

# Pollution Prevention Ceramic Industrial Coatings

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**Driven to Discover**<sup>SM</sup>

# Company Overview

- Founded 1961
- Metal, construction, and wood coatings
- Contract manufacturing
- 44 employees



# Motivations for Change

- Continually improve environmental stewardship
- Maximize productivity
- Increase competitiveness



# Reasons for MnTAP Assistance

- Gain outside perspective
- Use MnTAP expertise
- Appreciate passion for environment



# Approach Taken

- “Backwards” investigation
- Observation
- Cost analyses
- Experimentation

# Processes Investigated

- Tank washing
- Distillation
- Production Overages
- Waste Removal
- Compressed Air

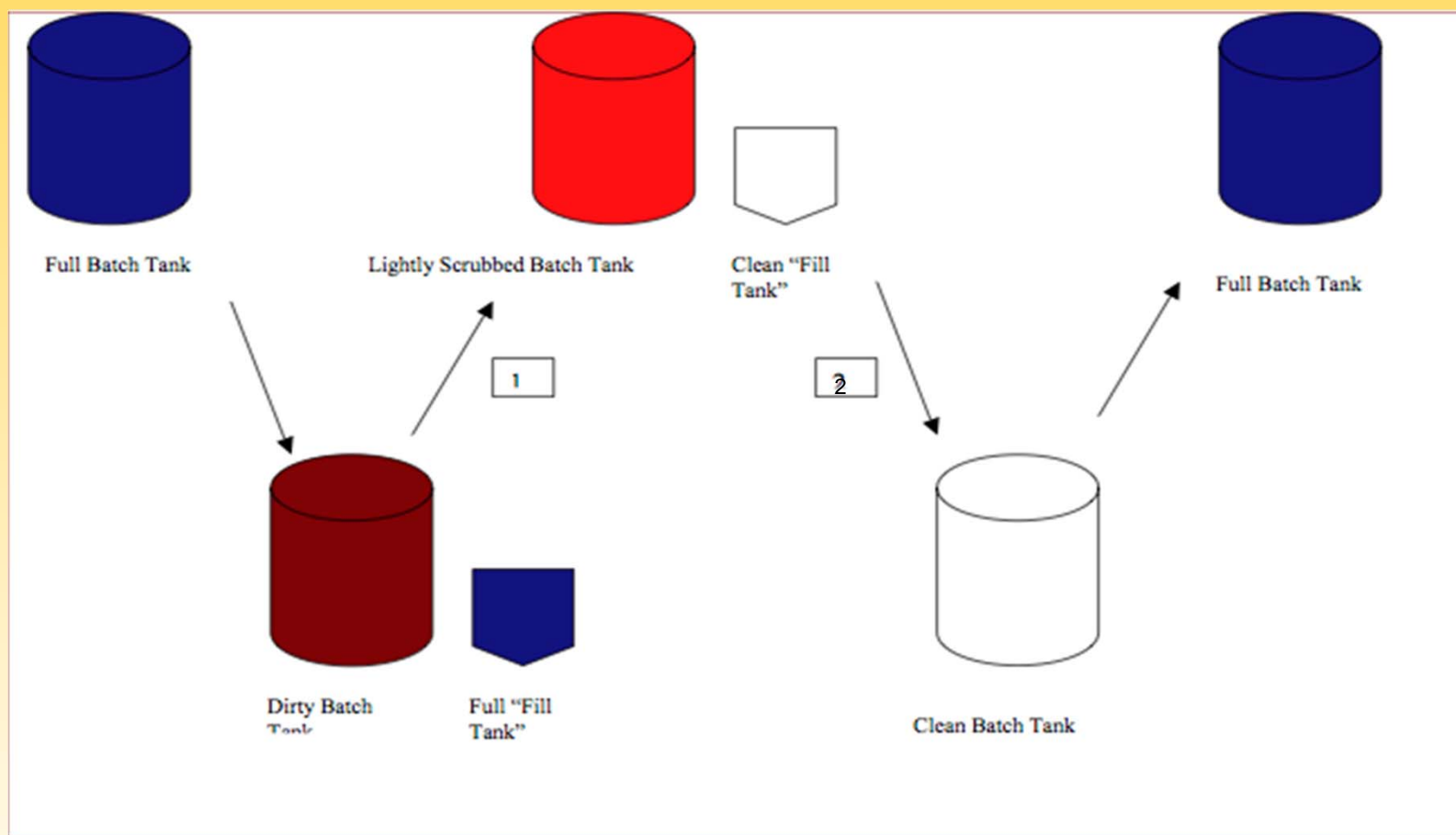


# Tank Washing

- Current System
  - Two-step washing procedure
  - 13 dedicated tanks
  - Average of 34 gallons of solvent a day



# Tank Washing (cont.)





# Tank Washing (cont.)

- Proposed System
  - 36 designated tanks, with room for expansion
  - Reduce solvent use by 4-5 gallons a day



# Distillation

- \$0.90 per gallon of still solvent
  - Cost a result of labor, electricity, HAZ waste
- HAZ waste greatest cost



# Conserving Excess Product

- Establish product overage drums
- Replace old storage system



# Retain Program

- One half-pint retain for every batch
- Reuse most frequently made products
- Each retain costs CIC close to \$3



# Retain Program (cont.)

- 2,000–2,500 reusable retains a year
- \$7,000+ a year
- 1,700 lb. of Hazardous waste



# Cardboard Recycling and Solid Waste Removal

- Responsible for 26,000 lb. of cardboard a year
- Cancel recycling service
- Use cardboard baler
- Sell cardboard directly to recycler



# Cardboard Recycling and Solid Waste Removal (cont.)

- Replace financially inefficient system
- Reduce pick-up frequency
- Increase bin size



# Compressed Air

- 50 HP compressor
- Improvement Opportunity
  - Leaks throughout facility
- Solution
  - Repair leaks, begin maintenance program, participate in audit



# Compressed Air (cont.)



# Changes Implemented and Recommendations

Recommendation	Environmental Savings (per year)	Cost	Savings (per year)	Payback
Tank Dedication	2,100 lb. HAZ waste	\$20	\$1,700	Immediate
Overage Drum	950 lb. solid waste	\$60	\$1,900	Immediate
Retain Program	1,700 lb. HAZ waste	\$22	\$4,300	Immediate
Baler/Solid Waste	130 lb. CO <sub>2</sub>	\$500	\$3,200	2 months
Air Maintenance	10,900 kWh	\$600	\$1,200	6 months
<b>Total</b>	<b>3,800 lb. HAZ waste, 950 lb. solid waste, 10,900 kWh, 130 lb. CO<sub>2</sub></b>	<b>\$1,202</b>	<b>\$12,300</b>	<b>1 month</b>

# Personal Benefits

- Experience
- Technical understanding
- Data/cost analyses
- Project management
- Teamwork
- Environmental awareness

# Questions?



# Images from

[http://suncoastmarineoil.com/images/products/display/55\\_gallon\\_drum.jpg](http://suncoastmarineoil.com/images/products/display/55_gallon_drum.jpg)

<http://gototanks.com/Images/SNVerticalWaterGroup.jpg>

[http://www.professionalequipment.com/product\\_images/Full/177966\\_big.jpg](http://www.professionalequipment.com/product_images/Full/177966_big.jpg)

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