

US EPA ARCHIVE DOCUMENT

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

MEMORANDUM

DATE: June 13, 1989

SUBJECT: Transmittal of Background Statement on "Top-Dawn" Best Available Control Technology (BACT)

FROM: John Calcagni, Director
Air Quality Management Division

TO: See Below

In a number of recent meetings, it has become clear that a significant amount of confusion exists regarding the basis for top-dawn BACT. To assist you and your staff in answering questions in this regard, I asked my staff to prepare a paper which discusses the origins of and rationale for the policy initiative.

The paper, which was prepared in coordination with the Office of General Counsel, also explains why the Environmental Protection Agency (EPA) has adapted its current policy on BACT and clarifies EPA's view that this policy is consistent with current statutory and regulatory requirements.

If you have any questions about the background statement, please contact David Solomon of the New Source Review Section at FTS 629-5375.

Attachment

Addressees:

Director, Air Management Division, Regions I, III, and IX
Director, Air & Waste Management Division, Region II
Director, Air, Pesticides, & Toxics Management Division, Region IV
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Director, Air & Toxics Division, Regions VII, VIII, and X

BACKGROUND STATEMENT
ON THE
ENVIRONMENTAL PROTECTION AGENCY'S (EPA'S)
TOP-DOWN POLICY

I. INTRODUCTION

On December 1, 1987, former Assistant Administrator J. Craig Potter issued a memorandum establishing several program initiatives designed to improve the effectiveness of the Clean Air Act's (CAA's) new source review programs within the constraints of existing regulations. Among these initiatives was the "top-down" process for determining best available control technology (BACT) under the prevention of significant deterioration (PSD) provisions of the CAA. In brief, the top-down process requires that all available control technologies are ranked in descending order of effectiveness. The PSD applicant first examines the most stringent -- or "top" -- alternative. That alternative is established as BACT unless the applicant can demonstrate, and the permitting authority in its informed judgment agrees, that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not "achievable" in that case. If the most stringent technology is eliminated in this fashion, then the next most stringent alternative is considered, and so on.

The December 1, 1987 memorandum directed the Office of Air Quality Planning and Standards (OAQPS) to implement many of these program initiatives, and specifically called upon OAQPS to develop guidance on the top-down process. As a consequence, that office has received numerous inquiries regarding the basis for and proper implementation of the top-down process. The OAQPS is preparing a separate summary of the top-down process. A draft of the summary is presently under review. Therefore, this statement focuses on a background discussion explaining why EPA has adopted its current policy on BACT, and clarifying EPA's view that this policy is consistent with current statutory and regulatory requirements.

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II. ADMINISTRATIVE HISTORY

BACT is defined as

[t]he maximum degree of reduction for each pollutant *** which the [permitting authority], on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable ***

Clean Air Act section 169(3), 42 U.S.C. 7479(3); 40 C.F.R. 52.21(b)(12); 40 C.F.R. 51.166(b)(12). In January 1979, EPA had disseminated "Guidelines for Determining BACT Under PSD" (OAQPS, December 1978) and in October 1980 had issued a "PSD Workshop Manual" (OAQPS, October 1980) that included more detailed guidance on BACT. Those documents described a so-called "bottom-up" approach to BACT determinations. The applicant was to propose a base case as BACT, present more stringent control alternatives, and defend its BACT selection by "demonstrating that each alternative control system ... would cause unreasonable adverse energy, environmental, or economic impacts." See 1978 BACT Guidelines at 5-6.

In June 1986, Craig Potter established a task force to address growing concerns about the effectiveness of EPA's new source review programs in carrying out their statutory responsibilities. One of the task force's findings, based upon a comprehensive review of numerous PSD permits issued during the previous several years, was that PSD applicants and States frequently were conducting inadequate BACT determinations using the "bottom-up" approach of the 1978 guidelines and the 1980 workshop manual. In numerous instances, applicants would propose an emission limitation at or near an applicable new source performance standard (NSPS) under section 111 of the CAA as the base case, and provide little or no consideration of the more stringent control options before settling on the proposed level as BACT. It also appeared that States typically would accept these determinations with little or no independent analysis, thereby possibly failing to fulfill their

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responsibilities under the Act. The task force pointed out two basic solutions to the problem of inadequate BACT analyses. One was to focus on improving implementation of the bottom-up approach so that in practice as well as in theory, the statutory requirements would be observed. The other option was to call for a top-down approach to the BACT analysis in the expectation that its internal dynamics would, in practice, achieve more effective implementation of the BACT requirements. See generally, "New Source Review Task Force Report," Final Draft, December 1986, at 25-28.

In the meantime, in an adjudicative decision on appeal of a PSD permit for a municipal waste combustor (MWC), the Administrator held that a PSD applicant has the "burden of demonstrating that significant technical defects, or substantial local economic, energy, or environmental factors or other costs warrant a control technology less efficient than [the most stringent technology available]." Honolulu Resource Recovery Facility ("H-Power"), PSD Appeal No. 86-8, at 7 (Remand Order, June 22, 1987). Shortly thereafter, EPA issued guidance calling for application of the H-Power holding to all BACT determinations for MWCs. "Operational Guidance on Control Technology for New and Modified Municipal Waste Combustors (MWCs)," June 26, 1987.

In light of these events, EPA decided in the December 1, 1987 Potter memorandum that as a matter of Agency policy it would adopt the top-down BACT approach for all categories of PSD sources. Mr. Potter instructed EPA Regional Offices to use the top-down approach in their own BACT determinations, and to strongly encourage State and local PSD permitting authorities to do so as well. The Potter memorandum further directed Regional Offices to conduct timely reviews of PSD applications, and to comment adversely on proposed PSD permits that failed to adequately consider the more stringent control options, as would be required as a matter of course under a top-down approach. If final State and local permits still failed to reflect adequate consideration of the relevant BACT factors, the Regions were to consider such permits deficient. An additional point related to the Potter memorandum was that the top-down process should in practice lessen administrative burdens in the conduct of BACT determinations because it does

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not require a full analysis of all control alternatives that are more stringent than the NSPS or other base case, as would be required under a proper bottom-up analysis.

III. THE TOP-DOWN APPROACH AS PART OF THE EXISTING BACT DETERMINATION PROCESS

A. The Top-Down Approach Does Not Alter Existing BACT Requirements.

In calling for use of the top-down approach, EPA has not effected a change in existing PSD regulations, and has not altered the BACT requirements for any source. The definition of BACT in the statute, EPA regulations, and State implementation plans remains the same.

Regardless of the specific methodology used for determining BACT, be it "top-down," "bottom-up," or otherwise, the same core criteria apply to any BACT analysis: the applicant must consider all available alternatives, and demonstrate why the most stringent should not be adopted. Recall, however, the New Source Review Task Force's finding that in many instances the bottom-up methodology was applied inadequately. In response, EPA has developed the top-down methodology in order to improve administration of these basic BACT selection requirements already provided for in the CAA, current PSD regulations, State implementation plans, and EPA guidance. However, the top-down methodology does not involve any change in the substance of, or fundamental procedures for, a BACT determination.

What is different about the top-down policy is the emphasis upon considering the most stringent control options first. But this does not represent a radical shift in the burden of proof from permitting authorities to PSD applicants. Instead it is intended to make more effective the core policies that appear in the 1978 guidelines. That is, the top-down approach explicitly recognizes the self-evident presumption that technologies already shown to be "available" can be used by the prospective source under consideration, and the fact that the PSD applicant is in the best position to provide an initial justification why an available technology is not

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"achievable" for that particular source as well. In explicitly calling upon PSD applicants to consider the most stringent controls first, and either adopt those controls or explain why they are not achievable, EPA is only seeking to improve the administration of an existing requirement. The permitting authority after public review and comment remains responsible for exercising informed judgment in determining achievability in accordance with this requirement.

B. The Top-Down Process Is Consistent With the CAA.

The EPA believes that the top-down approach to BACT is supported by the statutory definition in section 169(3) of the CAA. The legislative history is clear that Congress intended BACT to perform a technology-forcing function. See S. Rep. No. 95-252, 95th Cong., 1st Sess.

31 (1977), reprinted in 3 A Legislative History of the CAA Amendments of 1977 at 1405; 123 Cong. Rec. S9171, 3 Legislative History at 729 (remarks of Sen. Edmund G. Muskie, principal author of 1977 Amendments). This construction was reinforced in H-Power and in a later PSD appeal decision, Pennsauken County. New Jersey Resource Recovery Facility, PSD Appeal No. 88-8 (Remand Order, Nov. 10, 1988). In those cases the Administrator interpreted the BACT definition as requiring the PSD applicant to demonstrate to the permitting authority why the most stringent control technology "available" is not "achievable" in that case. It is also clear that in adopting BACT, Congress intended PSD permitting authorities to exercise informed discretion to weigh energy, environmental, and economic impacts in determining BACT for a particular source. S. Rep. No 95-252 at 31, 3 Legislative History at 1405. In addition, in section 160 of the CAA, Congress emphasized that public participation and a careful assessment of relevant factors is crucial to all decisionmaking under the CAA's PSD provisions.

In theory, these statutory goals can be fulfilled by either a top-down or bottom-up approach to BACT determinations. However, as discussed previously, EPA's experience has been that, as implemented in practice, the bottom-up approach is deficient in actually achieving these goals, and the Agency now

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believes they can best be served by the top-down BACT methodology. The EPA's policy furthers the spread of effective pollution control technologies by focusing attention first on the most stringent control options. At the same time, it provides a full opportunity for meaningful public participation, and allows permitting authorities to give informed consideration to energy, environmental, and economic impacts before reaching a final BACT decision.

- C. Under The Top-Down Process, Important Distinctions Between BACT and Lowest Achievable Emission Rate (LAER) are Maintained, and States Still Weigh the Relevant Factors.

The top-down approach maintains the statutory distinctions between BACT and the LAER requirement under section 171(3) of the CAA (which major new sources and major modifications locating in nonattainment areas are required to meet). The LAER requirement provides that all affected sources must comply with either the most stringent limit contained in a State implementation plan, or the most stringent emission limitation achieved in practice, whichever is more stringent. In contrast, under BACT, consideration of energy, environmental, or economic impacts may justify a lesser degree of control in the particular case. The EPA's policy regarding the top-down process does not alter this sharp statutory distinction.

The EPA believes it is appropriate to consider LAER determinations in establishing the most stringent technology "available" -- i.e., the "top" control option -- for purposes of BACT analyses under the top-down methodology. The statute requires PSD applicants to consider the most stringent controls that are "available," and availability should be given a straightforward, practical meaning. See Pennsauken at 8. Any emission limit that has been required for LAER purposes must be "actually, not theoretically," possible. 3 Legislative History at 537. Thus, a limit contained in a LAER determination is presumably "available" for BACT purposes by any source in the same category, and is not merely experimental or otherwise beyond the bounds of consideration. This is so regardless of whether a top-down or a bottom-up approach to consideration of the control

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technology in question is used. Accordingly, the fact that, to date, a technology has been required only under LAER determinations, or has not yet been applied to many sources, does not render it unavailable for BACT consideration. See Pennsauken at 8.

The top-down policy (and in particular, the use of LAER determinations to determine available BACT alternatives), does not establish a national

BACT standard. The statute provides that technical considerations may, alone or in conjunction with energy, environmental, or economic factors, render a given control technology or associated emission limitation not "achievable" in a given PSD case. It is precisely the purpose of the BACT analysis to weigh these factors in determining whether an "available" technology or emission limit is "achievable" in the given case. Adoption of a top-down methodology does not change this requirement.

The EPA's policy regarding the top-down process does not prejudice the weight that permitting authorities must give to the relevant statutory factors. Instead, the purpose of EPA's policy is to insure that the relevant factors are weighed in the well-considered manner called for by Congress, and that the weighing process is properly informed by resort to objective data where appropriate. Thus, as the Administrator has held in H-Power and Pennsauken, it is not sufficient to reject a control technology by merely asserting that it is "too costly." Rather, claims that economic (or other) factors render a technology or emission limit not achievable must be supported by an analysis utilizing readily available objective indicators of adverse impacts. However, the final weighing of those factors, and the final BACT decision, are made by the permitting authority. Rejection of a control technology by a reviewing agency must have a rationale arrived at after full consideration of data determined in a consistent and sound manner. Such decisions may not be arbitrary, capricious, or contrary to law.

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D. It Is Appropriate to Implement the Top-Down Process Through BACT Guidance and Adjudication.

The EPA believes it is appropriate to continue implementing its BACT policies through policy statements, and any relevant adjudicative decisions of the Administrator, rather than through rulemaking. The EPA has followed a consistent practice of issuing BACT guidance since passage of the PSD program and promulgation of BACT regulations. With respect to the top-down policy in particular, EPA's statements of policy have been informed in part by the adjudicative decisions in H-Power, Pennsauken, and North County Resource Recovery Associates, PSD Appeal No. 85-2 (Remand Order, June 3, 1986). However, like EPA's top-down policy statements, those decisions do not change the law, but at most interpret existing law. In any event, it is clear that EPA, like other regulatory agencies, has authority to create binding precedent through adjudication. See, e.g., *NLRB v. Wyman-Gordon Co.*, 394 U.S. 759 (1969). It is also clear that, absent an explicit statutory constraint, EPA has broad discretion to employ those procedures and methods it feels are best suited to discharging its numerous and varied duties. See, e.g., *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 543 (1978).

IV. SUMMARY

In summary, for the reasons discussed above, the top-down process is consistent with existing statutory and regulatory requirements. The EPA does not believe that its policy views on the top-down process create any new legal rights or duties which must be implemented through rulemaking.