

Date 27 August 1973

INTEROFFICE
MEMORANDUM

Subject Plant Vapor Monitoring

System

To W. E. Dunning/F. E. Sommers

Calvert City

(Location, Organization, or Department)

From J. T. Barr

Valley Forge

(Location, Organization, or Department)

cc: T. L. Carey ✓ A. K. McMillan M. Stermon
T. W. Herbig G. A. Ray
J. D. Kramer W. M. Smith
J. A. Marts G. B. H. Speed

It is becoming increasingly important that we provide continuous monitoring and recording of the exposure of workers to those chemicals that have specific limits imposed by OSHA or other regulatory agencies. Vinyl chloride is currently of chief concern, but similar limits are in effect for vinyl acetate, toluene, methanol, and other materials which we handle in large volume.

I would appreciate your providing an estimate for the installation in your plant of the instrumentation shown in the attached sketch, except for that part within the dotted box. This consists of several features.

1. Sample system

Samples will be collected at six points, one on each end of the three floors of the polymerization building. A vacuum pump will pull the ambient air through a filter, such as Porostone, and 3/8 in. polyethylene tubing to a bank of 6 - 3-way solenoid valves. The run of the tubing bundle between the polymerization building and the instrument site should be in (cooling tower water?) traced conduit to prevent condensation in winter. The solenoid valves are controlled by a timer/stripping switch arrangement that selects the points for sampling sequentially. The exact time between steps is yet to be determined. The outlet of the active sample line valve will lead to the instrument sample manifold, and the other five will bypass the instrument via the pump manifold.

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The exit of the sample line needs a rotometer to adjust the flow to about 1000-2000 cc/min. The pump can be a vane type (Gast) or laboratory vacuum pump. The discharge should be exhausted outside the building.

The timer will also control a secondary timer/plunger which will operate the gas sample valve on the instrument.

2. The instrument is yet to be selected. Three are under consideration; one, a unit designed by Dow and manufactured by AED of Chicago, that detects chlorinated materials by combustion, two, a flame detector unit by Century that responds to all flammables, and three, a standard analytical chromatograph that will select and quantify all volatiles, but only a sequential basis.

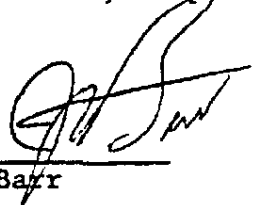
3. If the chromatograph is selected, it will need a manifold for hydrogen and helium, two bottles each, with a 2-stage reducer.

If the Dow unit is selected, it will need a supply of DM water at about 50 cc/min. at 10 psig.

The Century instrument requires hydrogen only.

4. The instrument must be in a non-hazardous location. I would recommend the PVC lab at Pace and the control room at Calvert. Power supply is either 110 or 220, single phase, 15 amps.

Please call me if there are any questions as to details. I would appreciate a reply in about two weeks, if possible.


J. T. Barr

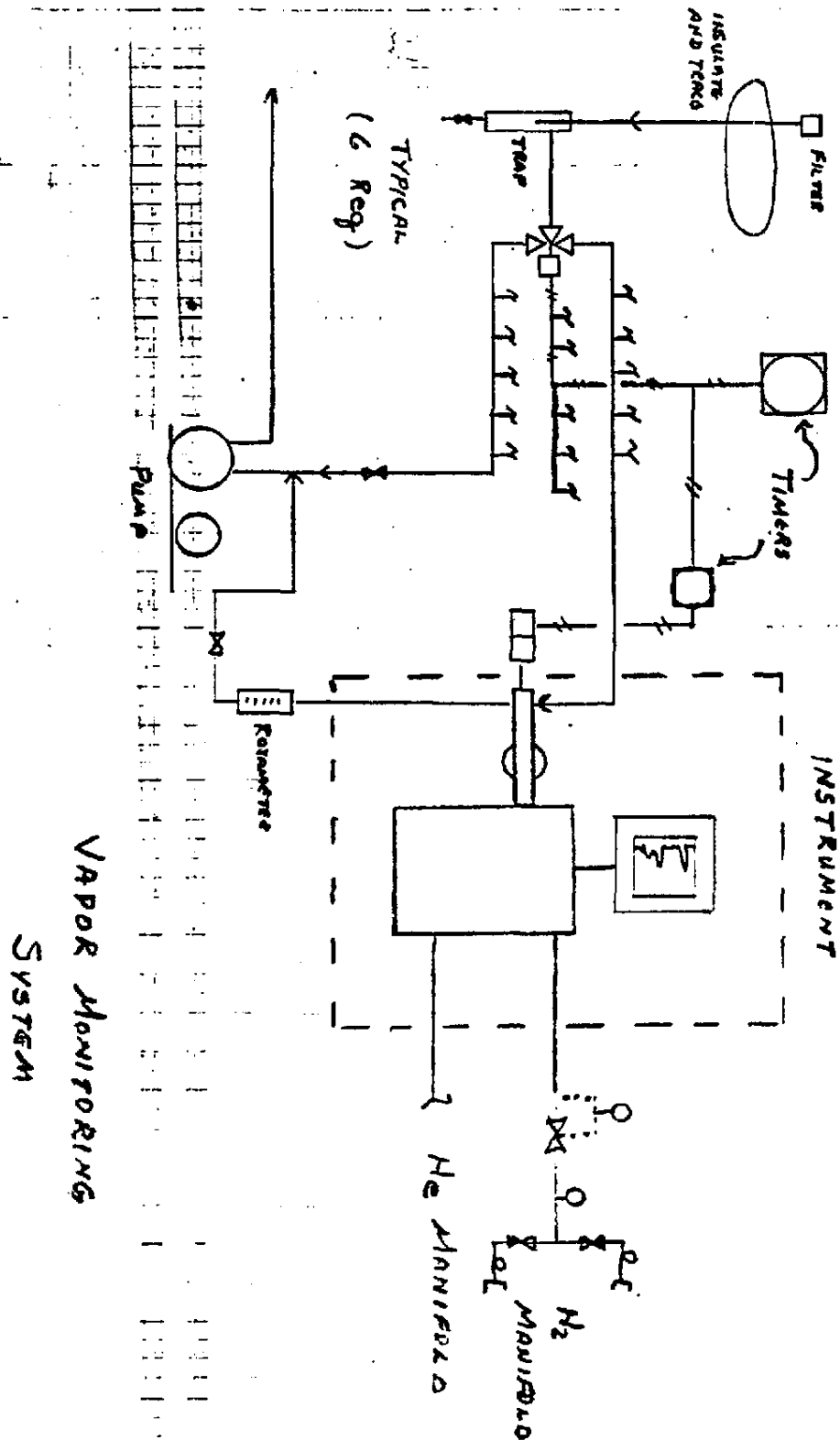
JTB/jf
Attachment

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BY JTB DATE 27/8/73SHEET NO. 1 OF 1

SUBJECT

JOB NO.



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