical Systems, and the Dynamometer Laboratories.

DESCRIPTION OF THE OPPORTUNITY BEING ADDRESSED

Coolants are used within machining operations to flush oil and chips away from the tooling and part being machined. During machining, coolants become contaminated with dirt, oils and metal chips. Under certain circumstances, contamination is also possible. This contamination results in the need for frequent coolant changes in the machining operation. Coolant must be disposed of through appropriate permitted waste treatment facilities. At ATNPC, each coolant sump was being pumped down, cleaned, and recharged every month and a half.

DESCRIPTION OF THE IMPROVEMENT

The ATNPC is utilizing a portable coolant reconditioning unit on six machines in the FMS department. These machines have an aggregate coolant capacity of 1850 gallons. Using the Coolant Wizard®, a hose draws the coolant out of the equipment and into the reconditioning unit. The coolant passes through a reusable screen filter to remove debris and is then exposed to dissolved ozone, which kills bacteria. The unit utilizes a coalescer to skim tramp oil from the coolant, and the coolant is returned to the machining operation after final filtration. A pressure gauge on each of the two filters indicates when the filters need to be replaced.

SUBSTANCE ADDRESSED	**REDUCTION OBTAINED**
Waste Coolant:	900 gallons / year
Waste Water:	10,200 gallons / year

ENVIRONMENTAL HIERARCHY LEVELS:

Source reduction and waste stream elimination.