

ILLINOIS POLLUTION CONTROL BOARD
December 6, 1973

STAUFFER CHEMICAL COMPANY)
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)
 v.) PCB 73-340
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 ENVIRONMENTAL PROTECTION AGENCY)
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SUPPLEMENTAL STATEMENT (by Mr. Dumelle):

While I did vote to grant this variance I feel we must not lose sight of the two purposes for having an emission limit for organic materials (Rule 205 of the Air Pollution Regulations). As stated in the Opinion of the Board in the matter of R71-23 Emission Standards:

Rule 205: Organic Material Emission Standards serves both to achieve and maintain compliance with the federal air quality standard for photochemical oxidants (0.08 ppm for one hour not more than once per year...) and to prevent local nuisances.

Thus there are controls both in terms of photochemical smog and nuisances such as odor. The Federal oxidant standard was adopted as an Illinois standard on May 3, 1973 (R. 72-7).

In considering the impact of granting this variance on the surrounding citizens, therefore, the photochemical smog potential as well as the nuisance potential must be considered. The record is exceedingly sparse on both points stating only that no odor complaints have been received by the petitioner (the Agency surveillance personnel also reported the absence of an odor problem) and a conclusory statement that atmospheric conditions are not conclusive to photochemical smog formation. The emissions of organics are approximately 25 lb/hr, of which 60% is toluene, a photochemically reactive material (Affidavit of Stanley F. Ciesla), so that the emission of toluene alone is 18 lb/hr.

It is generally agreed that no direct adverse effects on humans of gaseous hydrocarbons at ambient air levels have been demonstrated, but that photochemical oxidants (which do have

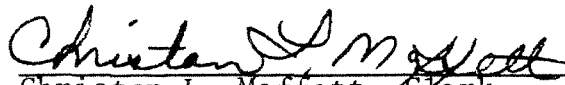
adverse effects on humans) are direct functions of gaseous hydrocarbon concentrations. In fact, under certain conditions, a three hour concentration of hydrocarbons of 0.3 ppm as C has resulted in up to 0.1 ppm concentrations of oxidants 2 to 4 hours later; concentrations which exceed the Federal standard and the new Illinois standard.

The problem then becomes one of calculating the dispersion of the toluene emitted into the atmosphere and relating that to ambient levels of nitrogen dioxide (NO₂) and sunlight intensity; the other two ingredients necessary for photochemical smog production. Only then can the Board accurately assess the impact in terms of potential photochemical smog formation. The background level of oxidants should also be given so that it is known how much "clean air" remains before the standard is violated. We should require all of this information in future variations from this Rule 205. It is the petitioner's burden to provide this information but of course Agency monitoring would be of help.



Jacob D. Dumelle

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Supplemental Statement was submitted on the 19th day of December, 1973.



Christan L. Moffett, Clerk
Illinois Pollution Control Board