

Important facts that need to be recognized related to this section of questions:

1. Realization of inability to meet October 21 date not recognized until around July-August time period. Contractor schedules still predicting mid-September completion allowing tight but reasonable time period for start-up activities.
2. Vents being burned produce HCl which is environmentally harmful if vented to atmosphere. HCl is a corrosive acid gas.
3. Materials of construction and safety control problems must be handled in a temporary installation.
4. Low pressure vents must be compressed to move long distances.
5. Equipment design, purchase, and installation time are significant for temporary systems.
6. Oxychlorination vent was controlled and compliance checked before October 21, 1978. It is largest lb./day VCM emitter.
7. Viewing of systems installed should be convincing as to why temporary controls impractical in our case.
8. Ranking of VCM vented from plant in order of lbs./day
 - a. Oxy Vent (was controlled prior to October 21, 1978)
 - b. Light Ends Tower Vent
 - c. T-101 Vent
 - d. Tank Car Vent
 - e. Wash System and Steam Stripper Vent
 - f. Storage Tank Vent
 - g. Pump Seal Vent

2.0 Control Measures - Permanent and Temporary

A. Submit engineering specifications of permanent and temporary control measures.

1. Permanent

- a. Process design book available for inspection.
- b. Gantz and/or Gibson available to describe system design and complications of reliability, materials of construction, etc.

2. Temporary

- a. Essentially a "blue sky" approach to what temporary measures were possible was taken. Guesses at equipment requirements were made and cursory estimates made by telephone by Purchasing Department as to what availabilities might be. Also, some knowledge of delivery timing available from project underway. Estimated deliveries plus construction timing made temporary measures a non-realistic approach in our case. For these reasons no design or engineering time was expended in this area.

B. What temporary control measures were considered for use before October 21, 1978?

1. List of things considered included in EPA submission package:

- a. Procurement of temporary incinerator
- b. Pipe vents to plant with existing incinerator and HCl scrubbing facilities.
- c. Pipe vents to plant furnaces
- d. Pipe vents to existing boiler systems at another plant
- e. Store vents in a large pressure vessel and truck to another site for burning.

C. Which of those temporary measures were used? If none, why were they not used before October 21, 1978.

1. Temporary measures not used. Summary of reasons contained in EPA submission.

- a. When became apparent that October 21 date would not be met too late to begin temporary installations.
- b. Detailed engineering, equipment procurement, and installation time too long to make this a viable way to go.
- c. HCl emissions to atmosphere damaging to environment.

D. What temporary control measures were considered for use after October 21, 1978?

1. Reduction in plant rates (Oxy vent controlled prior to 10/21)

- a. Only emission cut would be VCM in recycle EDC (vented from T-101)

2. Venting of T/C dip sticks to holding vessel during loading.

- a. All CONOCO cars are equipped with no venting (magnetic) dip sticks. Customer cars only ones with venting dip sticks and are minor part of tank cars loaded.

3. Removal from service tank cars returned with O₂ content in excess of 1,000 ppm rather than N₂ purge.

- a. Very few cars require purging, however fleet tight and delivery problems would result over extended period.
- b. High O₂ content presents product quality problem and potential of uncontrolled polymerization occurring in car resulting in safety problem.

- E. Which of these temporary measures were used after October 21, 1978? If none, why were they not used?
1. None of temporary measures used.
 2. Effect on ground level concentrations of VCM were calculated for all and for each of these measures and indicated a very small affect to be the case eliminating them from further consideration.
 - a. Ponca report on calculations available.
- F. Did the use of temporary measures affect installation of the permanent equipment?
1. Not applicable
- G. What process changes could have been made to reduce emissions?
(Oxy vent controlled)
1. Discontinue all tank car loading operations.
 - a. Majority of product leaves plant by tank car, this would result in plant shutdown.
 2. Convert oxy process to O₂ based rather than air
 - a. Although oxy vent controlled, total lbs. could be reduced by change. Project would take 2-3 years.
 3. Take EDC overhead in vinyl product from vinyl tower.
 - a. Tend to reduce VCM in recycle EDC that vents in T-101.
VCM product would be non-saleable with EDC in it.
 4. Eliminate caustic usage in VCM neutralization system.
 - a. Would eliminate majority of VCM in wash system and steam stripper vent. VCM product would be non-saleable with HCl in it.

H. Was plant production decreased to reduce emissions?

1. Production rates reduced from about 1.95 MM lb./day rate to 1.70 - 1.80 rate because of pressure drop problem in oxy system. Major benefit in rate reduction is VCM in oxy vent, however, oxy vent in compliance before October 21, 1978.