CC: R. J. Burger
D. A. Erdman
L. W. Goin
E. D. Johnson
G. L. Tracey
G. L. Herridge
C. A. Robinson
J. L. Barnes
A. T. Shepard
P. Thistleton
D. L. McGuire
[redacted]
P. E. Gilchrist
File: 1.1.7.4

April 14, 1981

TO: J. F. HUNT/R. J. ZIPFEL
A.R. Behnke
FROM: A. R. BEHNKE/D. G. DEEM

PROGRAMS TO REDUCE EMPLOYEE C-8 EXPOSURE

Below is an updated C-8 program list arranged by priority for reducing employee exposure.

Priority is based on the need to eliminate hot dust and process vapor sources first based on what has been learned from air samples taken after the major building dust cleanup.

Results From Major FEP Building Cleanup

Area air samples taken across the plant (March) after the cleanup indicate no change in area C-8 levels from before the cleanup (February). See Tables ARB-I & II.

With over 95% of the gross dust removed from the area, the constant C-8 levels indicate that airborne C-8 generated from hot process leaks and possibly circulated by the building H & V system is the source of the problem. Samples taken during dusty operations were lower than anticipated. While the old dust was not the problem it was expected to be, its removal was necessary to uncover the source of the C-8, provide reasonably "clean" baseline data, and reevaluate job priorities to emphasize the elimination of hot process leaks and sources of hot, fresh dust in the area, and upgrading the building H & V system and stack elevation program.

AJP003682

EID077147

Both the February and March data show substantial improvement over data obtained in 1980, (See Tables ARB-I, II), demonstrating the effectiveness of the new housekeeping program and installed engineering controls.

The "AFTER" sample levels are equivalent to the "BEFORE" samples only after the high values taken during problems with Wet Finishing are eliminated from the data (see attached sheet). For the February "BEFORE" case, there were no major Wet Finishing upsets which resulted in plugged vent lines. For the March "AFTER" case, there were 11 incidents of plugged dryer vent lines or decanter to V Disc press chute pluges. Since levels were very low on March 9 after the major spill on March 7, the spill is not believed to have affected the area during sampling. However, on some days samples taken on the 1st and 2nd floors appear very sensitive to upsets in or around the clean room. The samples taken on March 13, when we shut Wet Finishing down for Construction after plugging the vent line, were very high. This makes me very suspicious of the H & V system in the building. (Also, need to seal Clean Room). The Wet Finishing Operator had a level of 1.92 mpb with the problem yet the Wet Finishing Operator had a level of 0.72 mpb on the following Monday with no problems with Wet Finishing operation. These results, coupled with the high PK Control Room sample of 1.71 mpb on the day of the major Wet Finishing cleanup, points to a combination of problems which include Wet Finishing clean room leaks, the H & V system, and a combination of wind/weather conditions with low discharge stack heights.

From the cleanup results and relatively low values taken in several areas with dust clouds present, the visible presence of dust does not always lead to high C-8 exposure levels based on current sampling.

Programs/Priorities

With this information, I have divided all the jobs listed for the C-8 program into 4 categories (See Table ARB-III):

Programs/Priorities - (Continued)

- o Cool Sources - Primarily dusty operations at ambient temperature (<40°C).
- o Hot Sources - Operations/Leaks which occur with operating temperatures above 40°C or when vaporized C-8 is likely to be present.
- o H&V/Stack System - Jobs associated with removal/dispersion of C-8.
- o Passive - Primarily jobs which protect people but don't reduce C-8 levels, includes both area and personal sampling.

To reach our goal of getting the plant to 1/2 the AEL by 12/31/81, Technical will have to concentrate on the hot sources and the H&V/Stack program, while Production follows up on the passive personal protection type items and routine repairs. The cool but dusty sources must receive lowest priority based on what we have learned from the building cleanup sampling. Some balance and trade offs between the categories will have to be made (ex., Recycle Tank where everything is on order and design is ~95% complete).

All the jobs listed in the March 7, 1981, program letter are placed in one of the four categories with their original priority numbers on a separate page. New priority numbers with circles have been assigned based on the need to eliminate hot sources first while maintaining some effort in the other areas. (See Table ARB-III).

While we do not have conclusive data with high C-8 levels on our roof, I am suspicious of the H&V system because of the high level recorded in the PK Control Room during the Wet Finishing cleanup.

The following list of program items divides primary responsibility between Production and Technical. The personal and area sampling will be a continuing program. The short term goal of the program is to establish baseline data for Wet Finishing operator exposure, clean room levels to insure that we do not exceed the 10X AEL level beyond which the Comfo II respirator is not effective, and Winans cleanup personnel exposure.

The major items completed in March were the battery of area "After Cleanup" samples and the decision to install the tighter weave untreated polyester felt filter bags in both the wet finishing and coagulator bag filter housings in place of either the Teflon® treated or silicone treated filter bags.

For brevity, a copy of last month's letter will no longer be attached to the monthly letter.

To allow Technical to concentrate on engineering controls, current programs have been divided into two groups, one with Technical having primary responsibility and the other with Production having the primary responsibility. Since the first of the year, significant Technical effort has gone into the passive portion of the program such as the major Winans cleanup which we had hoped might reduce area air levels below the AEL, installation of the additional breathing air facilities, and the heavy personal and area sampling. It appears that effort must now be concentrated on containing and controlling the C-8 with special emphasis on the hot sources and the building H&V/Stack program.

Attachment

ARB/nsw

TABLE ARB-I

AREA C-8 SAMPLES - AVERAGES ONLY ARE SHOWN
HISTORICAL, FEB '81 (BEFORE), MARCH-APRIL (AFTER), MARCH-APRIL (AFTER) W/O W.F. UPSETS/CLEANUP
COMPLETE TO 4/6/81

ARB 4/15/81

LOCATION	HISTORICAL (1980)	FEB '81	MAR/APR. '81	MAR/APR '81 (W/O WF UPSET)
OUTSIDE CLEAN RM.		2.90	1.96	1.96
#1 COAG, (2ND FLR.)	1.5	<0.88	1.69	1.07
#2 COAG. (2ND FLR.)	3.9	0.77	0.64	0.46
FLAKE HOPPER	2.6	0.68	0.61	0.61
#1 COAG (1ST FLR)		0.26	0.67	0.48
#2 COAG (1ST FLR)		0.49	0.49	0.20
#1 BLENDER (PLTFRM)	2.0	0.42	0.58	0.47
#2 BLENDER (PLTFRM)		0.48	0.60	0.37
P.K. CONTROL RM.	2.0	0.23	<0.64	<0.1
LUNCH ROOM		0.30	0.37	0.37
EXTRA OP. DESK	0.7	0.27	0.15	0.15
DISPERSION AREA	2.6	0.33	0.70	0.34
BLENDER PIT		0.55	1.15	1.15
TRAYOUT	2.2	0.70	1.14	1.14
CONVEYOR	2.6	0.93	0.39	0.39
#1 OVEN COOLTWR	2.1	<0.1	0.17	0.17

AJP003686

EID077151

TABLE ARB-II

AREA C-8 SAMPLES - AVERAGES ONLY ARE SHOWN
HISTORICAL, FEB 81 (BEFORE), MARCH-APRIL 81 (AFTER), MARCH-APRIL 81 (AFTER) W/O W.F. UPSET 3/13/81
COMPLETE TO 4/6/81

ARB 4/15/81

LOCATION	HISTORICAL (1980)	FEB '81	MAR '81	MAR 81 W/O WF UPSET
#2 OVEN COOL. TNR	3.0	0.12	0.17	0.17
STRIPPER	1.0	0.26	<0.1	<0.1
FIN AREA H+V INLET	0.6	0.34	<0.1	<0.1
PACKOUT RM.	1.4	0.24	0.46	0.46
H+V INTAKE/MID ROOF		0.24	<0.1	<0.1
INSIDE CLEAN RM.				
• OPERATING	6.8	3.13	4.11	4.11
○ DOWN FOR MECH.			0.84	0.84
UPSTAIRS HALL		0.50	0.35	0.35
1ST FLR. VEND. MACHINE		0.35	<0.1	<0.1
HIGH ROOF		0.31		
LAB BENCH		<0.1		
LAB BREATH. AREA		0.18		
PERCENT OF AREAS SAMPLED ABOVE AEL (EXCL. LAB + HIGH ROOF)	100%	33%	52%	28%

AJP003687

EID077152