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February 28, 1989

MEMORANDUM

SUBJECT: Guidance on Determining Lowest Achievable Emission Rate (LAER)

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

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

This is in response to your memorandum of January 6, 1989, requesting additional information on determining LAER. The following responses are in the same order and format as the questions in your letter.

1. Economic Feasibility of LAER

Traditionally, little weight has been given to economics in LAER determinations, and this continues to be the case. The extract in your memorandum from the record of the House and Senate discussion of the Clean Air Act (Act) contains the sentence:

> "If the cost of a given control strategy is so great that a new major source could not be built or operated, then such a control would not be achievable and could not be required by the Administrator."

We interpret this statement in the record to be used in a generic sense. That is, that no new plants could be built in that industry if emission limits were based on levels achievable only with the subject control tech- nology. However, if some other plant in the same (or comparable) industry uses that control technology, then such use constitutes de facto evidence that the economic cost to the industry of that technology control is not prohibitive. Thus, for a new source in that same industry, LAER costs should be considered only to the degree that they reflect unusual circumstances which, in some manner, differentiate the cost of control for that source from the costs of control for the rest of that industry. These unusual circum- stances should be thoroughly analyzed to ensure that they really do represent compelling reasons for not requiring a level of control that similar sources are using. Therefore, when discussing costs, applicants should compare the cost of control for the proposed source to the costs for source(s) already using that level of control.

a. You asked whether LAER for a coating operation would necessarily require add-on controls if low solvent coatings are used which produce volatile organic compound (VOC) concentrations of 20-100 ppm, and also whether LAER for a boiler would be both low sulfur coal and scrubbing.

Your questions pose hypothetical issues of whether sources which have selected fuels or process materials with inherently low emissions should be forced to utilize add-on controls as well. It is difficult and potentially misleading to respond to such hypothetical situations, since certain factors not presented may alter the response (source type, pollutant,

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emission rate, economics, etc). Nevertheless, the following generalizations can be made.

Sources are required to meet LAER as defined in the Act, which is essentially a waste gas stream limit. For a coating operation, this may mean low (or no) VOC solvent coatings, high transfer efficiencies, an add-on control device on the gas stream, or some combination of these. Of course, use of either of the first two will affect gas stream concentrations, which in turn can influence decisions on whether additional control is needed to meet the intent of LAER requirements. A LAER requirement for low sulfur coal would depend, at least in part, on whether such fuel was available and in use in the nonattainment area in question. A final determination depends on the specific case.

b. You ask whether permit applicants can put air pollution control costs "on the margin," even though many other variables could affect project viability, and whether States and Regions have the expertise needed to adequately evaluate a claim of economic non-viability.

It is true that many permit applicants present the cost of emissions controls as marginal costs and argue that they cannot afford such controls. However, these issues were addressed in the April 22, 1987 memorandum on determining best available control technology (BACT). Footenote 1 Since costs play less of a role in LAER than in BACT determinations, we believe the issues are adequately addressed in that memorandum, so we will not repeat them here.

2. Achievability of Existing State Implementation Plan (SIP) Limitations

The most stringent emissions limitation contained in a SIP for a class or category of source must be considered LAER, unless a) a more stringent emissions limitation has been achieved in practice, or b) the SIP limitation is demonstrated by the owner or operator of the proposed source to be unachievable [Act, section 171(3)].

Footenote 1
Huntsville Incinerator - Determining BACT, from Gary McCutchen, CPDD, to Bruce Miller, Region IV, dated April 22, 1987. [See section 8.15 of the New Source Review Prevention of Significant Deterioration and Nonattainment Area Guidance Notebook.]

There is, of course, a range of certainty in such a definition. The greatest certainty for a proposed LAER limit exists when that limit is actually being achieved by a source. However, a SIP limit, even if it has not yet been applied to a source, should be considered initially to be the product of careful investigation and, therefore, achievable. A SIP limit's credibility diminishes if a) no sources exist to which it applies; b) it is generally acknowledged that sources are unable to comply with the limit, and the State is in the process of changing the limit; or c) the State has relaxed the original SIP limit. Case-by-case evaluations need to be made in these situations to determine the SIP limit's credibility.

The same logic applies to SIP limits to which sources are subject but with which they are not in compliance. Noncompliance by a source with a SIP limit, even if it is the only source subject to that specific limit, does not automatically constitute a demonstration that that limit is unachievable. The specific reasons for noncompliance must be determined, and the ability of the source to comply assessed. However, such noncompliance may prove to be an indication of nonachievability, so the achievability of such a SIP limitation should be carefully studied before it is used as the basis of a LAER determination.

3. LAER and Performance Specifications

Your question about the use of company-mandated product specifications (for coatings) in determining LAER for sources of VOC is too

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hypothetical to address, given various site-specific factors that could exist. Each case must attempt to differentiate between product (and materials) specifications that are simply desired by an applicant (which would generally not be considered relevant) and specifications that are required (e.g., an industry standard). However, your interpretation of my August 29 memorandum is correct, in that a permit applicant would have to demonstrate that the presumptive LAER could not be met by some other combination of coatings, transfer efficiency, and add-on control.

4. If Presumptive LAER Cannot be Achieved

We generally concur with your requirement that where a presumptive SIP-based LAER is not achievable, the applicant must meet the more stringent of the two limits defined in your memorandum. However, case-by-case factors may also affect the decision.

Please contact Gary McCutchen (FTS 629-5592) if you have any questions on the information provided in this memorandum and Allen Basala (FTS 629-5622) if you need assistance in evaluating the economics of specific permit applications.

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