

## **NAS NORTH ISLAND - NAVY REGION SOUTHWEST NAVY ENVIRONMENTAL LEADERSHIP PROGRAM**

### **POLLUTION PREVENTION**

#### **BATCH PAINT DISPENSER**

##### **LEAD ACTIVITY**

Naval Air Station (NAS) North Island

##### **STATUS**

Complete

##### **MISSION**

Reduce mixed paint waste

##### **REQUIREMENT**

Two-part polyurethane and primer paint used to coat ground support equipment is traditionally measured and mixed by hand. Dispensing materials by hand often results in extra paint that is not used and must be disposed. In addition, regulations require tracking of hazardous materials and related air emissions. A method to accurately dispense component materials of mixed paint and track paint use is required.

##### **DESCRIPTION**

The Batch Metering System, developed by Graco Inc., is a paint dispensing system that quickly dispenses variable batch sizes of component materials for mixed paint with a high degree of precision. The system calculates the amount of each component material required to create the desired batch size (as small as four ounces) with the desired ratio and precisely dispenses each component in sequence. Before dispensing material, the system checks to see if there is enough supply to finish the batch reducing off-ratio, re-work costs. The system then records the exact amount of each material dispensed and debits the inventory for the amount used. In addition, the system tracks where the paint was used for automated usage logs required by air permits. At the Aircraft Intermediate Maintenance Department (AIMD), the paint will still be mixed by hand after it is dispensed since the system dispenses paint, but does not mix it.

This system greatly reduces mixed paint waste as well as preparation time, consisting of storage and withdrawal of individual kits, and handling of associated wastes. NAS North Island is proposing a five-station system (white pigment, catalyst, primer, hardener, and solvent) for demonstration at the AIMD Commander of Naval Air Forces Pacific Fleet (CNAP) Support Equipment Facility Building 789. This is a corrosion control facility that applies two-part coating systems. An economic analysis estimates the annual cost savings at AIMD will be about \$39,000 in reduced paint use, labor, and waste disposal cost.

## **BENEFITS**

- Reduces raw material and disposal costs
- Complies with regulatory waste minimization requirements
- Saves time and manpower for paint dispensing and tracking
- Reduces off-ratio, re-work rate from 5 percent to 1 percent of paint used
- Eliminates inconsistencies and excesses that result from measuring paints by hand
- Aids in compliance reporting, quality assurance, and inventory management
- Reduces hazardous waste, minimizing exposure to hazardous materials

## **ACCOMPLISHMENTS/CURRENT**

<b>Date</b>	<b>Activity</b>
NOV 1997	Submitted request for procurement to NFESC
APR 1999	Batch Metering System installed at Building 789

## **FUTURE PLAN OF ACTION & MILESTONES**

Not Applicable

## **COLLABORATION/TECHNOLOGY TRANSFER**

The Batch Metering System could have a greater impact at depot level operations, such as an aircraft painting facility, where mixed paint waste is significantly higher.

## **BIBLIOGRAPHY**

- Batch Dispense System Pamphlet, 1996
- Batch Dispense System Economic Analysis prepared for NELP
- Precision/Batch Metering Paint System Write-up, Layden, Sekhri, and Ostrea, Nellis AFB

## **RELATED GOVERNMENT INTERNET SITES**

None available

## **RELATED NAVY GUIDEBOOK REQUIREMENTS**

- 10003 Cost Effective Waste Reduction

*UPDATED: 01/23/02*