BEFORE THE ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In the Matter of:	
Spokane Regional Waste-to-Energy	PSD Appeal No. 88-12
Applicant	

ORDER DENYING REVIEW

In a joint petition filed pursuant to 40 CFR 124.19 (1988), Citizens for Clean Air and Council for Land Care and Planning ("Petitioners") requested review of a Prevention of Significant Deterioration (PSD) permit issued to the Spokane Regional Waste To Energy Project ("Spokane") for construction of an 800-ton-per-day municipal waste incinerator at an existing landfill west of the City of Spokane. The permit determination was made by the Washington State Department of Ecology ("Ecology") pursuant to a delegation of authority from EPA Region X, Seattle, Washington. Because of the delegation, Ecology's permit determination is subject to the review provisions of 40 CFR 124.19, and any permit it issues will be an EPA-issued permit for purposes of federal law. 40 CFR 124.41; 45 Fed. Reg. 33,413 (May 19, 1980).

Petitioners object to the issuance of the permit because they believe it is deficient in several respects. In particular, they claim the permit does not meet "best available control technology" (BACT) requirements for emissions of nitrogen oxides (NOx) and for emissions of "trace [sic] metals and toxic pollutants such as dioxins and furans." Petition at 2. In making a BACT determination for NOx, Petitioners claim that "thermal de-NOx," not combustion controls, is BACT. For the other pollutants, Petitioners allege that Ecology did not give adequate consideration to "fuel cleaning and separation" and did not consider economic, environmental, and other costs associated with the incineration of "recyclable materials." Id. at 2-3.

Ecology responds by arguing that the NOx issue is now moot because the City has subsequently agreed to modify the facility to incorporate NOx controls employing thermal de-NOx or an equivalent technology. With respect to fuel cleaning and separation, Ecology argues that these practices need more study -- to gather information about costs and impacts -- before Ecology would be able to determine whether they represent a better emissions control method than the controls currently proposed for the facility. Spokane likewise argues that fuel cleaning and separation are not BACT, and it points out that these and other similar practices have undergone thorough evaluation in connec-

tion with Spokane's overall waste management strategy, which calls for recycling, waste reduction, the proposed "waste-to-energy facility," and one or more new regional landfills designated for non-recyclable and residual wastes only.

Under the rules governing this proceeding, there is no appeal as of right from the permit decision. Ordinarily, a petition for review of a PSD permit determination is not granted unless it is based on a clearly erroneous finding of fact or conclusion of law, or involves an important matter of policy or exercise of discretion that warrants review. The preamble to the regulation states, "this power of review should be only sparingly exercised," and "most permit conditions should be finally determined at the Regional [State] level * * * ." 45 Fed. Reg. 33,412 (May 19, 1980). The burden of demonstrating that the permit conditions should be reviewed is therefore on Petitioners. In this case I have determined that Petitioners have met their burden with respect to the NOx issue but not with respect to heavy metals and toxic pollutants.

Discussion

Before addressing the issues presented by the appeal, I believe it would be worthwhile to state first what the case is not about. It is not about the desirability of recycling for municipalities planning to build solid waste incinerators. I consider recycling in its various manifestations, including off-site (curbside) separation of newspapers, bottles, and aluminum containers, and on-site mechanical separation processes, as an essential part of intelligent planning for the solid waste disposal predicament that more and more of our Nation's cities are facing. Nor is this case about the desirability of recycling for Spokane in particular. The Spokane waste-to-energy project calls for extensive recycling, including a centralized, curbside recycling program to be implemented by January 30, 1991. The City's plans also include three drop-off centers in different locations in the Spokane area. The centers will contain facilities for citizens to leave recyclable materials, which are designated initially as newspaper, high grade paper, corrugated paper, aluminum, three colors of sorted glass, scrap metals, and tin cans. In addition, a "reusables" area for miscellaneous items -- small appliances, baby furniture, books, toys, etc. -- is also planned. According to EPA Region X, Spokane expects to obtain a recycling level of 31% by the year 2008. EPA Response at 6.

Recycling is indeed an issue in this case, but in a significantly narrower context than just described. The focus here is on whether Ecology erred in its BACT determination by not giving in-depth consideration to "fuel cleaning and separation" in combination with the conventional, state-of-the-art pollution control equipment already required by the Spokane permit, for control of heavy metal and toxic pollutant emissions. In other words, if fuel cleaning and separation in this particular technological configuration would allow Ecology to set emission levels for regulated air pollutants that are demonstrably lower than the levels achievable using the proposed control equipment, then Ecology would have erred in its BACT determination by not analyzing fuel cleaning and separation sufficiently. The second major issue presented by the appeal, unrelated to the recycling issue, is whether Ecology also erred in its BACT determination by not requiring thermal de-NOx for control of NOx emissions. Resolution of these issues necessarily begins with an examination of the process of making the BACT selection from among competing technologies.

The statutory phrase "best available control technology" or BACT, as it is customarily abbreviated, refers to a technological standard that applies to facilities subject to PSD requirements. It is defined in section 169(3) of the Clean Air Act as an "emission limitation" reflecting the "maximum degree of

reduction" of "each pollutant subject to regulation under the Act," which the permitting authority determines is achievable after "taking into account energy, environmental, and economic impacts and other costs." 42 USCA 7479(3). Achievement of an emission limitation may be secured "through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant." Id.

Recent EPA guidance describes the process of selecting BACT for individual facilities. The process is based on a recognition that the statutory definition of BACT imposes a responsibility on the permit applicant to identify the particular "available" technology that will produce the maximum degree of reduction of each regulated pollutant to be emitted from the proposed facility. If the applicant wishes to use some less effective control technology, the applicant must "demonstrat[e] 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 available technology]."

Honolulu Resource Recovery Facility, PSD Appeal No. 86-8, at 7 (EPA June 22, 1987) (remand of decision respecting SO2 controls for a municipal waste incinerator). In guidance issued by EPA's Assistant Administrator for Air and Radiation on December 1, 1987, the process of selecting BACT -- known as the "top-down" approach to BACT analysis -- is described as follows:

> The first step in this approach is to determine, for the emission source in question, the most stringent control available for a similar or identical source or source category. If it can be shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental or economic objections. Thus, the "top-down" approach shifts the burden of proof to the applicant to justify why the proposed source is unable to apply the best technology available. It also differs from other processes in that it requires the applicant to analyze a control technology only if the applicant opposes that level of control; the other processes required a full analysis of all possible types and levels of control above the baseline case.

Applying the top-down approach to Spokane, the issue is whether the alternative controls advocated by the Petitioners -- thermal de-NOx for NOx emissions, and fuel cleaning and separation for heavy metal and toxic pollutant emissions -- represent the most effective or "top" technologies for control of regulated pollutants, or whether they represent some lesser level of control. If they represent the former, the BACT analysis performed by Spokane and approved by Ecology should have contained (but did not) an in-depth discussion of each alternative control technology to justify rejecting it as BACT. If, on the other hand, Petitioners' alternatives do not represent the top technologies, no detailed discussion of them is required in the BACT analysis, unless there is evidence to show that the alternatives are available for the primary purpose of controlling regulated pollutants and, despite not being the top technology, they are nevertheless BACT after giving appropriate weight to their collateral environmental (or energy) impacts. Absent such evidence, no detailed discussion of the alternatives is required since the analysis would only satisfy academic concerns and would have no effect on the outcome of the permit determination. Any failure on the part of the permit issuer to consider such a technology would amount to harmless error, at most.

Did Ecology miscategorize either of the two types of technology when it rejected them and concluded that neither required

additional analysis? This question is now moot for the thermal de-NOx issue; Spokane's subsequent decision to install an appropriate NOx emission control system employing either thermal de-NOx or an equivalent technology effectively decides the issue. All that remains to be done now is for Ecology to set numerical emission limitations for the NOx emissions using the agreed-to technology, and to prescribe monitoring requirements and operating restrictions as deemed necessary or appropriate.

The question is not as easily answered in the case of fuel cleaning and separation. To answer it, we first need to ascertain the permit issuer's responsibilities whenever deficiencies in a proposed permit determination are alleged. For instance, do the rules require the permit issuer to conduct a full scale BACT analysis of each alternative proposed by a commenter, regardless of the proposal's merit, or is it permissible for the permit issuer to tailor its response in proportion to the substantive merits of the proposal? In other words, if the comment is clearly without merit or is vague and lacks sufficient support, can the permit issuer dismiss the comment summarily or must it prove the comment's lack of substance by, for example, requiring the permit applicant to submit studies, tests, and comparisons demonstrating that the commenter's proposed alternative technology is unworkable or otherwise unsuitable?

The applicable rules and case law fortunately adopt a rule of reason in answer to these questions, and thus do not require the permit issuer to respond in detail to all comments irrespective of their merit. Specifically, the permit issuer need only "describe and respond to all significant comments on the draft permit." 40 CFR 124.17(a)(2) (emphasis added). The permit issuer's response can be in proportion to the substantive merit of the comments.

> [T]he "dialogue" between administrative agencies and the public "is a two-way street." Home Box Office, 567 F.2d at 35. Just as "the opportunity to comment is meaningless unless the agency responds to significant points raised by the public," id. at 35-36 (footnote omitted), so too is the agency's opportunity to respond to those comments meaningless unless the interested party clearly states its position. See Wisconsin Electric Power Co. v. Costle, 715 F.2d 323, 326 (7th Cir. 1983) ("the rules of administrative law apply across the board, to agencies and interested parties alike").

Northside Sanitary Landfill, Inc. v. Lee M. Thomas, 849 F.2d 1516, 1520 (D.C. Cir. 1988) (interpreting the phrase "significant comments" in the rulemaking provisions of the Administrative Procedure Act). The Supreme Court has also held that a permit issuer may adopt a threshold test for determining how it responds to a comment or proposal. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 551-555, 55 L.Ed. 2d 460, 98 S.Ct. 1197, 1215-1217 (1978). The petitioners in Vermont Yankee had accused the Atomic Energy Commission of not giving adequate consideration to "energy conservation" as an alternative to licensing the construction of a nuclear power plant. The Commission held that it would only consider energy alternatives that were reasonably available, would curtail demand to the point where the power plant would not be necessary, and were susceptible of a reasonable degree of proof. The Commission concluded that petitioners had not met this threshold test because, inter alia, they had failed to "take into account that energy conservation is a novel and evolving concept." Vermont Yankee 98 S.Ct. at 1207. The Commission added that in view of "this emergent stage of energy conservation principles," it is incumbent on the petitioners to state "clear and reasonably specific energy conservation contentions." Id. The Court of Appeals held that the Commission's threshold test was arbitrary and capricious, but the Supreme Court overturned the appellate court, holding that the Commis-

sion's decision had to be judged in light of the information then available to it. Significantly, the Supreme Court noted that the petitioners' responsibility to present its position and contentions effectively was especially heavy when the Commission is being asked to "embark upon an exploration of uncharted territory, as was the question of energy conservation in the late 1960's and early 1970's." Id. 98 S.Ct. at 1216.

In the case of the instant petition, as in Vermont Yankee, historical perspective is an essential ingredient of any threshold test, for fuel cleaning and separation are also new and evolving concepts insofar as air pollution control at municipal waste incinerators is concerned. Although arguably much is known about recycling in terms of how and what to recycle to achieve waste reduction, no hard data are presently available to judge whether supplementing conventional, state-of-the-art pollution control equipment such as baghouses and scrubbers with fuel cleaning and separation would cause reductions or increases of regulated pollutant emissions. According to an EPA Municipal Waste Task Force Report just released in February 1989, information on reducing emissions from municipal waste incinerators through elimination of specific materials from the combustor -- for example, through separation and recycling -- is not well known: "[D]ata are currently inadequate to determine precisely the effect on air emissions and ash of eliminating specific materials from the waste stream prior to combustion."

This current paucity of knowledge is illustrated by the petition for review. Petitioners are unable to point to a single study or instance in which the addition of fuel cleaning and separation results in any emissions reductions over those obtained by the use of the highly effective conventional equipment and operating practices already required by the Spokane permit. Petitioners cite a study done by National Recovery Technologies, Inc. (NRT) for the proposition that removal of aluminum, steel, glass, and dirt from municipal waste will result in "a 30 to 75 percent reduction of air emissions"; however, an examination of this study fails to support Petitioners' statement, at least not in the manner intended by Petitioners. The study actually shows that these reductions represent comparisons of emissions from the separate burning of treated (cleaned) and untreated wastes, respectively, "prior to emissions control equipment and are not direct air releases." NRT Study at 4 (emphasis added). In other words, the study does not show that there would be a reduction in pollutant emissions had conventional pollution control devices been in operation. This omission is significant, because it is impossible to conclude from the study whether emissions would have increased, decreased, or stayed the same if conventional equipment had been in operation, for it is well known that the conventional, state-of-the-art equipment required by the Spokane permit is highly effective in reducing emissions of heavy metals and most other pollutants, as well as reducing the specific pollutants for which the equipment is designed to control -- principally SO2 and particulate matter.

Petitioners also make reference to a BACT analysis performed by EPA Region IX, San Francisco, California, for a municipal waste incinerator to be built in San Marcos, California. This BACT analysis included source separation as a control option. Region IX concluded, however, that BACT for the incinerator was a lime slurry spray dryer system (dry scrubber) with a baghouse for the control of sulfur dioxide (SO2), acid gas, and particulate emissions. Region IX specifically found that source separation provides poor control of heavy metals and fair control of dioxins and furans. According to the Region, the lime slurry spray dryer, in contrast, provides excellent control of both heavy metals and dioxins and furans. In short, Region IX's consideration and rejection of source separation in this one instance obviously furnishes no basis for saying Ecology erred by not including it in the Spokane BACT analysis.

The absence of studies or actual operating results is especially fatal under the Clean Air Act, for the statutory definition of BACT requires a technology to be "available" for it to be considered as BACT.

> The permit applicant's burden of showing that a more stringent technology is not BACT obviously does not come into existence unless the so-called "more stringent" technology is available. If the technology is not available, the permit applicant is under no duty to consider it in the BACT analysis.

Pennsauken Resource Recovery Facility, PSD Appeal No. 88-8, at 7 (EPA November 10, 1988) (Remand Order). A technology is obviously not available in any meaningful sense if knowledge about its effect on emissions, in the particular configuration in which it would be employed, is so incomplete as to be unusable. Moreover, given the Clean Air Act's emphasis on granting or denying completed PSD permit applications within one year of filing, it would be unreasonable to read the term "available" as imposing a duty on the permit applicant to conduct time-consuming original research by generating new data for the purpose of discovering whether a potential, but unproven, technology might possibly prove successful. Perhaps more importantly, without the requisite knowledge about the technology's effects on emissions, the technology also cannot be regarded as the "best" technology. Therefore, I conclude that Petitioners have not shown that fuel cleaning and separation, in combination with conventional, state-of-the-art pollution control equipment, constitute available technologies for purposes of the BACT determination.

Apart from the absence of studies or operating results to support the petition, the petition is also flawed in at least one other serious respect. Specifically, given the embryonic state of our knowledge about recycling in the present context, Petitioners also have a responsibility to satisfy a reasonable threshold of clarity and precision in their demands of the permit issuer. They have not done so in this case. For example, Petitioners never state exactly what they mean by fuel cleaning and separation. The omission is problematic because there is no uniform definition of fuel cleaning and separation, and Petitioners have not sought to clarify their intentions by supplying their own definition. Both terms in the context of the petition can be interpreted as referring simply to removal (separation) of objects such as car batteries, tires, glass bottles, and large metal appliances, so-called white goods, from the waste fuel before incineration. In fact, Petitioners identify "removal of aluminum, steel, glass, and dirt" as examples of separation possibilities. Petition at 3. However, Petitioners later expand their concept of separation to encompass use of refuse derived fuel (RDF), which they refer to as an example of "mechanical" separation. Petitioners also use the term "source separation" in apparent reference to curbside separation of waste by homeowners, but without specifying how the waste should be separated. Because of the uncertainty and confusion in their terminology, it is difficult to determine precisely what Petitioners are alleging Ecology failed to consider in its BACT analysis. The possibilities appear limitless. Under these circumstances, it is unreasonable to expect the permit issuer or the permit applicant to sort through all the possibilities in the hope of identifying some feasible practice that might satisfy Petitioners' expectations. I therefore conclude that the ill-defined scope of the petition alone is grounds for its dismissal.

Conclusion

Petitioners have not made an adequate case for reviewing the permit on the "fuel cleaning and separation" issue. As discussed, the petition fails to demonstrate that Ecology committed clear error in not requiring the permit applicant to develop more information on these practices. I say this because Petitioners

are requesting Ecology to venture into territory that is not well charted, where the possible recycling and separation strategies that Spokane could adopt are virtually limitless and the results are unknown and not presently predictable. Therefore, it is not enough for Petitioners to say that benefits can be derived from these practices when our knowledge about them in the specific context of air pollutant emissions from municipal waste incineration is in the formative stages. To have warranted in-depth consideration in the BACT analysis, Petitioners should have established as a threshold matter that these practices are "available" to the applicant, e.g., that there are sufficient data indicating (but not necessarily proving) that their additional control technologies, in conjunction with the conventional, state-of-the-art controls considered in the Spokane BACT analysis, will lead to a demonstrable reduction in emissions of regulated pollutants or will otherwise represent BACT. They have not done so in this instance. Petitioners have not pointed to a single facility anywhere (or even a study) that satisfies these threshold requirements. Therefore, this aspect of the petition is dismissed.

It is clear that more and more communities will be using recycling in conjunction with incineration to address their municipal waste problems. As more information becomes available from these communities, it may overcome the deficiencies in the petition presented in this case, and if so, it may determine the potential of recycling practices for controlling regulated pollutant emissions under the PSD provisions of the Clean Air Act. The Agency expects future permit applicants to consider this information as it becomes available and to assess its potential for inclusion in their analyses of BACT. The rate at which this information becomes available is also likely to increase rapidly in the near future. In late January 1989, EPA established a new Office of Pollution Prevention, which will include the study and development of environmentally sound recycling practices as part of its mission. 54 Fed. Reg. 3845 (January 26, 1989). In addition, the Agency's February 1989 Municipal Waste Task Force Report describes the many recent efforts to develop information and to effect positive changes in the way we deal with the problems of increasing waste generation and decreasing waste management capacity. Currently, however, not enough technical data are available to determine the air quality benefits of requiring fuel cleaning and source separation in combination with state-of-the-art air pollution equipment.

As a final matter, I am also dismissing as moot the petition insofar as it concerns the NOx emission limitation and thermal de-NOx technology. I am doing this not because the petition lacks merit but because Spokane has agreed to install the requisite technology and to have the permit revised to reflect this change in the facility. Accordingly, I am remanding the permit to Ecology to revise the permit along these lines. Following reissuance of the revised permit, Petitioners shall be given the opportunity, in accordance with 40 CFR 124.19, to appeal any determination Ecology makes with respect to the revised NOx limitation. Any such appeal shall be strictly limited to th scope of the revisions in the NOx limitation.

So ordered.

Dated: 6/9/89

/s/
William K. Reilly
Administrator

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Order Denying Review, PSD appeal No. 88-12, were mailed to the following by

First class mail, postage prepaid.

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Dated: 6/9/89

/s/
Brenda H. Selden, Secretary
to the Chief Judicial Officer