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**Category:** 5 – Surface Coating of Automobiles

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

DATE: 24 MAY 1979

SUBJECT: Evaluation of RACT for an Automobile Assembly Prime Coating  
Operation

FROM: Richard G. Rhoads, Director  
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TO: Director, Air and Hazardous Materials Division, Regions I-X  
Chief, Air Programs Branch, Region VII

Representatives of Ford Motor Company petitioned the State of Missouri for a case review of RACT for their Kansas City plant. It was Ford's contention that the electrophoretic dip prime system followed by a waterborne guidecoat at a conversion cost of about \$25 million (based on estimates at other locations) would not be reasonable if almost as much reduction were available at far less cost to the company.

The compliance scheme that Ford proposes at Kansas City, a high solids spray prime coating which contains 55 percent by volume solids (and is not now commercially available) applied at a transfer efficiency of 50 percent, would cost only about \$2.3 million.

After much internal review it has been decided that from a standpoint of both legality and semantics it would be inappropriate for us to deem something that does not presently exist to be "reasonably available." However, it does appear that the difference in emission reduction between the two alternatives (approximately 25 tons annually) at an incremental cost of over \$20 million (\$120,000 per ton) does not seem reasonable. Consequently, we have agreed that if a control plan based on high solids prime rather than electrophoretic dip were submitted by a State it should be proposed for approval.

For those States that may also be asked to consider similar requests but have not already finalized their regulations, it should be noted that the State could also require that the prime oven be equipped with a catalytic incinerator similar to those used by General Motors in their Oklahoma City and Fremont, California, plants. These systems, at a cost of \$1.5 million per oven, would reduce emissions an estimated additional 60 tons annually at a facility like Ford's in Kansas City. General Motors has indicated that they are adding these incinerators to other existing coating lines to conserve fuel. They anticipate that this will reduce the fuel consumption of the ovens by 25-35 percent.

Another option available to the State is to require transfer

efficiencies of greater than 50 percent. An increase from 50 to 55 percent would reduce emissions by about 20 tons and an increase from 50 to 65 percent would reduce about 35 tons. Assuming no major reconstruction of the booth is required, the incremental cost for a high energy electrostatic paint application system which would be expected to achieve 65 percent transfer efficiency is about \$400,000. In cases where the installation of high energy systems would require a major reconstruction of the booth, hand held electrostatic systems are presently in use in a number of automotive plants that are estimated to achieve 55 percent transfer efficiency.

cc: W.C. Barber  
Don Goodwin  
Chief, Air Branch, Regions I-VI, VIII-X