

Pollution Prevention in Paint Shops

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Painting Operations at International

- Four Truck Assembly Plants (2 in US)
- Two Bus Assembly Plants
- Five Engine Plants (3 in US)



Truck Painting

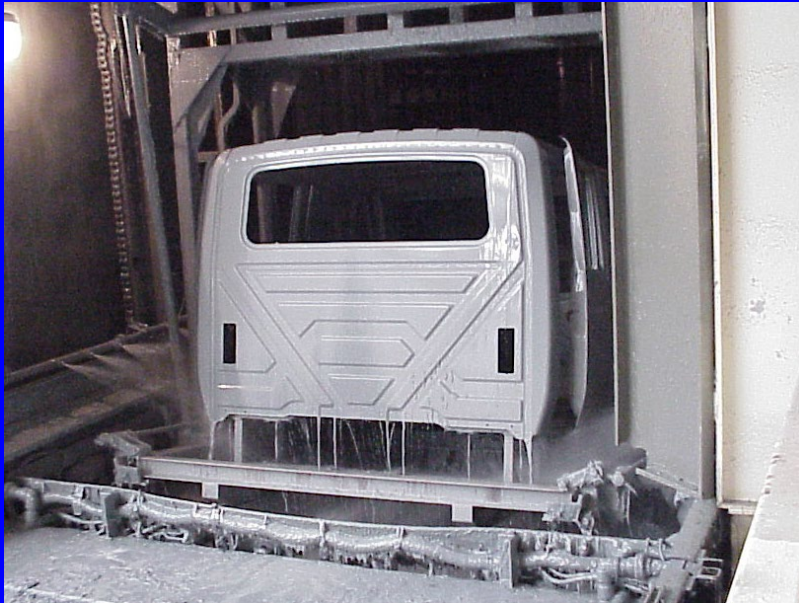
- Metal and Plastic substrate
- 1000's of colors

Springfield OH Truck Plant

- Changes in piping and pots
 - Color changer location/
Pipe length
 - Pot bottom
 - Agitation
 - Frequency
 - Quantity



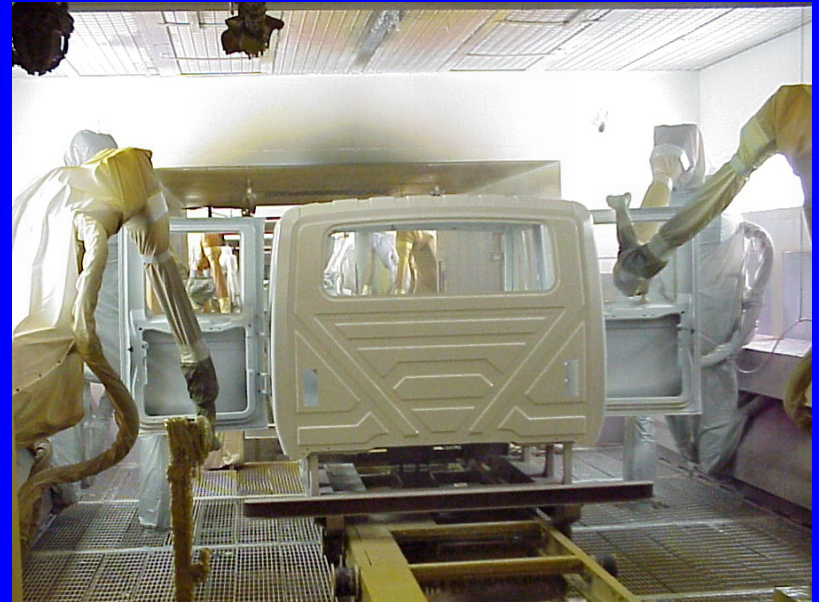
Springfield OH Truck Plant



- Paint Reformulation
 - Lead and chrome reductions
 - HAP reductions – a major effort in mid 90's
 - Chassis paint and purge solvent our only remaining HAPs

Springfield OH Truck Plant

- Increased transfer efficiency
 - Robots
 - HVLP
 - Electrostatic
- Deionized air and tack cloths instead of solvent wiping



Melrose Park IL Engine Plant

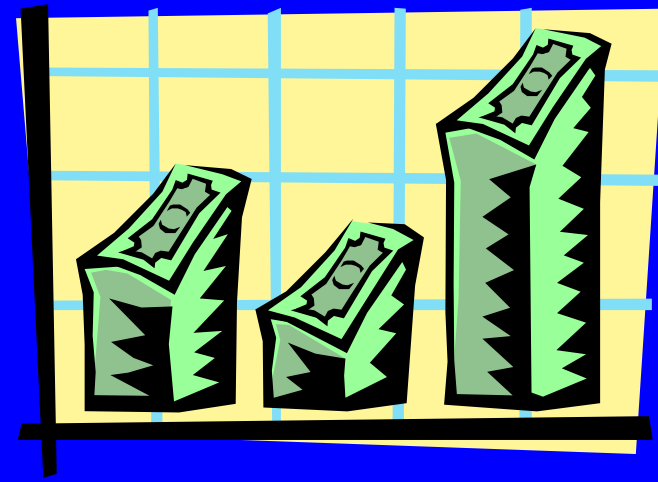
- Changed from high-solids to water-borne paint
- Gun cleaning process using aqueous cleaner
- Engine scheduling system that reduces the number of purges between color changes

Garland TX Truck Plant

- Eliminate unnecessary coating
- Closed loop gun cleaning
- Bar coding and inventory control of material eliminating waste
- Improve chemistry of the paint formulation
- Spent solvent reclamation

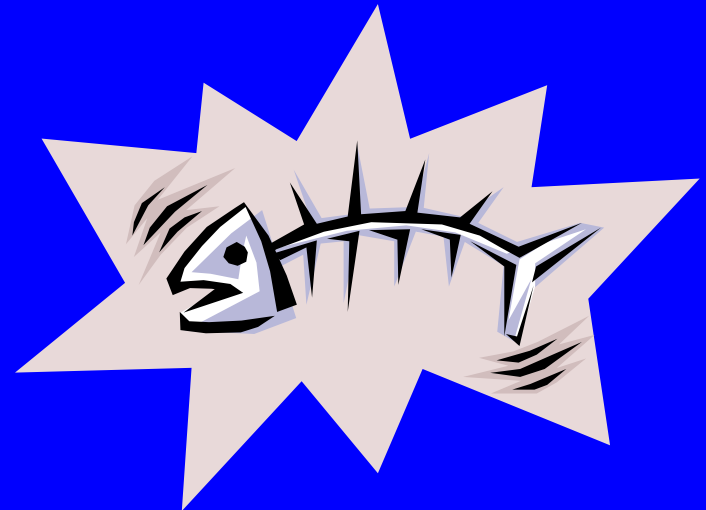
Show Me the Money

- Follow the money trail – probably NOT in waste disposal costs, rather in purchased prices or the cost of poor quality
 - Dispose gal of waste paint \$1
 - Emit lb of VOC nearly zero
 - Purchase gal of paint \$40
 - Purchase lb of VOC solvent \$2
 - Incinerator for increased production \$2 million



Focus on Quality

- Painted once means less air pollution and less waste generated and less cost
 - Extra paint materials consumed
 - Additional labor costs
 - Energy
 - Less waste disposal
- What causes defects?
 - Man/materials/methods



Focus on Unused Paint

- Paint left in containers
- Paint in purge lines
- Paint that missed the part (transfer efficiency)
- Inventory Control
 - Expired
 - Too much purchased for job



Focus on Paint & Solvent Chemistry

- Not incineration first
 - How many gallons of more expensive paint can you buy versus capital and operating costs of a control device?
- Waterborne, Ecoat, Powder, HAP-free, Exempt Solvents
- Right coating system for the job

Work With Your Suppliers

- Share your goals with them
- Ask for their advice

Loads of Other Resources

- Federal & State EPA
- P2 Centers such as Iowa Waste Reduction Center
 - Pollution Prevention for Painting and Coating Compliance Enhancement (P2PAC2E) focused on improving efficiency and pollution prevention in the painting and coating industry.

Health & Safety Benefits

- Employee exposures – handling, use, spills
 - Breathing
 - Skin
 - Ingestion
 - Contaminated clothing taken home
- Reduced fire concerns

? Questions ?