Allied Chemical

MEMORANDUM

BRNW Air!

DATE: May 9, 1977

SUBJECT: VCM IN BRNW OHC VENT

TO: A. S. Robertson, Director
ICD, Engineering Dept., AB-G

cc: R. P. Troeger
W. L. Epting
D. L. Magee

? 5/19/77

With reference to your earlier request for clarification of the questions raised by J. L. Cost of Air Products & Chemicals in regard to (1) the feasibility of feeding the vent from the VCM vent recovery system to the OHC reactor and (2) present VCM content of the BRNW OHC vent, the following comments are pertinent:

1. I spoke with J. L. Cost and found that his concern was primarily whether VCM fed to OHC from the VCM vent recovery system would indeed be destroyed or would simply pass through unreacted. I assured him that the quantity of VCM found in the OHC vent was dictated largely by an equilibrium reaction and was essentially independent of VCM fed to the OHC reactor, which largely converted to 1,1,2-trichloroethane and eliminated as vacuum column bottoms. Thus, the concept of feeding vent streams containing VCM to the OHC reactor is a sound method of disposal. Note that our patent application on this process has now been filed.

2. With respect to the present VCM content of the BRNW OHC vent, I spoke with D. L. Magee and he indicated that preliminary results with an on-stream analyzer are in the range of 60-70 ppm v/v with occasional excursions to about 90 ppm. It was DLM's recollection that the allowable upper limit based on the EPA emission standard of 0.2 g VCM/kg EDC produced was something in excess of 100 ppm. This information was passed on to J. L. Cost.

(by wt) - less by vol -

In order to verify the VCM concentration corresponding to the EPA emission standard, Dr. Amato has calculated this figure from recent BRNW operating data. The results are presented in the accompanying memorandum and range from 64 to 83 ppm. If correct, this implies that the BRNW OHC reactor is running essentially at the allowable limit for VCM emissions, a somewhat disturbing finding of which I did not inform Air Products. I suggest that this finding be passed on to the BRNW Environmental Group for their comments.

ORIGINAL SIGNED

B. E. Kurtz, Director
Engineering Research
Syracuse Technical Center

BEK:pts
Attachment

C-639(1-75) ©

ASI 00006214

Allied Chemical

MEMORANDUM

DATE: May 5, 1977

SUBJECT: CONVERSION OF THE EPA EMISSION FACTOR FOR OHC VENTS INTO A PPM VALUE USING SPECIFICS OF THE BRNW OHC UNIT

TO: B. E. Kurtz

The Federal Register for Thursday, October 21, 1976, Part II, with the title "Environmental Protection Agency — National Emission Standards for Hazardous Air Pollutants", lists the emission factor for OHC vents as 0.2 g VCM/kg EDC produced.

In order to convert this figure to a ppm value pertinent to the BRNW OHC unit, data on vent rates and EDC production rates are needed. The following table lists this data together with the ppm values representing the limiting emission factor of 0.2 g VCM/kg EDC produced for three months of production in 1977.

A three-month average of the above data yields a figure of 76 ppm VCM as the maximum allowable VCM concentration in the OHC vent.

Wayne S. Amato

Wayne S. Amato
Syracuse Technical Center

WSA:pts

Attachment

C-639(1-75) ©

ASI 00006215

Month of 1977	No. of Days of Production	Vent Flow for No. of Days of Production — lb moles	EDC Produced in No. of Days of Production — lbs	ppm Value in Oxy Vent Which Corresponds to Max. Allowable Emission Factor of 0.2 g VCM/kg EDC
January	15.3	$3.00(10^5)$	$6.039(10^6)$	64
February	0	-	-	-
March	28.5	$7.18(10^5)$	$1.85\ (10^7)$	83
April	26	$7.06(10^5)$	$1.64\ (10^7)$	74

QC not installed totally during this period

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