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To: F. L. Steahly
From: W. G. Stockdale

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QUARTERLY REPORT

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This document has been approved for release to the public by: IN

David R. Hamm 5/19/95
Technical Information Officer Date
ORNL Site

Title: Gaseous Waste

Work by: W. G. Stockdale in conjunction with the Engineering Department

Secret Notebook No.

INV. 64

SUMMARY

During the past quarter the decontamination equipment for cell ventilation from Buildings 706-C and 706-D was completed and a preliminary test run made on the Trion units. A decontamination efficiency of 94% at 600 cfm was obtained. Satisfactory progress is being made on the installation of the remainder of the equipment surrounding the 900 area stack with the exception of the ducts connecting the hoods. This is delayed due to higher priority work. The editing of the film, "Study of Entrance Air Conditions in Hoods" is complete with the exception of titles. Distribution date for the film is approximately July 1, 1970.

Cell Ventilation System

The cell ventilation collection and decontamination system from Buildings 706-C and 706-D was completed during the past quarter with the installation of the Trion Collection Cells. A preliminary run of approximate one week duration of a Trion unit was made by the M. I. T. Practice School students. The second unit was out of service at that time due to faulty installation. This has been corrected and both units are ready for operation.

ROUGH DRAFT

The results of the preliminary run of the Trion Unit will be published by the M. I. T. Practice School. Operating data obtained are tabulated below for prior information.

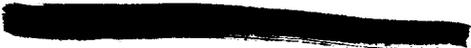
Operating Data for Trion Unit
(Average V_g values)

Flow Rate (cfm)	Decontamination Efficiency %	Pressure Drop in H ₂ O
600	94	0.069
870	92	0.089
1110	92	0.283
1630	82	1.064

A rapid increase in pressure loss across the filters in the cell ventilation system was experienced during the first four months of operation. The filters were replaced and the 60,000 cfm fan checked for operation. The fan during the check was operating practically against a closed system and was developing 9.12 inches water S.P. at a flowrate of 6600 cfm. The S.P. developed is sufficient to obtain the designed vacuum of 1 inch water in the cells until the filters become clogged. The rapid build-up of pressure across the filters during initial operation was due to cement dust from modification work in the cells of Building 706-C. This potentially active dust was collected and not discharged from the stack.

Construction

The completion of the duct work by O&M forces of the hoods from 706-C and 706-D was originally scheduled for July 1, 1950. This date will not be met because of higher priority work in the shops. No new date has been set at this time.



ROUGH DRAFT

The Cottrell electrostatic precipitator for the off gas system is scheduled to be shipped on or about June 1, 1950, from Los Angeles. The power unit being constructed at Y-12 is proceeding on a satisfactory schedule and will be ready for installation when required. The heater for the same system is at the plant site and will be installed along with the precipitator.

The design of the electrical warming system for the entire 900 stack area is essentially complete and orders have been placed for equipment not carried in stock.

A work order for sampling and testing connections on the off-gas system is being prepared for the work to be carried out by the instrument division.

Hoods

The work on hood design has come to a stalemate due to other urgent work. Present plans are the adoption of a set of specifications and sketches that will be suitable to place on the market for bids.

The difficulty experienced in placing two purchase orders for Kewanee hoods in the past has been straightened out by fully informing management of the technical advantages of the hoods requested.

The hood movie is awaiting the completion of photographic work by A.E.C. for the final fitting. It will take approximately six weeks for this to be completed and copies made for distribution. Tentative approval for distribution outside of the government has been given by A.E. C. security.

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