

1975 - FEDERAL
OSHA - PEDRICKTOWN

NGC 14036

T. Nelson
CC: R. Kelley
M. W. Johnson
E. K. ...

B. F. Goodrich Chemical Company

Inter-Organization Correspondence

To	A.R. Webber	From	J.M. Smith	RECEIVED
Location	Pedricktown	Location	Pedricktown	JUL 29 1975
Department		Department		R. A. KELLEY
Subject	O.S.H.A. PRELIMINARY SURVEY			Date 7-21-75

On July 21 at approximately 9:30 A.M. we received a visit from our local O.S.H.A. Inspector, Mr. Nyz (pronounced Nice). He had all the proper Government Credentials and works out of the Camden Area. Mr. Nyz stated that his purpose was a preliminary survey of Petrochemical Plants in the area. He was particularly interested in obtaining an understanding and copies of the following:

1. O.S.H.A. form 100 - Log of Occupational Injuries and Illnesses for 1973, 1974, and 1975
2. O.S.H.A. form 101 - Report of Injury for 1973, 1974, 1975
(Don Cross indicates that as long as any company record exceeds requirements of 101 it may be used. Therefore we use "Supervisor's Report of Injury".)
3. O.S.H.A. form 102 - Summary of Occupational Injuries and Illnesses for 1973, 1974
4. Flowsheets of Processes
5. List of chemicals we use

The following actions were taken:

1. Cleveland safety and management were informed.
2. O.S.H.A. Camden Office (609-963-2541) care of Mr. Schindler, Acting Director was contacted to verify credentials.
3. D. Cross was contacted to supply safety and health information.
4. W. Reed was contacted to assist in supplying process and raw materials information.

Mr. Nyz indicated he would take the information back to Camden where an industrial hygienist would look it over and make determinations.

After a lot of informal discussion Mr. Nyz left at approximately 10:45 A.M.

COMPAN.
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Inter-organization Correspondence

B.F. Goodrich

TO H. Waltemate	FIELD POINT OR DEPT. & BLDG. NO. Cleveland	DATE YOUR LETTER
FROM D. L. Cross	FIELD POINT OR DEPT. & BLDG. NO. Pedricktown	DATE THIS LETTER 09/29/75
SUBJECT		

VELOMETER READINGS OBTAINED IN MASS RESIN, BUILDING 512

The velometer results obtained by Mr. Abraham Hyman, OSHA Industrial Hygienist, are reviewed below.

Readings are given in linear feet/min. (LFM) and were taken from an Alnor velometer on the maximum sensitivity scale.

<u>Sample Point</u>	<u>Reading Obtained</u>
A	500 LFM
B	150-200 LFM
C	0-60 LFM
D	50-200 LFM
E	0-150 LFM
F	0 LFM
G	20 LFM
H	0-125 LFM

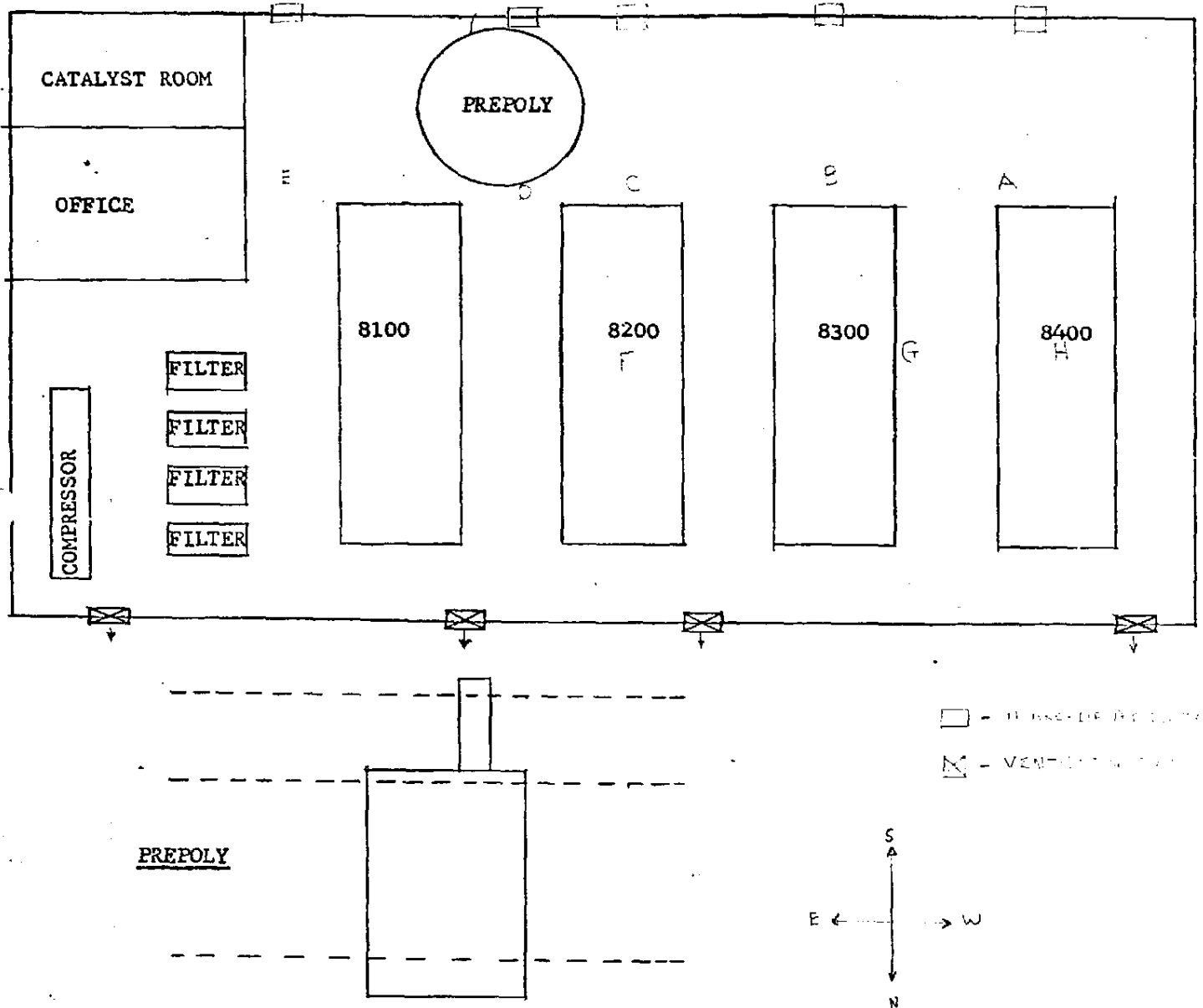
The location of each reading is shown on the attached building drawing. Readings A-E were taken on the office level, and readings F-H were taken on the mezzanine above the autoclaves.

Also attached is a recent report regarding attempts to improve air flow patterns.

DLC/dlm

Attachments (4)

BUILDING 512 - MASS RESIN



NGC 14040

Ed Martinelli

FROM

Fred Cheselka

FIELD POINT OR DEPT. & BLDG. NO.

DATE THIS LETTER

9/16/75

SUBJECT

MASS BUILDING VENTILATION

During the first and second weeks in September, ventilation patterns were studied in the Mass Building. Readings in feet per minute were obtained using an Alnor Velometer. This study was undertaken to maximize the airflow through the building especially at the catwalk level by the top of the autoclave condensers.

The Mass Building has intake air vent units and forced air units to channel outside air through the building from south to north. Data was collected using different combinations of open vent units. The building sampling points are shown in Figure 1. These locations were selected to give a representative cross section of flow in the building. Sampling points 1 through 8 are on the catwalk level by the top of the autoclave condensers, locations 9 through 12 are on top of the autoclaves, and points 13 through 16 are on the ground floor between the reactors. In all cases the two roof fans were running and the ground level fans were on the emergency, summer position. The prepoly fan facing south was off.

Preliminary testing indicated the importance of louver direction. In most instances, a fanning effect was found to be the best for air flow characteristics. With the louvers directed only forward, an increase in dead spaces throughout the building was observed.

Once the louvers were correctly positioned on the units, the first series of runs were conducted with cardboard covering the mezzanine level. For comparison, the second series of runs were conducted with the mezzanine level uncovered. The results can be found in Table 1. Column 2 contains readings for the mezzanine level covered with cardboard and all the ground floor intake air vents open. Column 3 is comprised of readings with only 2 of the 4 ground floor intake vents open and Column 4 is for all the ground floor air flow vents closed. Columns 5 and 6 represents no cardboard on the mezzanine level. All the readings in Table 1 were taken on the same day with the wind direction from the southwest at 5 miles per hour.

None of the trials showed consistent readings of acceptable air flow rates on the catwalk above 8100 and 8200. However, air flow was slightly bettered with the mezzanine level covered, and 2 of the 4 ground floor fresh air vents closed. On subsequent days readings were taken with all fresh air and forced air vents on the ground floor closed. This combination caused turbulence above 8100 and 8200. Also with just the forced air closed, no increased air flow was observed by the catwalk.

Due to the obstruction caused by the prepoly and its piping, flow patterns are altered by 8100 and 8200. Covering the mezzanine level did not improve these conditions significantly. Because increased air flow into this area would still be altered by the prepoly, a viable alternative is to remove air from the condenser level. This would best be achieved through ductwork to the catwalk from the roof ventilation units.

FC/re

cc: Tom Nasife
Warren Reed ✓
Dennis O'Keefe
Bob Webber

NGC 14041

FIGURE 1

BUILDING 512 - MASS RESIN

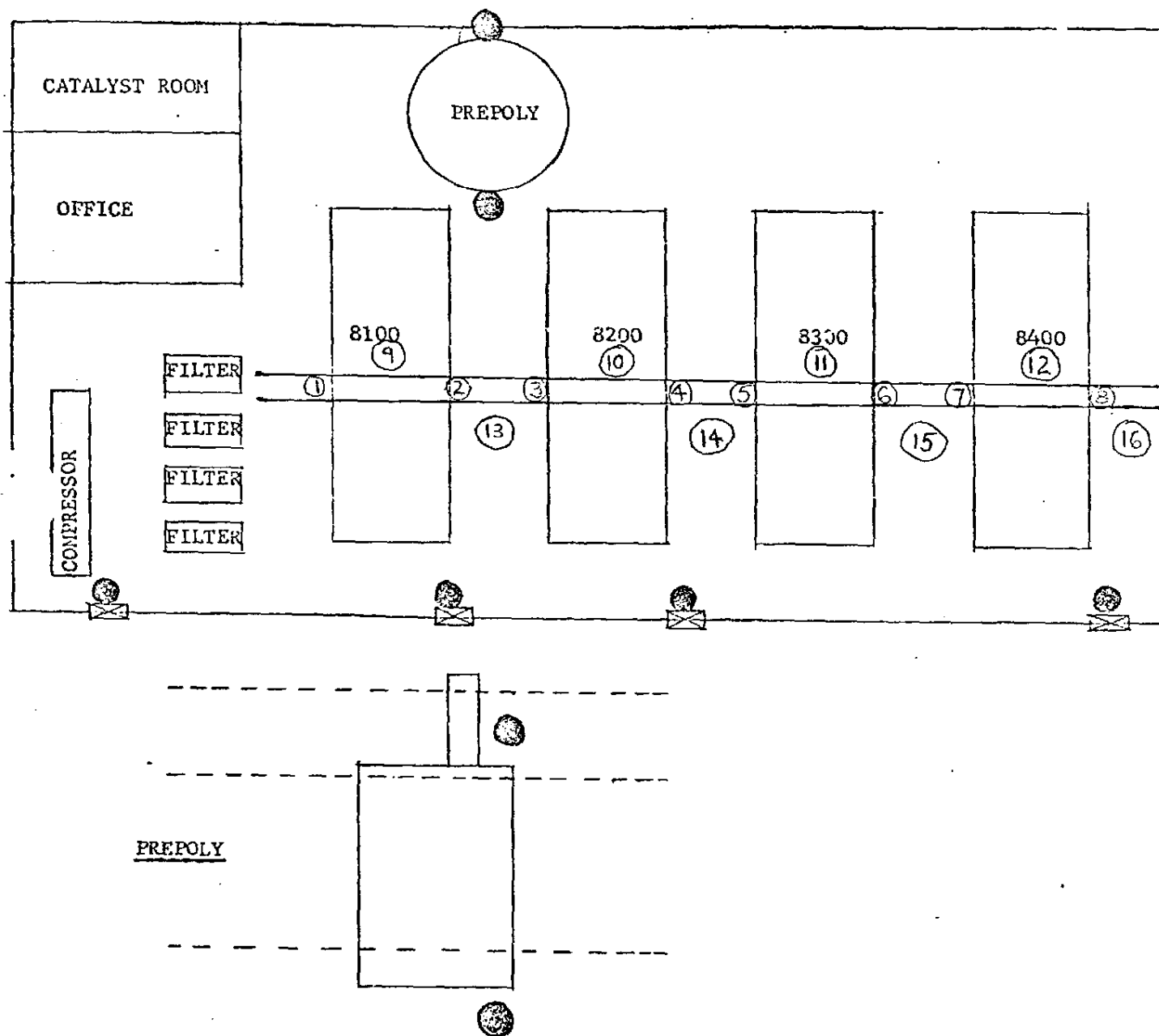
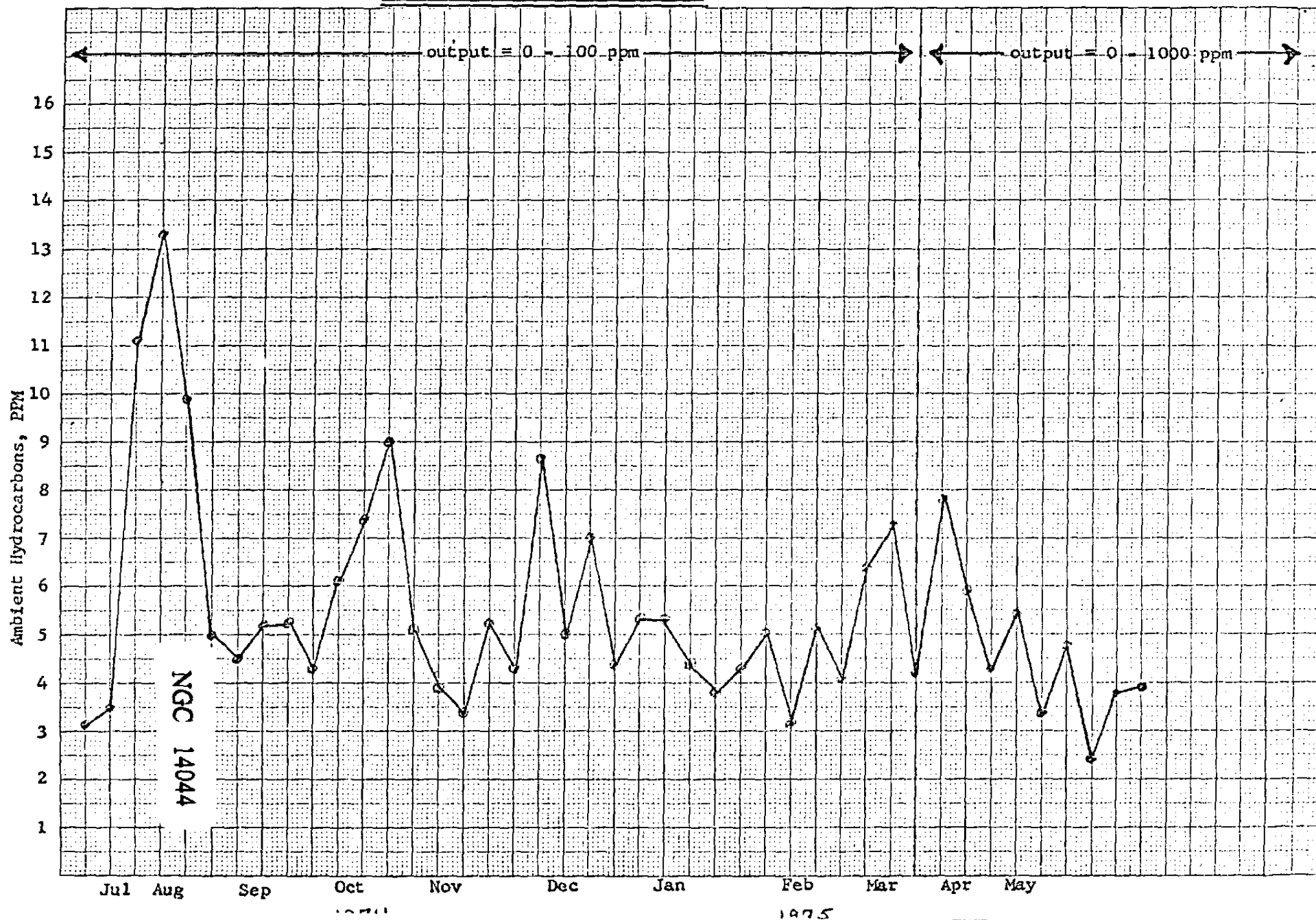


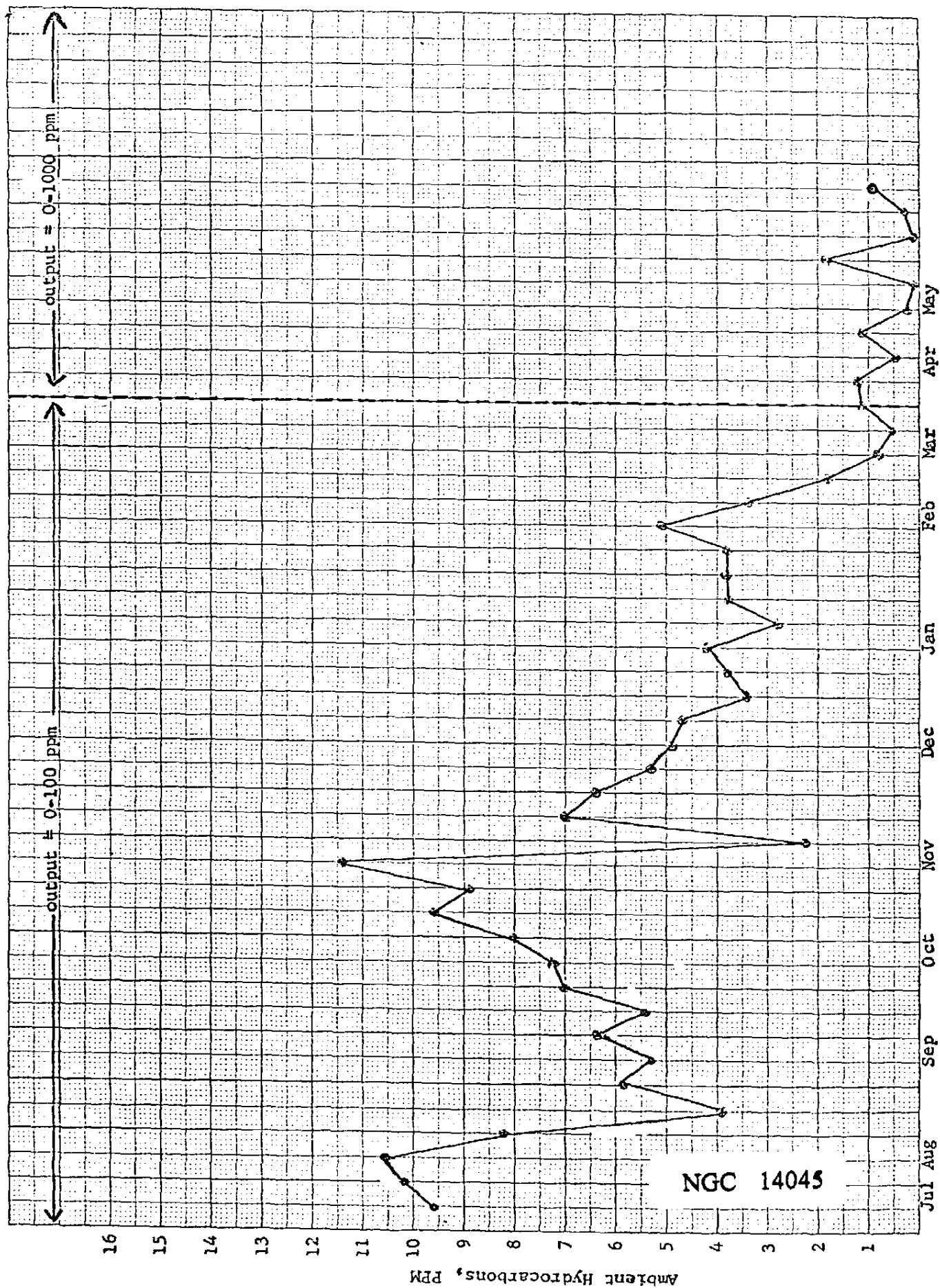
TABLE 1

SAMPLING POINTS	CARDBOARD \$ ALL VENTS OPEN	CARDBOARD \$ 2 OF 4 G.F. VENTS OPEN	CARDBOARD \$ ALL G.F. VENTS CLOSED	NO CARDBOARD \$ 2 OF 4 G.F. VENTS OPEN	NO CARDBOARD \$ ALL VENTS OPEN
1	0	0-50	20-30	0	0
2	0	20-40	0-50	0	0
3	10	10	10	0-30	0-20
4	0	10	10	0-40	0-20
5	10	0-50	50-100	0-50	0-20
6	10	50	100-150	0-40	0-10
7	0	20-70	20-70	50-80	40-80
8	20	50-100	0-50	0-50	50-70
9	0	0-20	20	0	10
10	50-100	30-70	40-80	100-150	100-150
11	110	20-60	100-150	0-100	20-50
12	20	0-20	70-150	30-70	30-70
13	40-60	0	10	70	50-70
14	50-100	10	0	40-60	60-100
15	120	40-100	0-50	100-150	60-90
16	50-100	50-100	100-200	—	40-70

BUILDING 513 - WEEKLY AVERAGE



output = 0-1000 ppm



NGC 14045

1975

BENDIX ITA SHIFT REPORT

DATE - 8 27 75 BUILDING AVERAGES: MASS - 2.76
SHIFT ENDING - 1530 PEARL-PASTE - 2.13

POINT	AVERAGE	HIGH	NO. OF READINGS	READINGS LESS THAN 5	READINGS OVER 25
1	2.09	8.13	43	90.7%	0.0%
2	2.24	8.13	43	83.7%	0.0%
3	2.24	15.00	43	88.4%	0.0%
4	6.95	76.88	44	68.2%	9.1%
5	1.72	19.38	44	95.5%	0.0%
6	1.71	7.58	43	95.4%	0.0%

PEARL-PASTE:

1	0.44	5.63	44	95.5%	0.0%
2	0.90	5.63	44	97.7%	0.0%
3	6.14	90.63	43	74.4%	2.3%
4	0.77	4.38	43	100.0%	0.0%
5	2.12	13.75	43	86.1%	0.0%
6	2.09	4.38	43	100.0%	0.0%

NGC 14046

CARBON TUBE RESULTS

BUILDING 513

<u>PERIOD</u>	<u># OF SAMPLES</u>	<u>HIGH</u>	<u>LOW</u>	<u>< 1</u>	<u>1-3</u>	<u>3-5</u>	<u>5-10</u>	<u>> 1</u>
<u>1974</u>	48	69.0	1.1	0	15%	23%	29%	33%
<u>1975</u>	105	24.0	.01	36%	33%	12%	13%	6%
1 ST Quarter 1975	52	24.0	.01	35%	25%	15%	13%	12%
2 ND Quarter 1975	67	14.0	.01	42%	42%	7%	7%	2%

NGC 14047

CARBON TUBE RESULTS

BUILDING 512

<u>PERIOD</u>	<u># OF SAMPLES</u>	<u>HIGH</u>	<u>LOW</u>	<u><1</u>	<u>1-3</u>	<u>3-5</u>	<u>5-10</u>	<u>>10</u>
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974

50	67.0	.97	2%	34%	18%	22%	24%	
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975

51	24.0	.02	41%	35%	6%	14%	4%	
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1ST Quarter
1975

33	24.0	.02	46%	37%	3%	12%	3%	
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2ND Quarter
1975

23	9.5	.02	48%	30%	19%	13%	0%	
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NGC 14048

Inter-organization Correspondence

BFGoodrich

TO	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	DATE YOUR LETTER
H. Waltemate	Cleveland	
FROM	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	DATE THIS LETTER
		08/29/75

A preliminary meeting was held with W. A. Reed, Area Manager, Professional Services and D. P. O'Keefe, OSHA Coordinator. Pedricktown's provisions for area and personnel monitoring were discussed.

Next the OSHA 100, 101, and 102 forms for 1973 and 1974 were reviewed. Questions were posed regarding occupational dermatitis and two occurrences were reviewed with Jane Jackson, Plant Nurse.

The two inspectors then proceeded into the plant area accompanied by W. A. Reed, D. P. O'Keefe and myself.

Buildings entered and activities conducted:

Bldg. 514, Computer Bldg. - Reviewed computer monitoring of the Bendix results in Bldg. 512, Mass Resin, and 513, Poly Bldg. A Bendix data shift report of building averages was given to the inspectors. (See attachments).

Bldg. 512, Mass Resin - Two technicians were monitored using Sipin pumps for a 15 minute period. We conducted simultaneous monitoring. Our samples were contaminated. Velometer readings were taken throughout the polymerization side of the building to check for adequate ventilation. Readings obtained varied from 500 linear feet per minute in good areas to practically 0 linear feet per minute in stagnant areas. Readings were taken with fan switches turned to the summer (high) position.

Bldg. 513, Poly Bldg. - Entry was only made on the first floor of this building. No readings of any kind were taken. The location of the Bendix sample points under the polys was noted.

At 1600 a wrap-up meeting was held with A. R. Webber in his office with Messrs. Hyman and Rains, D. P. O'Keefe, W. A. Reed, and myself in attendance.

A citation was given based upon 1910.134 AI. This resulted from the velometer readings obtained in Bldg. 512. A three month abatement period was established.

Enclosed are copies of all forms given to Mr. Hyman.

DLC/dlm

cc: A. R. Webber
W. A. Riley

BFG-1056-B REV. 11/70 PRINTED IN U.S.A.

This section .134 is on Respiratory Protection. I do not see how a citation could be issued unless his sample results are above the TLV.

N.W. NGC 14049



B. F. GOODRICH CHEMICAL COMPANY
a division of The B.F. Goodrich Company

The Pedricktown Communicator

April 11, 1975

VINYL CHLORIDE EXPOSURES

Effective April 1, 1975, all personnel monitoring results in excess of 1 ppm will be reported to the individual within ten working days of analysis. Monitoring results less than 1 ppm can be obtained from the OSHA Coordinator upon request.

Steps being taken to reduce vinyl chloride exposures to minimum levels can be divided into two categories - short term and long term.

Short Term Program

The emphasis of the short-term solutions is one of protection rather than prevention. The following steps have been taken to provide protection from vinyl chloride exposure:

1. Respiratory Protection Program - use of approved respirators eliminates exposure to VCM.
2. Continuous monitoring of breathing air supply insures quality of air provided.
3. Continuous area monitoring with Bendix analyzers alerts us to exposure conditions in the working environment.
4. Information and training. In addition to specific VCM training sessions, safety meetings, and shift meetings, plant safety procedures have been updated to include exposure-related items:

SA-4D: Covers vessel entry procedures

SA-30B: Covers guidelines for respiratory protection

SA-31B: Covers VCM protective measures including a list of recognized "Hazardous Operations" which can result in high exposures to VCM

SA-32: Covers plant emergency procedures

PRIDE
VISION
COMMUNICATIONS

NGC 14050

Long Term Program

The emphasis of the long term program is prevention. Through engineering and technical improvements in the processes, we hope to eliminate exposure sources. Following are specific projects:

A. Reduce Ambient Vinyl Chloride (AVCM) levels in working environment.

<u>PROJECT</u>	<u>COMMENTS</u>
1. Leak detection and control (512, 513, 515)	All Lead Techs in the resin areas have been trained in OVA operation. Control of leaks is a major factor in reducing exposure.
2. Closed poly technique - Code 10B (513)	Eliminate opening of Pearl polys and subsequent escape of VCM to work area.
3. 120 X 283 Paste (513)	This "clean poly" recipe is a first step in our goal of "closed poly technique" for Paste.
4. Refrigerated vent condenser (513)	Will reduce by 80%, VCM lost to atmosphere through vent condenser.
5. Provide means to recover homogenizer feed strainer (513)	Eliminate VCM when cleaning strainers.
6. Initial HRC flush to Blend Tank (513)	Reduce VCM dropped to floor trenches.
7. Investigate HRC of Mass autoclaves (512)	If feasible, will reduce vessel entries.
8. Install additional recovery compressor outside (512)	Eliminate leakage problems currently associated with Pennsylvania compressor.
9. Spot ventilation and atmospheric diffusion system (512 and 513)	Will isolate leaks and increase efficiency of removing VCM from buildings.
10. Investigate replacement of rupture discs with relief valves (512, 513)	Will provide control of unusual releases.
11. Standby electrical power to critical loads (512, 513)	Will eliminate VCM discharges due to unexpected power failure.
12. Extend vent of Paste concentrator blend tank (515)	Has eliminated VCM exposures from this source.
13. Revise centrifuge sump exhaust (515)	Will improve removal of VCM in centrifuge area.

<u>PROJECT</u>	<u>COMMENTS</u>
14. Revise Venturi dryer outlet exhaust (515)	Has improved dispersion of VCM from dryer exhaust.
15. Additional air line stations (all areas)	Will provide breathing air for all possible exposure situations.
16. Upgrade breathing air system (all areas)	To meet new Company specification for breathing air supply.
17. Improve ventilation (all areas)	Maximize ventilation in all affected areas.
18. Personnel monitoring program (all areas)	Will aid in evaluating affect of VCM reduction program.

B. Reduce residual vinyl chloride (RVCM) in resin products - will reduce exposure potential in the Dryer Building, warehouses, and customers' plants.

<u>PROJECT</u>	<u>COMMENTS</u>
1. Steam sparge Pearl Resin (513)	Permits recovery of more unreacted VCM.
2. UPS-1 Resin (513)	Properties of this resin permit easier removal of VCM.
3. Steam stripping of Pearl Resin (513)	Scheduled for late 1975. Will reduce RVCM to less than 1 ppm in slurry.
4. Increase Paste recovery temperature (513)	Initial step in lowering RVCM of Paste slurry.
5. Paste slurry stripping (513)	Ultimate goal in reducing RVCM in feed to dryer.
6. Replace steam jets with vacuum pump (512)	Will eliminate condensate contamination in prepoly, which adversely affects VCM removal properties of resin.
7. Steam break in Mass autoclaves (512)	Has resulted in dramatic reduction of RVCM in Mass resins.
8. Steam fluidization of bins (515)	Is capable of reducing RVCM in Pearl resins to less than 1 ppm.
9. Increase fluidization capacity in silos (541)	Will permit greater flexibility in using silos for RVCM reduction.

New projects are being undertaken as they are developed. We will attempt to keep everyone informed of the progress and results of these corrective measures.

Dennis O'Keefe
OSHA Coordinator

NGC 14052

DOCUMENTS NGC 14053 - 14054

REMOVED FOR PRIVILEGE