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**Category:** 35 – 5% Rule

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: March 11, 1981

SUBJECT: Review of New York State's Five Percent RACT Determination for the Proposed Perchloroethylene Dry Cleaning Regulation

FROM: G. T. Helms, Chief
Control Programs Operations Branch (MD-15)

TO: William S. Baker, Chief
Air Programs Branch, Region II

Per your request of January 14, 1981, we have reviewed the data that New York State submitted as a demonstration that VOC emissions from perchloroethylene dry cleaning equipment will be within five percent of the presumptive norm in the CTG without requiring the installation of carbon adsorbers. The results of our review have been discussed with Paul Truchan in several earlier telephone conversations.

It is our opinion that New York State has not made a valid showing that there would be no significant difference between the emissions from their proposed regulation and the CTG. Three major problems were identified in our review: (1) the reliability of the data base used by New York State, (2) the misunderstanding of the CTG information, and (3) the use of national data to estimate local conditions. The reasons for this determination are as follows:

1. The data base used by New York State was collected by the Neighborhood Cleaners Association (NCA) of New York City (NYC) and consisted of 4 questions asked of 20 facilities out of an estimated total of 1800 facilities. There was no indication of any quality assurance or verification of any of the data collected. The fact that 25 percent of the facilities surveyed reported the identical annual usage of perchloroethylene makes these data questionable at best. It appears that the annual usage of perchloroethylene was reported in the number of (55 gal) barrels. Perchloroethylene, however, is sold in quantities of 700 pounds to the barrel, not 55 gallons. A barrel contains 51.7 gallons if the correct weight of perchloroethylene (13.55 lbs/gallon) is used. New York State apparently calculated an erroneous perchloroethylene weight of 12.72 lbs/gallon by assuming a 700-lb barrel contains 55 gallons. There was no supporting documentation for the five-ton/year perchloroethylene consumption per facility that was used in the calculation to determine the total annual perchloroethylene usage in NYC.

Based on the local survey, New York State concluded that an adsorber will only control between 1.54 and 2.61 pounds of perchloroethylene/ 100 lbs of clothes cleaned. The CTG test data show that an uncontrolled dryer emits 6

pounds of perchloroethylene/100 lbs of clothes cleaned. Assuming both the CTG and New York State data are correct, this data indicate that an adsorber is only 25-43 percent efficient in capturing perchloroethylene. Adsorbers typically operate with an efficiency range of 90-98 percent.

2. The New York State report cites Table 2-1 on page 2-6 of the CTG as documentation that the average difference between facilities with and without adsorbers is 2-3 lbs perchloroethylene/100 lbs clothes cleaned. This is concluded from figures listed at the bottom of the table which reflect the widest possible ranges of total losses from plants with and without adsorbers. The same table also shows dryer losses without an adsorber to be 6 pounds and with an adsorber to be 0.3 pounds for a difference of greater than 5 lbs perchloroethylene/100 lbs clothes. Tables 3-4 and 5-2 of the CTG also show that an adsorber recovers more than 5 lbs perchloroethylene/100 lbs clothes. This information was not considered by New York State.

3. New York State used national data to show the percent of perchloroethylene from coin-operated, commercial, and industrial facilities. National data were also used to calculate the number of coin-operated facilities and average losses from such facilities. The intent of allowing States to vary from the CTG RACT recommendations if emissions were controlled to within five percent of the CTG limits was to account for differences in local data. Therefore, local data and not national data should be used to support a five percent demonstration.

In summary, a valid five percent showing would require the use of a more extensive perchloroethylene dry cleaning data base and a correct interpretation of the CTG. As a minimum, the emissions and number of facilities (coin-operated, commercial, and industrial) must be based on local data.

Please call Brock Nicholson or Tom Williams (629-5516) if there are additional questions.