

Interoffice Communication

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To D. A. Kuhn - Houston
 From J. A. DeBernardi
 Date October 13, 1978
 Subject EVALUATION OF ALTERNATES AVAILABLE TO
 TEMPORARILY COMPLY WITH EPA-VCM EMISSION STANDARD

A number of temporary alternatives appear to be available to allow the VCM Plant to comply with the EPA-VCM emission standard. This memo will briefly describe and evaluate these alternatives.

1. Route Vents to Flare Stack

No flare exists at the plant, so design, purchase and installation would be required, including rerouting of the vent system piping and special care for installing instrumentation to operate safely. It is likely a corrosion resistant compression system will be required to overcome line losses to the flare. Equipment design, procurement and installation will be time consuming. For instance, we estimate lead time for delivery of the compressor would be 26-36 weeks. Moreover, hydrogen chloride is formed as a combustion product of the waste gas. We estimate 757 lbs./hr. of hydrogen chloride would be emitted uncontrolled into the atmosphere from the flare.

2. Route Vents to an Existing Boiler or Cracking Furnace

The VCM Plant does not have fired boilers, however, cracking furnaces do exist. Extensive design modifications to the plant vent systems would be required to route vents to these furnaces. Since the furnaces are induced draft air type, they would require changes to assure there would be sufficient oxygen for vent combustion. The delivery time on the air blowers and combustion controls necessary to do this is estimated to be 14-18 weeks. Again, the hydrogen chloride formed on combustion would go uncontrolled to the atmosphere. Hydrogen chloride is severely corrosive and may prematurely destroy the furnace stacks and other equipment that it contacts.

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3. Secure a Portable Incinerator

Our understanding is that portable incinerators are not available for rent or purchase. They must be designed specifically for the job to be done. Even if they were available, hydrogen chloride would still be emitted uncontrolled to the atmosphere.

4. Route Plant Vents to an Existing Controlled Incinerator at Another Plant

Incinerators are available at the PPG Plant in Lake Charles. This plant is about three miles from ours, requiring the installation of a pipe line and compressor system to move the vents to PPG. Even if installing the pipe line and compressor were feasible, PPG probably doesn't have spare incinerator capacity since, I believe they are installing an additional incinerator to take care of their own VCM plant.

5. Route Vents Through the Existing Oxy System Vent Control Device

Significant vent piping modifications would be required to route vents to the oxy system. In addition, compressors with 26-36 weeks delivery time would be required to vent into the oxy system which operates at a pressure greater than any of the other venting process equipment.

6. Install Regenerable Carbon Bed Systems

The length of time necessary to design and procure a carbon bed system would make its completion too late to help. In addition, regeneration would be impossible unless a control device was installed on the carbon bed regeneration vent system, such as a flare or an incinerator. Uncontrolled hydrogen chloride emissions would result from the regeneration cycle vent burning system.

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7. Store Vents in a Large Pressure Tank and Ship by
Tank Car or Tank Truck to a Disposal Site

The length of time to design, procure and install a system would make completion too late to help. Equipment such as compressors (26-36 weeks delivery), refrigeration equipment (24-26 weeks delivery), instrumentation (14-18 weeks delivery), piping and loading facilities would be required.

The overall conclusion that must be reached in considering any of these alternates is that time required to carefully evaluate and design any of the systems would be substantial. Equipment required in all cases have long lead and delivery times. Installation time would be substantial. Furthermore, in many of the options the uncontrolled liberation of hydrogen chloride produced by combustion would offset any benefit from the temporary control.


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