

Microfiltration System Reduces Waste by Two-Thirds

Marathon Norco Aerospace, Waco, Texas, is one of the few manufacturers of rechargeable, nickel cadmium batteries for the aerospace industry. The aerospace industry requires quality products which operate each time – every time they are needed, and Marathon is one of the premier manufacturers in this industry. Quality is “first and foremost” for each of their 200+ employees.

One of the production problems associated with the manufacture of rechargeable, nickel cadmium batteries is the use of a number of heavy metals. Two of the metals which can be problematic when it comes to waste disposal are cadmium and chromium. The amount of heavy metal waste generated at the Waco facility categorized the plant as a “significant hazardous waste generator,” which created costly off-site hazardous waste disposal and extensive record keeping and documentation.

Since 1972, the plant has used a diatomaceous filter system to reduce the volume and concentrate heavy metals in the waste. The plant’s hazardous waste production required transport from the plant of over 100,000 pounds per year.

In 2006, the plant’s out-dated, operator intensive and costly process was replaced with a state of the art microfiltration and filter press system from Siemens Water Technologies.



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Siemens Water Technologies designed a complete wastewater treatment system consisting of metals precipitation, microfiltration, filter press dewatering and pH adjustment of the clarified effluent prior to introduction into the city sewer system. The dewatered cake reduces the volume of hazardous waste to be transported – estimated to be only 30,000 pounds per year, which will lower the plant’s categorization of being a hazardous waste generator to below “significant.” The re-categorization also reduces the amount of report generation required.

The microfiltration system is also producing effluent with a cadmium and chromium monthly average of less than permitted levels.

The system went through a successful start-up and shake down which included operator training. Siemens Water Technologies technicians worked over a weekend to get the plant on-line as quickly as possible, and to minimize down time in the plant.

In addition, the microfiltration, precipitation, and filter press systems fit within the footprint of the old system.

The information provided in this literature contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of the contract.