



Air Products and Chemicals
INC.

ESCAMBIA PLANT

INTEROFFICE MEMORANDUM

CONFIDENTIAL

To: E. A. Primeau

Date: 13 February 1976

Copies:

From: D. H. Francke

Re: Escambia PVC Plant,
OSHA VCL Regulation Compliance

A recent survey of the Escambia PVC Plant and the procedures set up to comply with the OSHA-VCL regulation has turned up several areas of questionable compliance. Outside the scope of the general OSHA regulation, which pertains to all manufacturing facilities, there were numerous areas pertaining to the VCL regulation which need attention. These areas are as follow:

1) Protective Clothing:

Section 1910.1017 Paragraph h 1 and 2 requires the company to provide protective clothing for protection from contact with liquid vinyl chloride and/or polyvinyl chloride residue from vessel walls. Clean garments are to be available for each use.

2) Training:

Section 1910.1017 Paragraph j relates to the description and requirements for a training program for all personnel authorized for entry into PVC.

3) Signs and Labels:

Section 1910.1017 Paragraph l specifies that labeling required and the content of each label.

4) Records:

Section 1910.1017 Paragraph m specifies which records are to be kept, the period of time each is to be kept and what the records are to contain.

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5) Reports:

Section 1910.1017 Paragraph n specifies which reports must be filed with the OSHA office and the time within which they must be filed.

6) Respirators:

Section 1910.1017 Paragraph g outlines the requirements for a respirator program which meets the requirements of Section 1910.134 and defines the basis for selection of respirators for vinyl chloride service.

7) Medical Program:

Section 1910.1017 Paragraph k outlines the tests, frequency of tests and methods of tests to be used in determining acceptability of employment in VCL regulated areas.

8) Accuracy of Analysis:

Section 1910.1017 Paragraph d 4 requires the methods of monitoring and measurement to have an accuracy (with a confidence level of 95 percent) of not less than $\pm 50\%$ from 0.25 ppm through 0.5 ppm, $\pm 35\%$ from over 0.5 ppm through 1.0 ppm and $\pm 25\%$ over 1.0 ppm.

These are the portions of the law which have major areas needing attention. The specific areas, as they pertain to the Escambia PVC Plant, which need changes are discussed below. The discussion will include the problem along with the action which is being taken or a recommended action which needs approval prior to action being instigated.

1) Protective Clothing:

Prior to this survey it had been decided that it would not be necessary to provide protective clothing for the personnel involved in reactor/vessel cleaning but that adequate protection could be obtained by the use of long-sleeve shirts along with hard hats, gloves, etc. In addition, it had been a policy to require rain coats as the only protective clothing for breaking vinyl lines. Based on our recent discussions it was decided that:

- a) Coveralls would be purchased and provided for all personnel who enter reactors or vessels in vinyl chloride service. This will include supervision, maintenance, etc.

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- b) Since clean overalls were necessary for each use, the coveralls would be maintained by PVC through the use of an in-plant washer and dryer.
- c) Rain suits, consisting of coat and pants, will be the required protective clothing during the opening of a line or vessel and in the connecting and disconnecting of a VCM tank car.

The necessary work request and purchase requisitions have been issued to accomodate the above requirements.

2) Training:

Upon review of the training requirements under the OSHA-VCL regulation the Escambia Plant appears to be in good shape in the content of its training material. There is the normal updating of training material which is due to operation changes and this updating is being done. In the area of application of this training and methods of training there is a large need for improvement. These areas are:

- a) All personnel entering the VCL regulated area are to be trained in the
 - 1) Health hazards of vinyl chloride,
 - 2) Nature of operations which could lead to exposure,
 - 3) Use, limitation and care of respiratory protection,
 - 4) Fire and acute toxicity of vinyl chloride,
 - 5) Emergency procedures,
 - 6) Purpose use and description of the monitoring and medical programs.
- b) All personnel are to be put through an annual updating of the above training.
- c) Adequate records need to be maintained on each person as to what training was received, and when, to protect APCI in the event an employee denies having received adequate training.

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The major problem in these areas is the fact that the personnel who may work in PVC, mostly from maintenance, are large in number and varied in supervision. It is impractical for PVC supervision to provide training for all of these personnel because of the number of different groups. The problem is complicated when new personnel are added to groups during the year. These people need to be trained immediately in case they are needed at PVC. To accomplish the required amount of training, several methods can be used. The first method would be to have all supervisors of the groups which are to be trained, receive a training session given by the PVC supervision. These supervisors would then be responsible to see that their people are adequately trained and the appropriate records kept. New hires could be trained either by these supervisors as they are assigned to each group or by Personnel Department as a part of the safety training each employee receives upon hiring. Updating of the training on an annual basis could be done similarly starting with training of the supervisors. A second method of handling this would involve the use of video tape equipment to handle the actual training and the use of the supervisors to answer questions. The same sequence of training would be followed. There are two major advantages of the use of video tape for training. First, all personnel receive identical information. With many different supervisors giving training sessions, interpretations may be presented or small details left out. Secondly, because of the length of training expected, it will probably be possible to save manpower by enabling the supervisor to give a quick introduction, start the tape and then leave while the tape is running. He can return to answer questions.

In addition to the training sessions, it will be necessary to maintain good records of the sessions. These records will be maintained by PVC through the use of forms to be filled out by each instructor at the time of each session. The records will provide a means to show what training was given and who received it.

I will set up training sessions to be given by the PVC Plant supervision for all supervisors who will have people working in PVC. Each of these supervisors will be required to train his people pertaining to the requirements of the VCL regulation. Material for this training will be provided by PVC. New hires and annual retraining will be required and will be done by the supervisors. The purchase of video tape equipment will be made and tapes for training will be developed as soon as possible to provide uniformity in training.

3) Signs and Labels:

In general most signs and labels were installed as required on the first major compliance effort. Due to a lack of good continuing effort at re-labeling, there were deficits in the following labels;

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- a) Many drums were not labeled when containing scrap due primarily to the continued turnover of drums. These were all relabeled.
- b) Several area warning signs were broken or had letters missing. These have been fixed or replaced with spares. New spares are being ordered.

These problems were quickly fixed and basically occurred due to deterioration of original markings. A program of continued upkeep will be initiated.

4) Records:

In the area of record keeping we are in fairly good shape. Most of the PVC-VCL records have been set up to be maintained for the prescribed "30 years" by use of the IBM Computer in Allentown. We are in need of better record keeping in the areas of:

- a) Authorized Personnel Rosters- This information is supposed to be available for 30 years (section 1910.1017 m 2ii). If the computer cannot generate rosters at a future date, as of a particular date, it will be necessary to save these printouts.
- b) Clear definition of which records need to be kept at the PVC Plant and the Escambia Plant, and for how long, and which records can be kept only on the computer for retrieval is required. For all records on the computer, procedures for access to these records through the Data 100 terminal at Escambia need to be set up and made available to provide a quick method of retrieval to satisfy any OSHA inspector.

The question of the ability of the computer, at any future date, to be able to generate past rosters needs to be answered by M.I.D. Then also need to supply the necessary access procedures and authorizations for such access. These procedures must be set up so that data can be retrieved by plant personnel without having to get group or corporate approval for each retrieval. The only data which should be restricted should be medical records (not authorization lists although) due to privacy laws. These procedures must be established and operational as soon as possible and by no later than 1 April 1976.

5) Reports:

This area of the law is being covered fairly well. Employees have been notified as is required with the exception that initially actual exposure levels were not included. The letter has been changed to cover that. The responsibility for sending out of the letters has been given to the Production Secretary and she receives listings of who needs notification as the exposure levels are received by the PVC Unit.

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The main point under reports which needs clarification is under what conditions is a notification to OSHA of a massive release required and what procedure is to be followed by the PVC Plant (i.e., who and in what order are people in APCI to be notified). This must be answered by our Law Department.

6) Respirators:

There is a major problem with the current respirator program as it pertains to OSHA compliance. The major areas are;

- a) Education of each person issued a respirator. The regulation requires that each person be instructed and trained in the proper use and limitations of their respirator. This is not being done through the current issuing procedure because there is no one in the tool room qualified to do this. In addition, there are no records of which people have had such training. A good training program for all authorized personnel will cover this requirement but current issuing procedures as followed by the tool room do not restrict issuance of masks to only authorized personnel. This must be corrected.
- b) Proper and adequate maintenance. Current procedures provide each man with the opportunity to periodically exchange their used mask for a reconditioned mask. PVC operators are doing this on a monthly basis which appears to be adequate. During the period between exchanges each person is expected to inspect and keep his respirator clean. The problem with this procedure is that there is no record of when respirators were checked in for clean overhauled respirators and by whom. This record will be necessary to prove that regular maintenance is being carried out. The quality of the maintenance with reference to the OSHA regulation must be checked against the OSHA Standard Section 1910.134 Paragraph f.

The proper records and controls on respirators issuance must be set up immediately to correct the above problems. Since maintenance personnel have been assigned respirator responsibility and it is their personnel who will be operating the system, they must be given the responsibility for establishing these procedures.

7) Medical Program:

The OSHA regulation outlines in detail what medical tests are necessary and the frequency of such testing. On the whole, I cannot say whether the actual medical aspects of our program are complete but I feel that an outline of the program needs to be available at the plant for use in the event of an inspection. If the medical program as outlined in the "Chemicals Group VCM Compliance Manual, record keeping section" is complete this can be used. There are some operational problems which pertain to the program which need to be corrected to help assure compliance in this area.

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These items are:

a) Physician's Statement:

Each employee is to have a statement of suitability for work in VCL exposure areas. This statement from the physician is not only the basis for generating the authorized personnel list but the regulation also requires that each employee receive a copy of the statement (Section 1910.1017 Paragraph (k) (4)). To the best of my knowledge, employees are not receiving a copy of the physician's statement.

b) Procedure for Emergency Exposure:

A definition of what actions constitute "appropriate medical surveillance" for personnel exposed to emergencies needs to be made. This definition needs to be available at the plant for action if such an exposure were experienced.

c) Timing of Physicals:

A clear operating procedure on placement of personnel into PVC with relationship to their receiving a physical needs to be established. Currently we are following a procedure in which most people at the Escambia Plant are being tested. In the event a person not tested is placed in PVC, he is scheduled for testing at the next Thursday testing. This was originated due to the large backlog at the beginning of the program. It is my feeling that once the personnel have been tested (i.e., the backlog is eliminated) a current employee should not be assigned to PVC without a valid physician's statement. This would require having each yearly and six month checkup repeated prior to the end of the period. New employees must be tested as soon after employment as possible, to the extent of blood tests within several days of employment and the physical on the next Thursday.

d) Maintenance of Authorized Personnel List:

There appears to be a significant lapse time between the authorization of an individual for PVC and the appearance of his name on a list available for PVC supervision to use. Up to the present time this has not been a problem since air masks have not been restricted and the access gates have not been installed. With the near future installation of the access gates this will change. Cards will be issued only to personnel who have been authorized access by nature of the physicals and whose name appears on a listing available to PVC supervisors. This will apply to all personnel other than the new hires currently awaiting authorization and to visitors, particularly non-APCI employees. To eliminate problems with personnel not being given cards for access who have passed the physical but are not on the list, it is imperative that all personnel

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involved in the paperwork going to M.I.D. handle their responsibilities quickly with a minimum delay. In addition, good, quick communication between the person first receiving the authorizations from the physicians and the PVC supervisors will lessen the effect of the minimum delays which will occur when the paperwork is handled correctly.

The need of providing each person with a copy of the physician's statement must be met by the Personnel Department immediately. A system must be set up to routinely send such a copy as the statement is received to each person tested. The definition of appropriate medical surveillance must be made by our Medical Staff quickly and forwarded to the plants. Some pressure from the Group Personnel Department will help get this definition quickly. Steps are already being taken to improve the timing of physicians for new hires. All current APCI employees who have not been tested must be completed by the time the gates are operational if they are assigned to PVC. Efforts have also started at the Escambia Plant to keep the flow of information on authorized personnel moving. Most of the holdups have been due to the total load.

8) Accuracy of Analysis:

Although many tests and comparisons of standards using the analysis methods have been done over the past one to two years, to the best of my knowledge no report has stated the method used and the results of any confidence levels for the analysis received. To be able to show an OSHA inspector this type of information is a necessity. A copy of such a report must be available for such presentation.

Conclusion:

In an effort to bring Escambia Plant into compliance to the highest degree possible, the problems outlined in this report must be corrected as quickly as possible. Work has started in many areas. In areas requiring work by other groups, i.e., air masks, medical program, records, and reports, appropriate action is needed. This action must be quick and must be not only workable at the plant level but must also meet the requirements of the regulation.

When all these compliance efforts have been completed, the necessary information must be provided to the PVC Plant. This needs to be available at the Escambia Plant no later than 15 March 1976. It will be combined with the procedures established by the PVC personnel into an OSHA-PVC Compliance book for use in the event of an inspection.

With the assistance of all personnel who have responsibility for areas of problems outlined in this report, the Escambia Plant will be in good shape at the time of an inspection. Full cooperation is required to accomplish this goal.

D. H. Francke
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H. L. Watson

4 February 1976

J. F. Odom



Escambia PVC-VCM Medical Program

The attached copy of your memo dated 19 January 1976 to Mr. Fleming contained an error.

The question posed "are these men out of PVC?" should have been answered that the men were out of PVC not in PVC.

If this slipped by you, please see that Mr. Fleming is properly advised.



J. F. Odom

JFO:jsr

RECEIVED
FEB 4 1976
R. E. JONES

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