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# PROGRESS REPORT
## TECHNICAL SERVICES DEPARTMENT
ANNISTON, ALABAMA PLANT

JOB NO. 370:872 **REPORT NO.** 1 **DATE** 12/24/68

**TITLE:** Drum Flushing

**OBJECTIVE:** To develop the design for a drum flushing station for the Anniston Plant Aroclor Department.

**PERSONNEL:** E. E. Bowles (V. R. Haupt)

**REPORTED BY:** E. E. Bowles

**SUMMARY:** PR&D Research has proven drum flushing as a method for improving delivered Aroclor quality.

The preliminary design and cost estimate were developed from two assumptions.

1) One product will be used to flush all drums.

2) The production line porocel columns can be used to rework drum flush materials.

The present design calls for manual handling of drums and will require the addition of one man to the Aroclor work force.

N.F.C. for the project will be $60,000 with a yearly operating expense of $14,000.

Project completion is estimated at 8 to 12 months after the start of design drafting.

**FUTURE:** Aroclor MIP schedules design package preparation for 1970. No further work is planned for 1969 unless a change in priorities develops.

Edward C Bowles

E. E. Bowles

jw

ANNISTON

DSW 200076

STLCOPCB4058140

Background

Developments in the field of electrical grade functional fluids have demonstrated the need for improvement in Aroclor and Aroclor blend quality. Anniston Plant tests have shown that the quality of the shipped product is lower than the quality of the material before it is placed in the shipping container. The new drumming facility will eliminate the contamination caused by open air filling of drums; however, the problem of container contamination still exists.

Anniston PR&D research has established drum flushing as an effective method of reducing container contamination of the shipped product. The results of this research can be found in Anniston PR&D Reports 370-322-11, 370-501-1, and 370-501-2.

Design Basis

The TSD estimate of the cost of installing a drum flushing station in the new Aroclor drumming facility is based on two assumptions:

1. One product (Aroclor 1242) would be used to flush all drums

2. The capacity of production line Porocel columns would be sufficient to rework the material used during flushing operations

If it were necessary to flush each drum with the product that is to be shipped in it, the cost of the flushing station would be much higher due to additional storage and handling facilities needed for each product.

Aroclor 1242 would be the best product to use for flushing because at least one production line makes it all the time. This would reduce the necessary intermediate storage to a minimum and would allow for quick rework of contaminated material.

Design Details

The proposed drum flushing station would be a manually operated spray nozzle station. The man would remove the drum from the pallet on the existing pallet conveyor, place the drum upside down over the nozzle, start the flushing cycle, and allow the drum to gravity drain before placing it back on the pallet.

This drum flushing station will require the addition of one man to the Aroclor work force to handle drums and operate the system. The drum flushing capability of this system would be 180 drums per shift and would be more than sufficient since the drumming station is designed for 160 drums per shift.

The new fixed capital expenditure involved would be approximately $60 M with an operating expense of $14 M per year. See attached estimate for breakdown of cost. Also attached is the porposed flow diagram for the system.

Possible Savings

Experiments by J. G. Bryant indicate that with drum flushing the second coat of drum lining may be dropped. If this is true, a savings in drum cost could be claimed. This will be determined at a later date.

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Future

A design package for the installation of this drum flushing station is scheduled for 1970. No further work is planned for 1969 unless priority is changed.

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Att.

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