



ENERGY AND ENVIRONMENTAL ANALYSIS, INC.

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October 20, 1980

Mr. J.A. DeBernardi, Plant Manager
Conoco Chemicals
Continental Oil Company
Post Office Box 605
Westlake, LA 70669

Dear Mr. DeBernardi:

I would like to thank you for assisting us in our development of new source performance standards (NSPS) for distillation operations in the synthetic organic chemicals manufacturing industry (SOCMI), by providing information on your ethylene dichloride and vinyl chloride processes. The following information is based on our telephone conversation on October 16, 1980, and a letter from you to Mr. D.R. Goodwin dated May 26, 1978. Could you please review the following information and write to me as to whether or not this is correct?

Ethylene Dichloride Process:

- Totally, there are four distillation units in this process.
- There are two steam stripping units. These are nonvacuum operations.
- The noncondensables from the steam stripper, mainly CO_2 , are sent to the incinerator.
- EDC purification consists of the other two distillation units. These are also operated under nonvacuum conditions.
- The noncondensables from both the EDC purification columns are sent to the incinerator.

Vinyl Chloride Monomer Process:

- There are three nonvacuum distillation operations in this process.
- The quench tower is the first distillation unit. The noncondensables from this are sent to the next distillation unit.

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- The next distillation unit is the HCl removal column. The noncondensables are further processed and are recycled to the oxychlorination reactor.
- The third distillation unit has no noncondensables exiting the accumulator. There is a manual vent which is routed to the incinerator.

The Incinerator:

- The incinerator is designed to treat offgases from (1) direct chlorination, (2) loading, (3) distillation offgases, and (4) liquid by-products.
- The incinerator is followed by a HCl removal scrubber.
- This incinerator system has cost approximately \$13 million.
- The oxychlorination reactor vents are not routed to the incinerator due to the large volume and very low heat content.
- All the noncondensables from various distillation units are routed to the incinerator by natural flow. No devices like compressor, blower, etc., are present for this purpose.

Further Information Requested:

Having found the above information very useful, we would like to request the following information for a better understanding of controls for chlorinated hydrocarbons from distillation units.

- Provide the data on flow and compositions (both organic and inorganic) for the following streams:
 - Offgases from the two steam strippers in the EDC process before they combine with the inlet gases to incinerator.
 - Offgases from EDC purification columns in the EDC process before they combine with the inlet gases to incinerator.
 - Total offgases entering the incinerator.
- What is the material of construction of pipes carrying the noncondensables from distillation units? Does the presence of chlorinated hydrocarbon require any special material?
- Provide a rough sketch of the layout of the EDC plant marking only the distillation units and the incinerator, indicating the distances in between these units.

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- What types of valves are used in the pipeline from distillation units to the incinerator (e.g., flow control valve, flame arrestor, backflow control valve, etc.)?

Note: Questions 3 and 4 will be useful to cost a typical piping system.

Please feel free to contact me if you have any questions.

Sincerely, .

T. Desai

Tarun Desai
Chemical Engineer

cc: Mr. David Beck
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

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