Aircraft Maintenance Wastewater Treatment

The following discussion is based on data and information provided by one of the major aircraft companies prominent in the manufacturing and maintenance of aircraft. The issues of concern are shared by all aircraft manufacturing and maintenance companies currently active in the manufacturing and maintenance of aircraft. The topic of this discussion is focused on treatment of wastewater produced in aircraft maintenance operations. Specifically the wastewater generated from aircraft stripping, painting and maintenance operations involve heavy metals (chrome, cadmium and zinc), suspended solids, oils and grease.

Prior Treatment Method:

The client was batch treating the wastewater stream with a typical chemical methodology and filtering through a filter press which was pre-coated with diatomaceous earth. This process generated approximately seventy-five (75) drums of sludge per treatment. This sludge was then trucked to an offsite landfill for disposal of hazardous waste. In addition, there were periodic releases of hazardous waste steams into the municipal sewer system. This treatment method was both environmentally un-friendly and costly due to operations costs and fines.

Ecolotron Solution:

Ecolotron integrated an electrocoagulation system comprised of a reactor and storage tank with the existing treatment infrastructure to collect the wastewater and process this wastewater when a sufficient volume was collected from the aircraft maintenance operations.

Results:

The wastewater streams were now in compliance with levels of chrome, cadmium and zinc while minimizing the sludge volume to eight (8) drums of non-hazardous waste for disposal. In addition, the company was in compliance with the regulating authority and reduced the costs of the operations for wastewater management.