NON-CASUALTY SUIT

OSHA-VINYL CHLORIDE

RE: THERMOPLASTICS COMPLIANCE PROGRAM

DOCKET # 1964

LEOMINSTER
COMPLIANCE PROGRAM

Copy #11

BORDEN

INTER-COMPANY AND OFFICE CORRESPONDENCE

To: D. Collette

From: R. L. Mercier

{ Dept. Branch Division Company

Located at: Leominster, Mass.

Subject: OSHA Standard - Vinyl Chloride

Date: December 18, 1974

Provisions are within this standard which allow for opportunities of employees and their designated representatives to observe the monitoring and measuring that is required.

Requests for this opportunity must be made in writing, listing the employees concerned and their designated representatives by name. Upon request, we will schedule a proper time for this review.

See comments on this by Borden Employee Relations

Likewise, there are provisions for examination of monitoring and measuring records. This, too, must be handled by written request.

All such requests are to be made, in writing, to N. M. Blackman.

How do we propose to advise employees of their right to observe and notify them of monitoring schedules?

R. L. Mercier

RLM:mdm

cc: H. R. Jepsen, Jr.
N. M. Blackman
NIOSH Compliance File

BOR 012720

MONITORING METHODS - 1 PPM STANDARD

The following are the approaches being used to monitor VCM exposure:

1. Personnel Monitoring

   Eight-hour carbon tubes, specific for VCM utilizing Bendix PMCC and Bendix Flasher attached to a Gas Chromatograph. This is scheduled once per month for each individual exposed above the permissible exposure limit. It is scheduled quarterly for those exposed above the action level but below the permissible level.

2. Area Monitoring

   A Bendix total hydrocarbon analyzer is used to monitor areas of exposure. By calculating an employees length of time in a control area we can determine the "Maximum Expected Exposure to VCM" in these areas. This is to be done for all areas on every shift. Alarms indicating at 25 ppm have been installed to signify when a change in ~~masks~~ RESPIRATORY EQUIPMENT is to occur.

3. Spot or Leak Checking

   Century OVA 98 Total hydrocarbon analyzers are in use to check areas not covered by the Bendix, to double-check Bendix results and to spot sources of leakage. This is scheduled to be done daily.

O = PVC mfg

REGULATED AREAS

pvc warehouse maintenance

Regulated areas for Leominster are Buildings 1, 2, 3, 4, 4A, 5, 6, 7, 8, 21, 22, 23, 24, 31 and that portion of Building 10 South of the East-West hallway.

□ = Polyvinyl Bldg

The VCM unloading area will be regulated only while VCM cars are being connected or are connected for unloading.

The PVC Bulk loading area will only be regulated while PVC Bulk is being loaded into rail cars or trucks.

BORDEN

INTER-COMPANY AND OFFICE CORRESPONDENCE

TO: J. Degenfelder
R. Mercier

FROM: A. C. Mendelsohn

{ Dept. Branch Division Company

LOCATED AT: Leominster, MA

SUBJECT: VCM Compliance program for day maintenance men, janitors, grounds keepers and their supervisors.

DATE: December 26, 1974

The objective of this program is to provide a means of control and record keeping for subject personnel who will be entering regulated areas daily, but on an intermittent basis and in various control areas. It is assumed that all subject personnel will be in a control area unless subsequent work sheets show otherwise.

PROGRAM

At the start of each work day, all subject personnel will report to the Safety Technician for entrance into the Roster and issuance of safety equipment. At the end of the day's work, each man will return his safety equipment to the Safety Technician and be entered into the Roster as leaving.

The Maintenance Daily Time Sheet will be modified to include not only hours worked and on what project, but will also include the control area designation and the starting and finishing time of each job.

A copy of these time sheets will be turned into P. McDonald daily.

A. C. Mendelsohn

ACM/sr

WHERE EQUIPMENT SUCH AS CANNISTERS, IS SUBJECT TO A LIMITATION ON THE NUMBER OF HOURS OF USE, PERSONNEL WILL BE SO INSTRUCTED AND REQUIRED TO OBTAIN REPLACEMENT EQUIPMENT WITHIN THE REQUIRED TIME PERIOD.

BOR 012723

BORDEN

INTER-COMPANY AND OFFICE CORRESPONDENCE

TO: J. Degenfelder
R. Mercier

FROM: A. C. Mendelsohn

LOCATED AT: Leominster, MA

{ Dept. Branch Division Company

SUBJECT: VCM Compliance program for entrance to regulated areas by visitors, contractors and material deliverymen.

DATE: December 26, 1974

The objective of this program is to provide a means for control of subject personnel and prevent entrance into regulated areas by unauthorized personnel.

Definitions:

Visitor:

A person who has business with Borden personnel but the nature of his business does not require that he conduct his business in a regulated area.

Contractor:

A workman and his authorized supervisor who will be performing work on the site in both regulated and non-regulated areas. This category will also include people who must enter a regulated area for purpose of inspecting equipment.

Material Deliverymen:

A driver and/or helper who are bringing materials to and from the site, usually by vehicle.

All of the above personnel are not Borden, Leominster site employees.

Regulated Area:

An area so designated by the Manager of Work Practices as being required to be so designated and posted, by ~~the VCM Compliance Regulations~~. Section 1910.93z (e)

PROGRAM

Visitors:

Visitors will not enter the regulated areas. They will sign in and out with the telephone operator in building 20B. The telephone operator will contact the Borden employee being visited. The Borden employee will either meet with the visitor in the lobby or escort him thru and to non-regulated areas only, to conduct their business. On the completion of

business the Borden employee will escort or direct the visitor to the lobby to sign out. The Work Practices Manager may designate other areas suitable for conducting business.

Contractors:

A.) Daily Workers:

They shall apply to the Plant Engineer, who will issue a pass which shall expire no later than 1700 on Friday of the week in which it was issued. The pass shall designate whether it is for regulated or non-regulated areas.

If for regulated areas, it shall designate the areas for which the pass shall be valid. If the worker will be reporting for work on the following Monday, he may obtain a pass for the following week on the preceding Friday.

Daily workers who will be in regulated areas will report to the Safety Technician for entrance on the daily Roster and issuance of safety equipment. On leaving the plant, the worker will return the safety equipment to the Technician, and be recorded on the Roster.

The on-site contractor supervisor will maintain a time sheet as now used, but will, in addition indicate the time that he and his men were in specific regulated areas. (A maintenance form may be used.)

B.) Occasional Contractor supervisors and others who must enter the regulated areas for business:

Every attempt shall be made to minimize these visits. These people shall be encouraged to come by appointment only. They shall enter the site similar to a visitor, via the telephone operator's lobby in building 20B. The visited party shall obtain a pass from the Plant Engineer and the Contractor will be escorted to the Safety Technician for issuance of safety equipment and entrance into the Roster. Leaving the site will be via the Safety Technician and the telephone operator's lobby.

All type "A" passes will be returned to the Plant Engineer on completion of work or on Friday afternoon, which ever shall come first.

All type "B" passes will be returned to the telephone operator prior to leaving the site. The telephone operator will, in turn, return such passes daily to the Plant Engineer. The Plant Engineer will maintain a list f passes issued and returned and submit daily a copy of this list to the Work Practices group.

Material Deliveries:

Material shall be delivered to and picked up from non-regulated areas only. Trucks and other vehicles making deliveries and pick-ups shall stop outside building 4. It will be the responsibility of the Shipping Department to properly direct, or load, or unload these vehicles so that the deliverymen will not enter regulated areas. The Work Practices group shall so post a prominent notice by sign at the Lancaster Street entrance. The Elm Hill Avenue entrance will be used for emergency vehicles only.

Contractors (both A and B) will wear distinctive markings on their safety hats. These markings may be affixed to the contractor's own hat, or for the occasional class B contractor, it will be affixed to a Borden-furnished hat.

A. C. Mendelsohn

ACM/sr

Maintenance ☐
Janitor ☐
Grounds Keeper ☐
Contractor ☐

TIME DISTRIBUTION

Name_____ Date_____ Shift_____

CC	type	No.	Equip. No.		Control Area	Hrs.	Time In	Time Out
1	P	102		Lunch Break Paper Work				

Straight Time_____

Overtime_____

BOR 012727

WORK PRACTICES PLAN

To meet the specific requirements of the permanent OSHA standard for VCM exposure, we have worked out the following system covering changes in our work practices:

I. Organization

The new position of "Operations OSHA Compliance Controller" has been established for full time coverage in the plant. The details of this position are included in the attached memo of November 26, 1974 (Manning for OSHA Compliance). These controllers will report to Phil McDonald, OSHA Compliance Foreman. McDonald will report directly to the Plant Manager.

II. Employee Control

The measurement and control of worker exposure will be handled by use of "control areas" as outlined in the attached memo of November 8, 1974 (Compliance with OSHA VCM Standard). These areas are finalized except for a few instances as we generate more data to determine the overall regulated area. In both the PVC and Polyco departments, the recording of workers time by control area will be kept daily by the OSHA Controller and sent to the Work Practices Group. In Polyco, the actual log will be kept by the Shift Foreman and turned over to the controller.

For the Maintenance department (excluding shift men in PVC), a separate system will be kept by supervision in a straightforward manner. The maintenance program will also control access of outside vendors and contractors. Cline Mendelsohn will send the details to you by the end of this week.

Our training program has been underway for some weeks. Our philosophy is to incorporate the requirements for worker exposure to VCM into our modified and expanded (standard operating procedures) Phil McDonald's master outline and schedule shows the completed and planned training in this area.

IS THIS AVAILABLE NOW?

J. R. Degenfelder

COMPLIANCE WITH OSHA
VCM STANDARD

November 8, 1974

I will be the chief action coordinator for operations in determining our program in meeting the OSHA permanent standard for VCM exposure. The main engineering improvements of copolymer recovery, revised RVCM handling (D209), and full blending resin recovery in D406 have and will continue to be detailed in separate memos. The other main areas for operations are VCM monitoring and respiratory mask control.

A. Monitoring

1. Control Areas - a control area is a geographic part of the plant which has more or less uniform VCM in air content and which fits the work pattern of operating personnel, e.g., Module 2/3, tank car unloading, all of new Polyco. Control areas will be fixed at least through January 1, 1976.

2. Monitoring philosophy will be based on measurement of a time weighted average VCM exposure for a control area for an eight hour shift. The expected work period for each employee will be expressed as hours per control area, e.g., four hours in Module 2/3, 0.9 hours in lunch room, etc.

3. Monitoring equipment will be the two Bendix units currently installed. Air sample intake will be taken by two to six individual tubes (spider) from different points in the control area, joined together to give one gas sample for analysis. Control areas off large space, e.g., new Polyco, or nil VCM sources, e.g., PVC Office, will be measured by periodic air samples.

4. A periodic check (at least monthly) of personnel exposure will be made to check personnel analysis versus readings given by the monitor to insure system validity.

5. We currently can measure eighteen inputs in the PVC plant and six in Polyco. We can add new hardware to measure more inputs if we have more control areas.

B. Mask Control

Starting January 1975, personnel will sign for -

1. Equipment receipt.

2. Acknowledgement of conditions for use.

3. Acknowledgement of cause for dismissal if they do not follow 1 and/or No. 2.

C. Operating Control

The operating group is being expanded to monitor and reduce VCM random sources and enforce operating procedures and respiratory protection. The elements of this expansion are:

1. One monitor per shift with two year technical degree or equivalent,

2. Monitor reports to Plant Manager or special representative, which will not be production superintendent or foreman.

3. Monitor can take action independent of shift foreman concerning leak monitoring, reduction, mask wearing, etc. He will keep shift foreman informed. The shift foreman will have final judgment in case of any disputes, which will be reviewed on the following regular work day by the Plant Manager.

4. Additional check monitoring, simulated OSHA inspections, personnel monitoring, etc., will be done by Work Practices group.

5. Monitor will cover whole plant, including PVC latex, but with little emphasis on non-VCM source areas such as new Polyco.

J. R. Degenfelder

Implementation of procedures to minimize worker exposure to vinyl chloride vapors (VCM) will require additional personnel in the operating organization.

Procedures and equipment added to meet the temporary VCM standard of April, 1974, added additional workload to the PVC shift foremen.

The additional workload all ready undertaken and/or planned for implementation by 1/1/75 includes:

A. Control Procedures

1. Monitoring and control of operating personnel within preset control areas.

2. Enforcement of use of respiratory equipment when required.

3. Closer supervision of operations defined as "hazardous" under the OSHA standard.

B. Analytical Procedures

1. Investigation of high VCM concentrations monitored by the Bendix units.

2. Prechecking of VCM content for hazardous operations such as filter changes, RVCM venting, monomer unloading, etc.

3. Pinpoint specific random VCM leaks for correction and feedback for engineering improvements.

C. New Process Operations

1. Full stripping of specialty resins.

2. Bin purging with hot air.

3. Copolymer recovery system.

4. New approaches as they develop.

New personnel are being hired for the position of OSHA Compliance Controller.

1. The OSHA Compliance Controller reports to a supervisor separate from the regular operating organization, and in turn to the plant manager. (Until mid-1975, there would tend to be more direct control by the plant manager.)

2. OSHA Compliance Controller, after graduating from training status, will have the authority of the shift foremen in matters pertaining to VCM exposure control.

3. In case of conflict between the Polyco or PVC shift foremen and the OSHA Compliance Controller, the shift foremen will have override authority.

4. Conflicts arising in #3 above will be analyzed and resolved each weekday by the plant manager or by telephone contact in emergency situations.

J. Degenfelder

LEOMINSTER SITE - PROGRAM DESCRIPTION

MONITORING PROGRAM

Project 1 - Installation of Bendix Total Hydrocarbon Analyzer and Recording System with Multipoint Sampling of Regulated Areas - for Main Plant

This project was completed in summer 1974, and provides the major system for area monitoring and plant surveillance.

The selection of the THA equipment was predicated on the fact that at the time this was the best selection within the instrument options available, and provided reliable monitoring within the temporary 50 ppm standard. As the various work practice and other engineering programs have brought the workplace contamination levels down to within the range of the ~~permanent standard~~ PERMISSIBLE EXPOSURE, the need for a specific VCM instrument becomes more justifiable. By the same token, the instrument technology for specific VCM monitoring is still in a rapidly changing mode. At some future date, when instrument technology change has somewhat stabilized, and the workplace air quality closely approaches that of the ~~permanent standard~~ PERMISSIBLE EXPOSURE LIMIT, a commitment to the VCM specific instrumentation will be made.

Project 2 - Purchase of Century OVA Portable System and Bendix Flasher Units for Personnel Monitoring

Purchase and phase-in of this instrumentation was completed summer and fall 1974, and provides for portable monitoring to extend surveillance capability to remote areas, and personnel monitoring for direct measurement of personnel exposure in the regulated areas.

Project 3 - Installation of Base-Line VCM Specific Analyzer and Recording System for Laboratory Area

This project underway (December 1974) will provide area monitoring of the PVC Laboratory Building. It is the first VCM specific analyzer brought into the division and will serve as a piloting model for the future VCM specific instrumentation needs of the main operating plant.

LEOMINSTER SITE

AIR SUPPLY & VENTILATION PROGRAM

Project 4 - Installation of Air Supply Fans to Building #8 Warehouse

This project was completed summer 1974, to reduce contamination level in this building by air sweeping out stagnant pockets of VCM diffusing from bagged resin storage.

Project 5 - Installation of Ventilation to Building #4 A Warehouse

This project is underway (December 1974) to accomplish a reduced contamination level in this building by air sweeping out stagnant pockets of VCM diffusing from bagged resin storage.

Project 6 - Installation of Additional Spot Exhauster Stations in Polymerization Building - PVC Plant

This project was completed summer 1974, and provided for increased spot ventilation control points in the Polymerization Building to assist in fume control from leakage situations or from open kettle operations.

Project 7 - Installation of Supplementary Ventilation to Polymerization Building - PVC Plant

This project currently underway (December, 1974) will provide supplementary ventilation air (heated in wintertime) from a remote location, to improve air quality in the Polymerization Building through increased air changes with a "cleaner" air source.

Project 8 - Installation of Remote Fresh Air Intakes for H & V Units at Polymerization Building - Polyco PVC Latex Plant

This project currently underway (December, 1974) will provide "cleaner" supply air to the Polymerization Building, thereby promoting an improved workplace air quality.

Project 9 - Installation of Latex Storage Tank Ventilation at Polyco PVC Latex Plant

This project currently underway (December, 1974) will provide a process exhaust to outside for these indoor tanks, and will thereby contribute to an improved workplace air quality.

Project 10- Installation of Respirable Air Supply Header System at PVC Plant with Dedicated Non-Lube Compressor

This project was completed summer 1974, and provides breathable air for respirator equipment at various plug-in stations in the main plant area.

LEOMINSTER SITE

RELOCATIONS/ISOLATIONS PROGRAM

Project 11 - Relocation and Enlargement of In-Plant Lunch Room, Locker Room and Canteen Facilities to North Side of Plant Area

This project was completed fall 1974, and provides a modern employee facility at a remote plant location properly situated and ventilated so as to be in compliance with permanent standard air quality.) —— Does this mean Baker Room without [illegible]

Project 12 - Isolation of Recovery Systems by Partitioning Off Area from Polymerization Section

This project completed in fall 1974, (for modules 2, 3, 6 & 7) provided for the establishment of a separate ventilation zone for the recovery systems at negative pressure with respect to the Polymerization Section, so that recovery system leakage problems would not contaminate the Polymerization Area.

Project 13 - Isolation of Main In-Plant Personnel Walkway (from Locker Room to Plant Area) from Building #8 Warehouse

This project completed in fall 1974, provided a personnel tunnel between locker-lunch facility and plant area, with controlled ventilation to furnish uncontaminated air to this walkway.

Project 14 - Relocation of Wall Exhausters in Polymerization Building for Improved Spot Control

This project completed summer 1974, relocated several wall exhausters to more optimum locations to provide concentrated exhaust capacity at several pieces of offending fixed equipment, thereby reducing the effect of these local emissions on the workplace air quality.

Project 15 - Modifications to Recovery Systems to Provide for Local RVCM Storage and Recycle Rather Than Remote Storage and Recycle

This project completed fall 1974, reduced the contamination problem associated with extensive recovery system cleanouts due to fouling problems by providing for minimum piping runs and storage volume of RVCM prior to reuse.

LEOMINSTER SITE

PROTOTYPE PROCESS IMPROVEMENT PROGRAM

Project 16 - Installation of Prototype Stripping Module for Suspension Resins

The installation phase of this prototype project was completed fall 1974. Piloting work is underway to determine process parameters for improved recovery and stripping of resins. A successful consummation of this prototype project could pave the way to process revisions which can effect better workplace air quality by reducing the level of process emissions to the general plant area.

Project 17 - Installation of Prototype Copolymer Recovery System for Suspension Resins

This installation is underway. When completed it will be piloted to determine process parameters for recovery of VCM from copolymer resins. Successful consummation of this prototype project could also pave the way to process revisions leading to better workplace air quality by reducing process emissions to the general plant area.

RESPIRATORY EQUIPMENT

1. Up to 25 ppm measured over a 15 minute period, use of respirators are optional for 4/1/75 to 1/1/76. THEREAFTER, USE OF RESPIRATORS IS MANDATORY AT THE ELECTION OF THE EMPLOYEE ABOVE 1 PPM.

2. Up to 25 ppm, carbon cannister (Scott 084-OVL) will be available for use. These are acceptable for 8 hours at 25 ppm. Regardless of the minimum time used on a cannister, if the cannister has been used at all, it will be discarded at the end of each shift.

3. For use up to 1000 ppm, continuous flow, Type C, full or half mask respirators are available.

4. For above 1000 ppm, self-contained breathing apparatus in the demand mode (Scott Air Pak II) are available for use.

RESPIRATORY PROTECTION PROGRAM

While effective engineering methods are being developed to ~~control~~ REDUCE VC, TO AT OR BELOW THE PERMISSIBLE EXPOSURE LIMIT respirators will be used to ~~prevent those alleged occupational diseases caused by air contaminated by~~ REDUCE EXPOSURES TO THE PERMISSIBLE EXPOSURE LIMIT VC.

Employees shall not be assigned work involving the use of respirators until it has been medically determined that they are physically able to perform work while using respirators. The medical status of personnel using respirators will be checked on an annual basis.

1. Respirators will be supplied by the Safety Department when USE OF such equipment is necessary, ~~to protect the health of the employee~~.

2. Respirators were selected based on availability and suitability for the intended purposes.

3. A Control and Maintenance Program for respirators will be the responsibility of the Safety Department.

4. An initial training course in the use of respiratory equipment shall be the responsibility of the Safety Department. Thereafter Operations will instruct their personnel on a quarterly basis.

5. Employees shall take care not to damage any respiratory equipment assigned to them.

6. Employees shall report any malfunctions of the assigned respiratory equipment immediately to their foreman who will in turn notify the Safety Department Technician.

* THIS WOULD BE AN APPROPRIATE PLACE TO NOTE THE LIMITATIONS WITH RESPECT TO CERTAIN TYPES OF RESPIRATORY PROTECTION EQUIPMENT, NAMELY CANISTERS.

TRAINING AND EDUCATION

Initial training of all supervisors and employees, in the use of respiratory equipment, shall be the responsibility of the Safety Department, as well as the initial training of all new employees. Any employees changing job classifications to one which requires use of respiratory equipment will also undergo an initial training by the Safety Department.

A strictly enforced requirement will be a "refresher course" given by Operations on a quarterly basis, in the PURPOSE, PROPER use, and care of respiratory equipment pertinent to the employees specific job. LIMITATIONS The Safety Department will provide any assistance required in assuring effective training.

Training shall include:

Proper fitting and integrity check

Proper use and limitations

Inspection for defects

4/OR SHOULD REVIEW 1910.134 TO CONFIRM COMPLIANCE THEREWITH INSOFAR AS TRAINING, MAINTENANCE, RECORDKEEPING, WRITTEN PROCEDURES ARE CONCERNED FOR RESPIRATORY PROTECTION EQUIPMENT.

1910.134 (e)(3) REQUIRES A WRITTEN PROCEDURE FOR SAFE USE IN DANGEROUS ATMOSPHERES

ISSUANCE

1910.134 (f) REQUIRES IMPLEMENTATION OF A MAINTENANCE PROGRAM AND RECORDKEEPING OF INSPECTIONS AND FINDINGS

Respiratory equipment shall be acquired from the Safety Equipment Control Centers. Individuals will enter their signature on the log provided when drawing respiratory equipment. When the equipment is returned, the Safety Technician will so designate by entering his signature on the log and making note of the condition of the returned equipment.

RECORDS ON USE OF RESPIRATORS SHOULD BE MAINTAINED FOR 30 YEARS

The Safety Technician shall be responsible for the washing, disinfection and bagging of returned equipment before reissuance. No equipment shall be reissued or accepted for use unless this procedure is followed.

The Safety Technician shall inspect each piece of returned equipment for defects or damage. Defective or damaged equipment shall under no circumstances be issued, but shall either be repaired immediately or removed from service.

BORDEN

INTER-COMPANY AND OFFICE CORRESPONDENCE

TO: George Bevis - Illi polis
J. R. Degenfelder

FROM: R. L. Mercier

LOCATED AT: Leominster, Mass.

{ Dept. Branch Division Company

SUBJECT: Protective Garments

DATE: December 10, 1974

Two types of protective garments are required to meet the new Federal Standard.

Type I - Cotton Coveralls

Usage - Wherever an employee will be exposed to fresh, wet PVC containing residual VCM.

Examples - Reactor cleaning, removing wet cake from centrifuges or driers.

Type II - Impervious

Usage - Wherever an employee maybe exposed to liquid vinyl chloride.

Examples - Opening VCM lines, VCM pumps, etc. where liquid may remain.

Protective garments shall be provided clean and dry for each use.

The Work Practices Group will provide the protective garments for Leominster. George, you must provide your own Type I for Illiopolis. The Type II garments are currently on hand for both sites.

The safety man assigned to the mask program will be responsible for issuing, control and cleaning of protective garments.

R. L. Mercier

RLM:mdm

cc: H. R. Jepsen, Jr.
R. Landon - Illiopolis
J. Lee
H. A. Peed
NIOSH Compliance File

December 20, 1974

EMERGENCY PLAN - PVC DEPARTMENT

Definition:

An emergency is defined as the existence of a concentration of 3600 ppm vinyl chloride in air resulting from an uncontrolled source.

Equipment:

The only respiratory equipment approved for use in dealing with an emergency is the Scott Air Pak. These units are located as follows:

1 - MCC No. 3A emergency center
2 - Shift foreman's office
1 - Module No. 4
1 - Module No. 7
1 - Module No. 1 panelboard

Alert:

The alert will be sounded by dialing 9-9-9 on the Page-Call system. This alarm will sound for over two minutes and can be heard anywhere in the department. The senior PVC Lab Technician will inform the Production Superintendent (D. L. Young) and the Plant Manager (J. R. Degenfelder) and then evacuate.

Evacuation:

All personnel except the shutdown personnel will evacuate to the PVC parking area. Th will not leave this area for any reason except as authorized by the shift foreman or OSHA controller.

Shutdown Personnel:

Shutdown personnel who are required to stay in the operating area, using the Scott Air Pak are:

Shift Foreman — VCM source control
Lead Operator
OSHA Controller - Personnel accountability
Dryer Operators — Equipment Shutdown
2 Reactor Operators

Personnel Accountability:

The OSHA controller will ensure that all people other than shutdown personnel evacuate A check against the sign-in roster will be made. On the weekday shift, the OSHA controller will report back to the Shift Foreman to offer assistance.

Shutdown:

For the first 15 minutes, the 3 operators will monitor only the reactors and dryers. After 15 minutes, any charges under 5 hours run time will be stopped with AMS accordi to standard procedures. The feed will be shut off all three dryers. Further directi will be by the shift foreman.

All Clear:

The VCM concentration will be checked in each control area before sounding the all-cl This is the same signal as the fire alarm all-clear (4-4-4).

J. R. Degenfelder

BOR 012741

1910.93g (j) — PLACES THAT OSHA SHALL BE PROVIDED, UPON REQUEST, A MATERIALS RELATING TO TRAINING PROGRAM. ACCORDINGLY, IT WOULD BE APPROPRIATE TO PREPARE WRITTEN OUTLINE OF SUBJECTS PRESENTED AT PROGRAM USING 1910.93G(K)(1) AS A GUIDE, I.E.,

- NATURE OF HEALTH HAZARD
- NATURE OF OPERATIONS THAT COULD RESULT IN EXPOSURE
- HAZARDS OF FIRE AND TOXICITY
- EMERGENCY PROCEDURES

TRAINING PROGRAM FOR VCM COMPLIANCE

1. OSHA controllers will be assigned on a shift basis by the end of January, 1975.

2. Daily rosters to be maintained.

   a. All personnel to sign the log at the safety technician station.

   b. Time spent in specific areas to be logged by the controller and verified at end of shift.

3. Hazards and toxicity of VCM classes to be held on a scheduled basis.

   a. January
   b. May
   c. September
   d. December

4. Classes on reduction of VCM excursion based on operating conditions were held as follows:

   Operation of recovery systems - 11/14/74
   Operation of recovery systems - 11/19/74 and 11/25/74
   Operation of recovery systems - 12/2/74

   Kettle Operator Training - 12/2/74
   Kettle Operator Training - 12/6/74

5. Initial VCM compliance classes have been held as follows:

   A Shift - 12/19/74
   B Shift - 12/20/74
   D Shift - 12/20/74
   C Shift - 12/23/74

   Supervisory and Maintenance Personnel - 12/24/74
   Professional and Technical Personnel - 12/24/74

6. Further improvements in procedures for reactors and recovery equipment are in process with emphasis on emission control and reducing the personnel exposure factor.

7. Classes are to be held following the procedural changes and twice annually thereafter.

8. Procedures to be written for reduction of residual VCM in the slurry state utilizing D406 will be complete 1/15/75.

9. Training on the use of air masks same schedule as item 2.

10. Care of air masks.

11. Training of shift supervision to upgrade overall safety levels and reduce VCM emissions.

NEW PROCEDURES FOR VCM EMISSION CONTROL

1. Cleaning of reactors.

   a. Blanking.
   b. Use of reactor alarm cart.
   c. Use of air masks.
   d. Safety entry check off list.

2. Equipment pre-checks prior to charging.

3. Pressure tests prior to charging water, VCM or Vac.

4. Dogging of reactor manholes for effective sealing.

5. Recovery procedures for emission control.

6. Basics of instrument control and detection of malfunctions.

7. Reactor transfers.

8. Monitoring of vessel pressures during charging and heat up phase.

THIS SEEMS TO FALL UNDER WORK PRACTICE CONTROLS

BOR 012743

(1) At the time of initial assignment, or upon institution of medical surveillance;

(i) A general physical examination shall be performed, with specific attention to detecting enlargement of liver, spleen or kidneys, or dysfunction in these organs, and for abnormalites in skin, connective tissues and the pulmonary system (~~See Appendix~~ A).

(ii) A medical history shall be taken, including the following topics:

(A) Alcohol intake;

(B) Past history of hepatitis;

(C) Work history and past exposure to potential hepatotoxic agents, including drugs and chemicals;

(D) Past history of blood transfusions; and

(E) Past history of hospitalizations.

(iii) A serum specimen shall be obtained and determinations made of:

(A) Total bilirubin;

(B) Alkaline phosphatase;

(C) Serum glutamic oxalacetic transaminase (SGOT);

(D) Serum glutamic pyruvic transaminase (SGPT): and

(E) Gamma glustamyl transpeptidase.

(2) Examinations ~~provided in accordance with this paragraph~~ shall be performed at least:

(i) Every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and

(ii) Annually for all other employees.

(3) Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

(4) A statement of each employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators, shall be obtained from the examining physician promptly after any examination. A copy of the physician's statement shall be provided each employee.

(5) If any employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.

(6) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories licensed under 42 CFR Part 74.

(7) If the examining physician determines that alternative medical examinations to those required by paragraph (k) (1) of ~~this section~~ 1910.134 will provide at least equal assurance of detecting medical conditions pertinent to the exposure to vinyl chloride, the employer may accept such alternative examinations as meeting the requirements of That paragraph ~~(k) (1) of this section~~, if the employer obtains a statement from the examining physician setting forth the alternative examinations and the rationale for substitution. This statement shall be available upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director.

(8) Persons will not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance annually).

When required tests show abnormalities, the tests will be repeated as

practicable, preferably within 3 to 4 weeks. If tests remain abnormal, consideration will be given to withdrawal of the employee from contact with vinyl chloride, while a more comprehensive examination is made.

Date_____

I certify that I have examined

_____
(Name of Employee)

in accordance with Occupational Safety and Health Administration regulations, 29 CFR 79, Part 1910.93q (k)(4) ~~(1)~~ (k) and American National Standard Z88.2-1969, Practices for Respiratory Protection, paragraph 3.7 and with knowledge of his duties, I find (him/her) (qualified/unqualified) to ~~use respiratory protective equipment in~~ the performance of (his/her) work, ~~CLOTHING~~ WITH THE USE OF PROTECTIVE EQUIPMENT AND RESPIRATORS

A complete examination form for this person is on file in my office at

Address: _____

Doctor: _____

Employee: _____

PROGRAM FOR OSHA COMPLIANCE -
LABELING OF SHIPMENTS
Polyvinyl Chloride

I. Dry bulk rail cars and liquid tank cars.

(a). Stencil - one inch letters, black on white.

POLYVINYL CHLORIDE
CONTAINS
VINYL CHLORIDE
VINYL CHLORIDE IS A CANCER SUSPECT AGENT

(b). Stencil to be on each side of rail car.

(c). Dry bulk to be at the center of the car, one third of the way up from the bottom.

(d). Liquid tank cars to be 1/2 way between the ladder and the end of the car, one third of the way up from the bottom.

II. Box Cars.

(a). All car doors to be sealed with car seal.

(b). Seal to have tag affixed.

POLYVINYL CHLORIDE
CONTAINS
VINYL CHLORIDE
VINYL CHLORIDE IS A CANCER SUSPECT AGENT

III. Dry Bulk Trucks and Liquid Tank Trucks.

(a). Common carrier and liquid tank trucks.
Two hatches and the unloading line will be sealed with car seals. These will have tags affixed to them with the same legend as in Item 2.

(b). Borden Dry Bulk
Stencil with 1/2 inch letters, black on white with the same prescribed legend. Stencil to be on the rear of the truck just over the unloading line.

IV. Van Trucks.

(a). All full truck shipments will have the doors sealed with a car seal. The seal will have a tag affixed with the same prescribed legend.

(b). All less than full truck shipments will have no further marking other than the marking on the individual containers (bags, drums or boxes). Partial pallets will be wrapped and strapped. The wrapping will have the proper stencilling applied.

PROGRAM FOR OSHA COMPLIANCE -
LABELING OF SHIPMENTS

V. Bag Marking.

(a). New Bags
All new bags purchased after the standard becomes effective will be printed with the proper legend on the top end of the bag in 1/4 inch printing, blue on natural kraft.

(b). Packaged Resin
All resin which is packaged and in inventory at the time the new standard takes effect will be stamped with the proper legend prior to shipment.

(c). Old Bags
All old bags, unfilled at the time the new standard takes effect, will be stamped with the proper legend.

VI. Drums.

All drums will have a label affixed to them with the proper legend.

LABELING OF CONTAINERS OF VINYL CHLORIDE

All containers of Vinyl Chloride, located outside of Regulated Areas will be stencilled prior to the effective date of the Standard 1910.93q as follows:

VINYL CHLORIDE
EXTREMELY FLAMMABLE GAS UNDER PRESSURE
CANCER SUSPECT AGENT

Examples:

These containers are:

1. VCM Spheres
2. Recovered VCM Storage Tanks
3. Semi-Pilot Plant Cylinders

SYSTEM FOR REPORTING EMERGENCIES

All emergencies must be reported to the OSHA Area Director within 24 hours. In Leominster, R. Mercier has responsibility. For Illiopolis, G. Bevis has the responsibility.

The report will be sent by registered mail, return receipt requested, and include the following information:

1. Date of the Emergency
2. Approximate Time
3. Duration
4. Cause
5. Number of Employees Exposed

Upon request of the OSHA Area Director, further information will be made available.

* You should be prepared to submit a written statement to OSHA relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of similar nature. Sec. 1910.93 g (1) (2)

NOTIFICATION OF EMPLOYEES EXPOSURE

Each Employees whose exposure, as measured by the Personnel Monitoring System, is in excess of the permissible exposure limit, shall be notified in writing within 10 working days of their exposure level.

This notification will be in writing according to the attached form. There is a provision on the form requiring the employee's signature to insure that each employee has been properly notified of the incident.

Programs to reduce the exposures will be posted and periodically updated. (This will also inform the employees of the steps being taken to reduce the exposures below the permissible exposure limit.)

NOTIFICATION OF EXPOSURE IN EXCESS OF THE PERMISSIBLE LIMITS

NAME: _____

DATE: _____

~~LEVEL OF EXPOSURE~~ Monitoring Measurement: _____

METHOD OF MONITORING: Personnel Monitoring System using Bendix PMCC Tubes, Sipin Pumps, Bendix Flasher unit and Gas Chromatograph.

TYPE OF RESPIRATORY EQUIPMENT WORN:

SPECIAL COMMENTS:

Will use lab data, in conjunction with area monitoring

Note - The copy in the employee Personnel File must be signed by the employee indicating that he received a copy.

Copies:

1. Employee
2. Employee Personnel File – Retention 30 years or 20 years after employment termination, whichever is longer.
3. Plant Manager
4. Production Superintendent
5. Designated Union Official