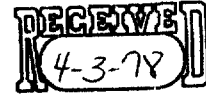




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Interoffice Communication



To R. L. Flammer, Houston, Texas

From J. H. McCulley, Ponca City, Oklahoma

Date March 31, 1978

Subject PVC Plant Expansions and the Proposed EPA Amendment

Since there was a lot of discussion in the last Plastics Advisory Meeting about the impact of the proposed EPA amendment on PVC plant expansions, I think it may be worthwhile to review this situation in advance of the next meeting. The expansion limitations in the proposed EPA amendment, questions on how to interpret these limitations, and their effect on plant expansion potential are reviewed below. There are no expansion limitations in the EPA's present VCM standard.

EPA Amendment

The proposed amendment would require that a PVC plant's VCM emissions remain constant as plant capacity is increased. This emission offset provision applies both to plant expansions and new plants within an eight kilometer radius of the existing plant.

The amendment will apply to all expansions that commence construction after the effective date of the amendment.

Interpretation Questions

A plant's emissions include process emissions and fugitive emissions. By definition, process emissions can be controlled, whereas fugitive emissions cannot be controlled. Fugitive emissions include such things as VCM leaks from a pipe flange. We have estimated the emissions for the Oklahoma City plant to be as follows once their various EPA projects are completed and operational.

	VCM Emissions, <u>Lbs/Hr</u>
Process Emissions	10.7
Fugitive Emissions	<u>42.5</u>
Total	53.2

All but 0.1 pound per hour of the process emissions are due to the residual VCM in the resin after steam stripping. The fugitive emission estimate was determined by scaling the fugitive emission calculated by the EPA for a typical 150 MM pound per year plant to Oklahoma City's capacity of 220 MM pounds per year.

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Interpretation Questions (Continued)

The proposed amendment does not specify how a plant's baseline emission is to be determined. Should it be maximum demonstrated annual capacity, maximum demonstrated daily capacity, or something else?

The amendment also does not state whether fugitive emissions are to be included in determining a plant's baseline emission rate. If they are to be included, how are they calculated?

Also, there is some question as to the definition of commence construction, although a conservative approach would be to assume that actual groundwork and equipment purchasing will be required.

The answers to these questions have a large bearing on our plant expansion prospects. Dave Kuhn is working to understand how these questions can be answered in a way that is acceptable to the EPA. However, the questions probably will not be completely answered until the amendment is finalized and we attempt to comply with it.

Impact on Expansion Plans

If a plant's baseline capacity is determined by its maximum demonstrated daily production rather its annual production, there could be significant room for expansion before the baseline is reached.

If fugitive emissions are to be included in determining a plant's baseline emission rate and the fugitive emissions are to be scaled with plant capacity, expansions will be limited to around 18 percent of present capacity. The necessary offset would be provided by further stripping the PVC slurry to reduce the residual VCM concentration from 400 ppm to 100 ppm. If another procedure for calculating fugitive emissions is adopted, it probably will be less restrictive and will allow larger expansions. For example, fugitive emissions could be scaled on the increased number of potential emission sources (flanges) in a plant expansion. If so, the calculated increase in fugitive emissions would be less than proportional to the capacity increase from a new reactor, and the fugitive emission would not change for new, larger condensers.

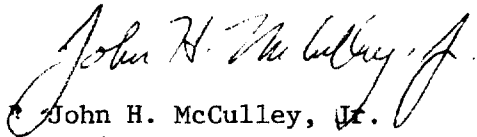
If fugitive emissions are not included in determining the baseline emissions or if they can be held constant as capacity is increased, there is much more potential for expansion (300 percent) than is needed at this time.

If the EPA amendment is not retroactive when finalized, we would have to have AFE approval and be in construction to miss the offset requirement, assuming the above conservative definition of commerce construction is used by the EPA. This would require that the EPA amendment not be finalized until the first half of 1979. In any case, the timing of the project's development and implementation will be important.

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Summary

The proposed amendment can limit our PVC plant expansions, depending on how it is interpreted when (and if) it is finalized. Its effect on plant expansion plans probably cannot be fully determined until it is finalized and we attempt to comply with it. Therefore, the plants will present several expansion alternates in the upcoming Advisory Committee Meeting that show how expansion potential and cost change with interpretation of the amendment. There is some potential for commencing construction on expansion projects before the amendment is finalized and, by so doing, avoiding the emission offset restriction.



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