
CASE STUDY

COMPANY	Koehring Cranes & Excavators
LOCATION	Waverly Bremer County
PRODUCT/INDUSTRY	Construction Machinery (SIC Code 3531)
WASTE STREAM	Paint booth sludge.
MODIFICATIONS	Source Reduction/Technology Changes: Installation of paint booth sludge centrifuge.
B E N E F I T S	Reduced hazardous paint wastes and associated costs. Saved over \$16,000/year.

opportunity

Koehring manufactures heavy construction equipment for worldwide markets. The equipment is painted to provide all-weather protection during a long service life. The company operated five paint lines with water wash booths. The previous system generated paint booth sludge requiring disposal as hazardous waste. The company had begun a study of alternatives to the existing system. WRAP performed an on-site assessment and recommended several changes including more efficient spray guns, lower solvent (high solids) paints, simplifying color changes and additional paint operator training. Implementation of these changes reduced the amount of paint booth sludge requiring disposal to 50 drums per year. The company studied alternatives to further reduce this waste.

Change

A centrifuge for dewatering the paint booth sludge is being installed. Waste reduction will result from removing water from the sludge requiring disposal. The water will be reused in the paint booths. Labor and chemical usage will be reduced by reusing the water and handling less waste.

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The Iowa Waste Reduction Assistance Program is a non-regulatory technical assistance program offered by the Waste Management Assistance Division of the Iowa Department of Natural Resources.

Savings/Other Benefits

Paint booth sludge generation will be decreased by 26 drums per year. Substantial reductions in clean up labor and chemical purchases will also be realized. Other advantages include reduced paint spray gun nozzle plugging, fewer piping blockages, and reduced pump wear in the water recirculating pumps. Other unquantified savings include less on-site waste handling, lower regulatory compliance costs, and less potential future liability.

The company has documented the following project analysis:

• Avoided disposal cost of 26 drums/year sludge (\$375/drum)	\$ 9,750
• Reduced cleanup labor and downtime	1,580
• Reduced chemical purchases - 375 gallons	<u>5,500</u>
TOTAL ANNUAL SAVINGS	\$16,830
Installation Cost	\$ 8,000
Payout	less than 6 months
Return On Investment	210%

In this case, the company implemented WRAP's recommendations, then identified further opportunities. WRAP recommends dewatering and other steps to minimize paint sludges to Iowa industries where appropriate to decrease waste generation and disposal costs.