

# DIRECT ASSISTANCE PROGRAM



## CASE STUDY

## NYSP2I Evaluates Wastewater and Hazardous Waste Reduction Opportunities

Located in Huntington Station on Long Island, E. C. Sumereau & Son (Sumereau) specializes in providing specialty platings and anodizing for military, aerospace, and electronics industries. The company caters to a wide range of precision-based applications, which include plating for prototype development.

### Challenge

Sumereau generates wastewater, which is primarily comprised of rinse water from the various metal finishing operations. Approximately 20,000 gallons/year of wastewater is shipped off site annually as hazardous waste (F006). The high costs associated with the disposal of wastewater prevents expansion of production and company growth. The quantity of waste defines Sumereau as a Large Quantity Generator. Sumereau would like to explore opportunities to reduce the amount of hazardous waste generated along with the costs associated with managing and disposal of the waste.

### Solution

Sumereau requested that the New York State Pollution Prevention Institute (NYSP2I) explore cost effective opportunities to reduce hazardous waste from the plating and anodizing operations. NYSP2I conducted a two-day on-site assessment where the plant layout, production process, plating tanks, and tank volumes were all documented to better understand the current, baseline situation. NYSP2I then identified opportunities for hazardous waste reduction, including separation of non-hazardous and hazardous waste streams, reducing the amount of rinse water utilized in the cleaning operation, and evaluating on site distillation and membrane separation units for water recovery. After the opportunities were evaluated, NYSP2I calculated the expected impacts on hazardous waste amounts and economics.

### Results

NYSP2I identified several options for Sumereau to consider. The simplest and most cost effective option was the purchase of fine mist spray nozzles that utilize less water, but rinse the parts as effectively as the current spray rinse process. The improvement option with the highest projected savings was the implementation of a distillation unit on site. The table below shows the improvement options with the economic analyses.

Economic Analysis of Improvement Options

Improvement Option	Capital Cost	Operating Cost (yr)	Projected Savings (yr)	Simple Payback
New Spray Nozzles (60% reduction)	\$100	\$100	\$16,300	0.006 years
Distillation (90% water recovery)	\$8,600	\$6,000	\$25,500	0.34 years
NF Membrane System (75% water recovery)	\$22,100	\$4,550	\$21,650	1 year

### CHALLENGE

- Sumereau would like to explore opportunities to reduce the amount of hazardous waste generated along with the costs associated with managing and disposal of the waste

### SOLUTION

- NYSP2I conducted a two-day on-site assessment
- NYSP2I recognized opportunities for hazardous waste reduction
- NYSP2I evaluated the impacts on the hazardous waste amounts produced and associated cost

### RESULTS

- NYSP2I identified a simple and cost effective option of purchasing fine mists spray nozzles that utilize less water, but clean the parts as effectively as the current spray rinse process
- Coupled with other technologies, hazardous waste can be reduced up to 90% with less than 1 year payback

## NYSP2I PARTNERS



New York Manufacturing Extension Partnership

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