

Waste Reduction Verta Inc.

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UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

Company Background

- Established in 1985
- Provider of sustainable architectural finishes
- Employees : 19
- Located in Delano, Minnesota
- Committed to being a leader in sustainability
 - Eliminated chromium from washing process
 - Implemented rainwater harvester for process use
 - Changed to a bio-based solvent



Louvers, Washington County
Government Center, Stillwater, MN

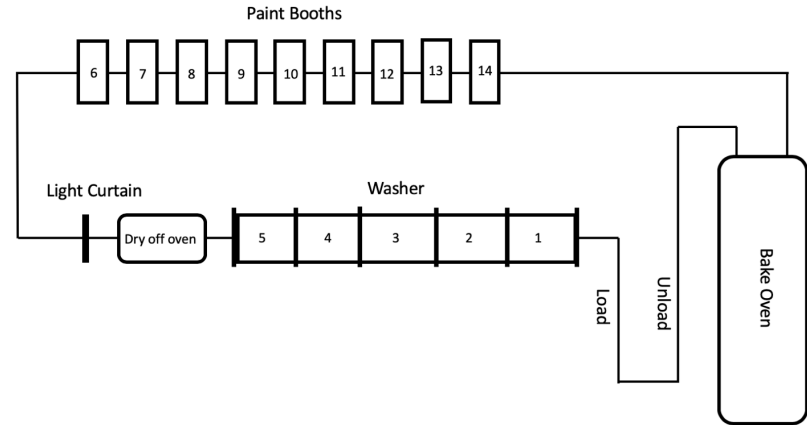
Project Overview

- **Goals**

- Improve paint transfer efficiency
- Reuse cleaning solvents
- Conserve water
- Minimize hazardous waste

- **Current Situation**

- 5,700 gal paint/year
- 3,500 gal solvent/year
- 19,000 gal water/year for RO rinse tanks



Process Diagram of Paint Line

Approach

- **Improve Paint Transfer Efficiency**
 - by refining automatic sprayer range of motion
- **Reuse Cleaning Solvent**
 - by reclaiming spent solvent
- **Conserve Water**
 - by extending life of rinse tank water



Primary Recommendation: Solvent Recycler

- **Motivation:**
 - Solvent is costly to purchase and to dispose of
 - Reduce status as a large quantity generator to a small quantity generator
- **Vacuum Assisted Solvent Recycler**
 - \$36,000 implementation cost
 - \$30,000 saved annually
 - payback period of 1.2 years
 - 830 gallons of solvent saved



Solvent Recycler

Solutions

Recommendation	Change Type	Waste reduced (per year)	Implementation cost	Cost savings (per year)	Payback period	Status
Solvent Recycler	Equipment Change	830 gal solvent	\$36,000	\$30,000	1.2 years	Planned
Reorient Light Curtain	Equipment Change	200 gal paint 0.4 tons of VOC	TBD	\$18,000	TBD	Recommended
Increase Light Curtain Resolution	Equipment Change	770 gal paint 1.5 tons of VOC	\$11,000	\$47,000	3 months	Recommended
Reduce Water use	Procedure Change	5,300 gal water	\$0	\$100	Immediate	Recommended
Total	-	-	-	\$95,100	-	-

Personal Benefits

- **Multi-tasking**
- **Persistence**

