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August 29, 1988

MEMORANDUM

SUBJECT: Transfer of Technology in Determining Lowest Achievable Emission Rate (LAER)

FROM: John Calcagni, Director
Air Quality Management Division (MD-15)

TO: David Kee, Director
Air and Radiation Division, Region V

This is in response to your memorandum of August 9, 1988, requesting guidance on the transfer of control technology between source categories for the purpose of determining LAER for a source. This issue was raised by the Michigan Department of Natural Resources in proposing that the control achieved by incineration of oven and spray booth emissions from a truck parts surface coating line (which is considered to be miscellaneous metals) should also be achievable by an automobile surface coating line. You stated that the policy set forth in the January 16, 1979 Federal Register (page 3280) would appear to support this position; however, the sentence at the end of the citation, "Comments on this interpretation and whether it is appropriate to revise the regulatory definition are solicited," suggests that the Environmental Protection Agency might have changed its policy since that time.

This is to reaffirm the policy stated in the January 16, 1979 Federal Register. Our quick investigation of the regulatory history since the publication of that policy indicates that no comments were ever received on that issue. Consequently, the policy has never been revisited. Furthermore, we interpret the last sentence you cited to mean that we would consider whether to redefine LAER to clearly reflect policy, not that we would change the policy on transfer of control technology.

There are two types of potentially transferable control technologies: 1) gas stream controls, and 2) process controls and modifications. For the first type of transfer, we consider the class or category of sources to include any sources that produce similar gas streams that could be controlled by the same or similar technology. The process that generates a volatile organic compound (VOC) laden gas stream, for example, is immaterial. What matters is whether the gas stream characteristics, such as composition and

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VOC concentration, are sufficiently similar to a stream from which incineration technology, for example, may be transferred. The same would be true for the control of particulate matter or sulfur dioxide in a gas stream using control devices such as baghouses or scrubbers.

For the second type of transfer, process similarity governs the decision. For example, coating compositions and application technology probably do not vary substantially across the entire class of motor vehicle coating sources. A source within that category would, therefore, have to clearly demonstrate the unique process characteristics that preclude it from using otherwise transferable LAER technology used by a similar but not necessarily identical source. We would be more cautious, however, before

grouping more disparate operations, such as coating semiconductor circuit boards, in the same class as coating motor vehicles.

Based on your memorandum, Michigan's application of the technology transfer policy is based on treatment of the first type (i.e., control of the gas stream). Consequently, we agree with their position and your support of it. Incineration of spray booth emissions is a transferable technology in a LAER determination. Whether it is actually selected as LAER depends, of course, on the actual gas stream characteristics. Requiring the same level of control, based on process-related factors such as coating formulation and coating transfer efficiency, would be a more subjective call but is not the focus of your question.

In a follow-up telephone conversation with Gary McCutchen on August 24, 1988, your staff requested our policy on LAER determinations for individual emissions units versus the entire facility. Our policy is that LAER is primarily an emissions unit determination. Each emissions unit must achieve the lowest possible emissions rate. Once LAER has been decided for each emissions unit, the reviewer should then assess LAER for the entire building, structure, facility, or source. If some more effective LAER exists by controlling the entire facility (e.g., the entire building exhaust instead of units within the building), then the "facility-wide" LAER should be considered. However, there are three hurdles to determining "facility-wide" LAER. The first is that an overall limit on multiple units is difficult if not impossible to enforce. The second is that a "facility-wide" LAER is often a combination of emissions unit and facility control, so sources seldom explore this option. The third is that most "facility-wide" LAER approaches proposed by sources are actually bubbles. They do not really represent the sum of the LAER's for the respective units, as explained at the beginning of this paragraph. As you know, LAER cannot be bubbled.

Finally, your staff also asked whether LAER can be considered individually for each aspect of control of a source. Specifically, they wanted to know if LAER for surface coating can be considered first for the composition of the coating, then for the transfer efficiency, and finally for the exhaust gas stream. The answer is yes, although reviewers must be aware that one decision affects the others. For example, a requirement for low VOC paint may result

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in gas stream VOC concentrations so low that incineration of the gas stream is not considered feasible in terms of LAER. However, it is acceptable to consider composition from one source, application technology (transfer efficiency) from another source, and incineration from a third source when performing a LAER determination, as long as each of those sources meets the control technology transfer criteria discussed above.

If you have further questions regarding transfer of technology in LAER determinations, please contact Gary McCutchen at FTS 629-5592.