

Plant Managers	VCl Polymerization Plants	
A. M. Fairlie	Cleveland	January 4, 1974

Initial Plan for VCl Vapor Sampling Program

INTRODUCTION

The Plan which follows outlines the VCl vapor sampling program for the plants as we anticipate its development. It also describes the initial survey in more detail (lasting for one week) and the second phase with the OVA tests which should begin immediately afterward.

More planning is needed as to methods of data analysis and to the details of the second phase of OVA sampling. We plan to complete these as early as possible next week and will keep you advised. To enable the plants to move quickly, we propose having the PIC Engineers analyze data on site. To expedite the analysis and standardize the method, we may call the PIC Engineers in for a one-day meeting unless we feel it can be adequately spelled out in a letter.

PLANS

1. Overall Plan
 - a. Survey polymerization area (4-5 days)
 - b. Set up and install routine OVA sampling program (1-3 months)
 - c. Take immediate action on high vinyl chloride locations
 - d. Set up and install Bendix Continuous Monitoring System
 - e. Study other plant areas (drying, etc.)
2. Prepare Survey Plan
 - a. Make diagram of each floor showing all equipment
 - b. Select at least thirty points per building -- include various possible VCl sources
 1. refer to enclosed ALGC list -- Table 1 -- as a guide (all buildings are different)
 2. make list of sampling points selected and put them on the prototype data sheet attached -- Table 2 -- (show locations exactly on floor diagram)
 - c. Prepare final data sheet for use in plant; it should appear approximately as the prototype sheet

24455001

BFG31266

3. Execution of Survey Plan

- a. Make sure equipment has been calibrated in an appropriate VCl concentration zone according to the procedures outlined in the OVA Instruction Manual. Calibrations should be done at least once per week. Doug Rider of ALGC is preparing a standard calibration procedure to be issued as soon as possible. Call him if you have any questions.
- b. Start survey immediately in all plant buildings where VCl and/or VCl₂ polymerization occurs.
- c. Collect 2-3 sets of data per shift, sampling all 30 (or more) points in each building. Sampling rounds should be about 2-3 hours apart. Sampling for each day may be done within one shift or across two shifts during this initial survey. However, cover all shifts equally.
- d. Carry survey out for 4-5 days during the first week, collecting at least ten samples at each sample point.

4. Analysis of Survey Plan (to be done within each plant by the PIC Engineer)

- a. Identify approximately six points per building which represent average vinyl chloride concentration at any time plus being sensitive to upsets. (PIC Engineers will be advised how to perform this analysis.)
- b. Identify high vinyl chloride concentration areas so that corrective action can start immediately.

If the initial survey experienced no serious difficulties, especially in performance of the OVA instrument, this completes Item (a) in the overall plan.

5. 1-3 Month OVA Study (Item b in the Overall Plan)

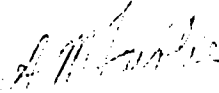
- a. To begin during the second week.
- b. Sample the six points per building determined in Step 4, above.
- c. A detailed sampling plan will be provided in the near future. This plan will tentatively cover each shift at least twice a week.
- d. This plan will be provided with action rules which indicate when the foreman (or some other appropriate person) must sample a high VCl concentration area in depth and identify and correct the problem if possible.
- e. Each high vinyl chloride occurrence must be noted in a record book for level, location, cause, and solution of the problem.

BFG31267

22455602

This log should be used in plant meetings to initiate permanent corrective action.

6. Analyze Results in Step (5) to Determine Where and How the Bendix Continuous Monitoring System Should be Installed



A. M. Fairlie

AMF/cls

DISTRIBUTION

ALGC

R. N. Rylands
R. S. Mather
R. W. McKay
T. E. Neff - B. A. Prusinoski

LONG BEACH

A. W. Clements
E. L. Beeler
W. D. Robb
R. A. Vanko

ALTC

L. B. Crider
R. M. Kreager
R. L. Bowles
F. E. Krause - H. H. Marty

CLEVELAND

G. H. Metzger
E. G. Schwaegerle
C. R. Flynn
H. Waltemate
B. M. G. Zwicker
W. J. Wilcox
O. F. Beckmeyer
E. W. Harrington
G. D. Schaaf

HENRY

C. B. Cooper
M. D. Tawney
A. W. Otto
C. J. Lee

LOUISVILLE

P. H. Lawrence
P. A. Wagner
S. S. Michels
J. R. Kute

PEDRICKTOWN

A. R. Webber
J. W. Goetsch
W. A. Reed
J. A. Klupar
J. Goodman

BFG31268

24455003

TABLE 1. - DATA SHEET FROM AL6C

AMBIENT VCL SURVEY
B/464

		DATE			
		TIME			
FIRST FLOOR OF Vent. Cond. *					
1	Transfer Pump (BT 1)				
2	BDT 2-3				
3	Transfer Pump (BT 4)				
4	BDT 4-5				
5	Transfer Pump (BT 6)				
6	Refrigeration Comp.				
7	Seal H ₂ O System				
8	CTW Chromate Trt.				
9	HRC Pumps				
10	YCI Pumps				
11	Exhaust Fans **				
SECOND FLOOR OF Vent. Cond.					
12	BDT 1				
13	BT 2				
14	BDT 2				
15	BDT 3				
16	BDT 4				
17	BDT 5				
18	BT 5				
19	BDT 6				
20	S. Pump set (Recovery)				
21	N. Pump set (Recovery)				
22	Scale Tk				
23	Exhaust Fans				
THIRD FLOOR OF Vent. Cond.					
24	Pigment Room				
25	Polys 201-202				
26	Polys 205-206				
27	Polys 209-210				
28	Polys 213-214				
29	Vacuum jets				
30	Foam Trap Tk				
31	Scales				
32	Metering Station				
33	Control Room				
34	Exhaust Fans				

* No of fans operating, speeds, no of air changes/minute, as appropriate
 ** Locations as appropriate

BFG31269

24455004

TABLE 2 - PROTOTYPE DATA SHEET

PLANT _____ BUILDING _____ OPERATOR _____

DATE
TIME

1ST FLOOR

SECOND FLOOR

THIRD FLOOR

24455005

BFG31270

TABLE 3
EXAMPLE OF SURVEY TIMES
THREE BUILDINGS - FIVE DAY STUDY

1ST DAY		2ND DAY		3RD DAY	
TIME	BLDG	TIME	BLDG	TIME	BLDG
0800	1	0800	1	1600	1
0810	2	0830	2	1630	2
0900	3	0900	3	1700	3
1030	1	1030	1	1830	1
1100	2	1100	2	1900	2
1130	3	1130	3	1930	3
1300	1	1300	1	2100	1
1330	2	1330	2	2130	2
1400	3	1400	3	2200	3
4TH DAY		5TH DAY			
TIME	BLDG	TIME	BLDG		
1600	1	0030	1		
1620	2	0100	2		
1700	3	0130	3		
1830	1	0300	1		
1900	2	0330	2		
1930	3	0400	3		
2100	1	0530	1		
2130	2	0600	2		
2200	3	0630	3		

24455006

BFG31271