

## **Pinellas County Highway Department Sign & Pavement Marking Operations Division**

### **Background**

Pollution prevention can provide the opportunity for local government to reduce the amount of waste it generates and serve as a role model for the community. The Highway Department is one of several departments in Pinellas County government that has taken the initiative to develop a pollution prevention program (P2).

The Department's Sign & Pavement Marking Operations Division is responsible for manufacturing highway signs and line striping. Staff is involved in cleaning operations, screen printing and painting. The Department's goals were to eliminate the use of hazardous materials, reduce the total waste stream and reduce employee exposure to risk. This was accomplished chiefly by chemical substitution, process changes, best management practices and recycling.

The Department's P2 program was responsible for reducing emissions of hazardous and toxic air pollutants by 5.12 tons per year. Total cost savings of approximately \$160,000 per year were realized by reducing expenditures for production inputs and waste disposal costs.

### **Waste Reduction Efforts**

#### Chemical Substitution

Included the replacement of mineral spirits used in parts washer with non-hazardous cleaner (PWElectron), paint containing lead chromate with thermoplastic type paint and hazardous solvents used in sign preparation with oxidants or terpene.

#### Process Changes

Reduced use of screen inks through purchase of pre-fabricated sign faces

In 1995, replaced our old equipment with digital imaging software program to drive cutter / plotters for sign making. Precision and accuracy delivered by these systems were desirable.

This move did not eliminate the use of chemicals however it did reduce it by 25 %.

Initial cost of this equipment is high but productivity increased, therefore recovering the investment.

Estimated cost savings of approximately 15 %.

#### Best Management Practices

Minimized on-site inventory, centralized chemical storage area with a closed-drain retention area to control

spills, implemented the identification and labeling of all drums and improved record keeping to track and monitor chemical usage.

### Recycling

Reduced consumption of toluene used in clean-up and paint mixing by over 16,000 gallons per year by on-site recycling. Saved \$475 per drum in hazardous disposal costs for a total cost savings of \$141,000 per year. Reduced consumption of mineral spirits used in silkscreening by 155 gallons per year by on-site recycling.

### **Future P2 Activities**

- Identify less-toxic substitute for inks currently used in sign shop
- Subsequent to new DOT standard, identify substitute for oil-based stripe paint
- Eliminate use of mineral spirits by using semiaqueous-based material
- Recycle damaged and surplus signs

### **Conclusion**

The Highway Department's efforts are a good example of Pinellas County's commitment to develop and implement programs that are both economically and environmentally sound. By developing a sound strategy and implementing effective pollution prevention measures, the Highway Department has achieved its goals in a cost-efficient manner.

Unlike many other environmental programs that require capital expenditures to control pollution after it has been created, P2 actually pays for itself by reducing production inputs and reducing disposal costs.