

CHEMICALS



INTEROFFICE / LAKE CHARLES

TO E. W. Caillouet

DATE May 22, 1981

FROM C. A. Burns

SUBJECT VCM Weekly Checklist Report

The VCM-II Plant is in the final stages of start-up and EPA inspections can be expected. EPA will be notified within the next few days as to the actual start-up date. Tankcar Loading was modified as part of the VCM-II Plant project.

Attached is the PPG-EPA Vinyl Chloride Leak Detection Program on VCM-II that calls for (1) the installation of the 10-point Arcas monitoring system at VCM Tankcar Loading that has been in for some time and expanding of the present system from four to eight loading stations (see this in Section III - Monitoring Program, Item C of the PPG-EPA Plan; see also Section V - Definition of a Leak, Item A). A VCM leak will be considered as indicated by two successive readings on the monitor of 5 ppm or above. I call to your attention that (1) when a leak occurs, the analyzer record chart should be noted as to cause and corrective actions; (2) these charts are to be retained for two (2) years at the Shipping Department for inspection by EPA or assignee [Re: 40 CFR 61.71 (a)(1)(21)].

Leak Patrols

In addition to the fixed point system, certain areas (as shown in III, D of the PPG-EPA Plan - Leak Patrols) in the Tankcar Loading area require weekly checks with the portable HNU instrument [Re: 61.65 (b)(8)(ii)]. I call to your attention (1) the need for weekly patrols; and (2) that a copy of the weekly report is to be sent to me, routinely. Thanks.

/ap

Attachment

cc: J. C. LaFleur/H. C. Hank

W. J. Peard/J. E. Wyche

File #113.3.05

A handwritten signature, likely of the sender C. A. Burns, written in dark ink.

SL 090979



PPG INDUSTRIES, INC. CHEMICAL DIVISION U.S. P. O. BOX 1000 LAKE CHARLES, LA. 70602

June 20, 1980

Ms. Adlene Harrison, Administrator
U. S. Environmental Protection Agency
1201 Elm Street
Dallas, TX 75270

Re: 40 CFR 61
Leak Detection and Elimination Program
PPG Industries, Inc. Lake Charles, La. Plant

Dear Ms. Harrison:

PPG's application of September 21, 1977, to construct a new integrated vinyl chloride oxychlorination ethylene dichloride facility at the Lake Charles works was approved by Region VI on November 25, 1977. Because of the early stage of planning at the time of application, exact placement of major pieces of equipment was not firm. Thus, the leak detection and elimination program submitted in the permit application indicated that more detailed information regarding the placement of fixed point monitors would be provided to the EPA at a later date. Attached to this letter is this additional information which has been combined with the information submitted in 1977 to give a complete leak detection and elimination program.

This new facility is currently in the construction stage with start-up projected for December of 1980.

PPG respectfully requests that this leak detection program be approved at the earliest possible date.

Very truly yours,

A handwritten signature in cursive script that reads 'James E. Wyche, III'.

JAMES E. WYCHE, III
Coordinator Environmental Systems

JEW:ap
Attachment

bcc: W. Carter/R. Byars
R. J. Samelson
W. J. Peard

SL 090980

PPG INDUSTRIES, INC.

LAKE CHARLES, LA.

VINYL CHLORIDE

LEAK DETECTION AND ELIMINATION PROGRAM

- I. Monitoring Equipment
- II. Calibration and Maintenance
- III. Monitoring Program
- IV. Plan of Action
- V. Definition of a Leak

I. MONITORING EQUIPMENT

A. Fixed Point System

Gas chromatography will be the analyzing method incorporated in the three fixed point monitoring systems to be installed. A fifteen-point Bendix system will be deployed in the VCM-II process area and a ten-point Bendix system in the low temperature storage area. Both systems share a continuous printout of data in the VCM-II control room as they are completed and both will be tied to a central computer located in the VCM-II control room. The computer will provide a listing of analyses above a predetermined level and the time thereof for each point. Shift and daily reports containing plant and point time-weighted averages will also be an output from this system. An audible alarm in the VCM-II control room will indicate when the predetermined level has been exceeded on the fifteen-point system. In addition, an alarm will sound in the storage area control room and at the refrigeration area if one of the ten-point system points exceeds the predetermined level. A description and specifications for the Bendix system are attached as Exhibit A.

A ten-point Arcas monitoring system will be installed at the VCM tank car loading station which is being expanded from four to eight loading stations. This system, which replaces the semi-portable HNU analyzer described in the January, 1977 leak detection and elimination program for the then existing facilities, generates a continuous local printout of the data and is equipped with an audible alarm to indicate when the predetermined level has been exceeded. A description and specifications for the Arcas system are attached as Exhibit B.

B. Portable Detector

One Model PI-101 HNU organic vapor analyzer or an equivalent model will be used in the plant for leak detection. A description and specifications for this instrument can be found in Exhibit C, attached to this leak detection and elimination program.

II. CALIBRATION AND MAINTENANCE

A. Fixed Point System

The vinyl chloride monitoring systems are calibrated and span checked ^{on a} ~~three~~ ~~times per week (Monday, Wednesday, and Friday), exclusive of holidays,~~ ^{daily basis, including Saturday & Sunday} with a gas mixture containing 5 ppm vinyl chloride. A calibration gas cylinder, the gas analysis of which is traceable to the National Bureau of Standards, or an equivalent gas mixture, will be used. Maintenance will be performed on an as-needed basis based upon a daily check of the operation and condition of the system.

B. Portable Detector

The portable hydrocarbon detector will be checked monthly to verify that it has not lost its sensitivity to vinyl chloride. The gas used for this test will come from a gas cylinder containing 5 ppm VCM, the gas analysis of which will be traceable to the National Bureau of Standards, or from an equivalent gas mixture. Maintenance will be performed on an as-needed basis based upon the operation and condition of the detector.

III. MONITORING PROGRAM

A. VCM Formation and Purification Area

Deployment of the fifteen monitoring system points in the VCM-II area is shown on attached plot plans (Dwgs. No. D-01-IN-11 and D-01-PD-2). The location of the points relative to equipment in vinyl chloride service (shaded areas) is also shown on the plot plan drawings. Cycle time per point will be about 90 seconds. Samples will be obtained on a continuous sequential basis.

B. VCM South Terminal Storage Area

Deployment of the ten-monitoring system points located in the South Terminal storage area (where low temperature VCM storage is being added) is shown on the attached plot plan, Dwgs. No. 27A-60032 and 27A-50025.0. Cycle time per point will be about 90 seconds. Samples will be obtained on a continuous sequential basis.

C. VCM Tank Car Loading

Deployment of the Arcas monitoring points in the VCM tank car loading area is shown on the attached plan, Dwg. No. 65A-1100-3. There will be one point at each of the eight loading stations. Cycle time per point will be about 90 seconds. Samples will be obtained on a continuous sequential basis.

D. Leak Patrols

In addition to the fixed point systems, the portable hydrocarbon detector will be used routinely as required to check for and locate small leaks from equipment in vinyl chloride service. A schedule and checklist will be developed which insures that all sections of the VCM formation and purification area, South Terminal Storage area, and tank car loading areas are checked at least once per week. The items to be checked during this routine equipment check include control valve and block valve packing glands, flanges, pressure gauges, impulse lines and connections, sample points, and pump seals.

IV. PLAN OF ACTION

All indications of possible leakage by the monitoring equipment is reported to the supervisor in charge. The supervisor will evaluate the leak detection information considering atmospheric conditions such as wind velocity, wind direction, and relative stability; current operations being undertaken such as opening equipment after the requirements for opening have been met in accordance with the regulations; and current operations being carried out in other portions of the complex that would tend to increase ambient concentrations temporarily. The proper action to be taken will be determined by the supervisor. A suspected leak will be searched for using the portable hydrocarbon detector until the leak has been found, has subsided, or the problem has been otherwise identified. Personnel performing the leak search will wear appropriate protective equipment. Any corrective action necessary will be commenced immediately and will include but not be limited to:

- A. Isolating the source of the leak so that the leakage is stopped and the source repaired, replaced, or acted upon according to standard operating procedures as soon as it is feasible to do so.
- B. Repairing the equipment or acting upon the equipment in line by tightening, closing, etc., so that the leak is stopped.
- C. When necessary, curtailing operations until repairs can be made.
- D. Checking the source again after the leak has been corrected to insure that the leak has not reoccurred.

An on-going program of prevention of leakage and elimination of troublesome leakage problems will consist of:

- A. Implementing procedures for installation and operation of equipment so that possible leak sources will be eliminated (i.e., pressure testing equipment prior to its being put into service or making sure hoses, sample bombs, etc. are connected properly and securely).
- B. Checking known troublesome leak sources more frequently until the problem is resolved.
- C. Modifying the routine leak patrol schedule if such is indicated by experience in order to insure maximum effectiveness of this program.

V. DEFINITION OF A LEAK

The following guidelines are proposed as to when action to locate and eliminate a possible leak should be taken. These guidelines will be reviewed periodically and modified as needed in order to insure the continuing improvement of the leak detection and elimination program.

A. Fixed Point System

A VCM leak will be considered as indicated by two successive readings on the monitor of 5 ppm or above. Background data is not available since the source has yet to be constructed.