POLLUTION PREVENTION WORKS FOR IOWA

CASE STUDY

COMPANY	Glacier Vandervell, Inc.
LOCATION	Atlantic Cass County
PRODUCT/INDUSTRY	Transportation Bushings and Bearings (SIC Code 3562)
WASTE STREAM	Hazardous waste. Metal containing sludges.
MODIFICATIONS	Source Reduction/Technology Changes.& ,Procedural Changes: Revised handling and treatment to minimize sludge generation.
BENEFITS	Reduced sludge disposal costs, water consumption and wastewater treatment costs. Saved at least $25,000/year.

Glacier Vandervell manufactures bushings and sleeve bearing. for the transportation industry. Manufacturing incorporates forming and precision machining of steels , containing lead which is needed for lubricating qualities. The company requested that WRAP perform an on-site assessment to assist it in implementing a waste reduction program. Three categories of metal bearing sludges are generated by the facility: Wastewater treatment sludge, sludge from ROTO cleaning and miscellaneous finishing sludge from a variety of sources. All of the sludges are considered hazardous waste because of heavy metal content-primarily-lead. The sludges are sent to out-of-state hazardous waste landfills.

Change

Glacier Vandervell had identified several options for reducing sludges including additional filtration to minimize water content.. During the on-site opportunity assessment, WRAP identified a number of additional options to reduce sludge generation for the company to consider. After further evaluation; the company implemented a number of changes to reduce sludge generation.

- Additional plates were added to the wastewater treatment sludge filter press and procedural changes were made to reduce treatment time and remove more water from the sludge. This reduces the amount of sludge requiring disposal.

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- Pit sludge, which precipitates from waters from the ROT0 cleaning operations is now continuously agitated to avoid sludge buildup in the collection pit. The water is now micro filtered on a "real time" basis to remove solids (lead and others) and recycled to the cleaning processes. A backwash system was installed to maintain filtration viability.

- Work is continuing on metal finishing sludge. Nickel recovery from plating waters is now in place.

Savings/Other Benefits

Overall sludge generation has decreased sufficiently to decrease disposal costs by $25,000 per year (25%). Quantity data has not yet been fully documented. Cost savings from reduced water usage and improved wastewater treatment have not yet been fully documented. (Glacier Vandervell elected not to disclose the costs of implementation.) Microfiltration of ROT0 cleaning wastewater for recycling has reduced the lead treatment load on the in-house wastewater treatment facility.

WRAP recommends options to reduce sludge generation, reduce water usage and lower treatment costs to Iowa businesses where appropriate.