

EPA REJECTS CHALLENGES TO TIRE BURNING POWER PLANT

The United States Environmental Appeals Board has rejected three separate petitions challenging the issuance of a permit to allow a power plant in Hillman, Michigan to increase the use of tire-derived fuel to produce electricity.

Hillman Power Company (Hillman) owns and operates an 18 megawatt electrical power generating plant in Hillman, Michigan. The power station burns wood, supplemented with shredded automobile tires (tire-derived fuel or TDF) to produce steam that is used to generate electricity. Hillman was limited to using TDF for approximately 6% of the fuel burned at the power station. Then, in 2001, Hillman applied for a permit to increase the rate of TDF used as a supplementary fuel to 60 tons per day, or about 9% of the plant's daily fuel consumption.

After reviewing information submitted by Hillman, the Michigan Department of Environmental Quality (MDEQ) wrote a draft permit with conditions to allow the increased use of TDF at the Hillman facility. MDEQ publicly announced its preliminary decision on the permit modifications and accepted public comments on the proposed permit. In addition, MDEQ held a public hearing regarding the proposed permit on January 16, 2002.

Several individuals and organizations submitted comments on the proposed permit during the public comment period and during the public hearing. After reviewing the public comments, MDEQ issued a final permit authorizing the increased use of TDF on March 13, 2002.

On April 16, 2002, the Michigan Environmental Council (MEC), Ms. Donna Baranyai (Baranyai) and Dr. Richard N. Olree, Jr. (Olree) filed separate petitions with the United States Environmental Protection Agency (EPA) Environmental Appeals Board (EAB) challenging MDEQ's decision to issue the new permit.

The permit to allow increased use of TDF was subject to review under EPA's Clean Air Act Prevention of Significant Deterioration (PSD) regulations, which are implemented in Michigan by MDEQ under a delegation of authority from EPA. Under EPA's PSD rules, a PSD permit decision by a state with delegated authority may be appealed by filing a petition with the EAB.

In its decision, the EAB stated that it will ordinarily review a PSD permit decision only if the decision is based on a clearly erroneous finding of fact or conclusion of law or if the decision involves an important matter of policy or exercise of discretion that warrants review. The person petitioning for review has the burden of proof to demonstrate that the PSD permit is clearly erroneous, an abuse of discretion, or otherwise requires EAB intervention.

The MEC Petition

The EAB first reviewed the MEC petition. The first argument raised by MEC concerned the fact that MDEQ did not quantify the level of dioxin emissions from the Hillman facility through stack testing. Although Hillman conducted stack testing in 1998 and 1999 under MDEQ supervision to estimate the amount of emissions that would result if the increased use of TDF was approved, the stack testing did not include testing for dioxin. In its permit application, Hillman canvassed a number of other sources in an attempt to estimate the dioxin emissions that would result from the increased use of TDF, including stack test results from several other wood-burning and TDF-burning power plants and EPA research. Based on its review of the available information, Hillman estimated the dioxin emissions using an emission factor based on EPA research that predicted the highest quantity of dioxin emissions. MDEQ accepted this emission factor as a conservative (that is, tending to overestimate) estimation of the dioxin emissions from the facility.

The EAB concluded that it was reasonable for MDEQ to allow the estimation of dioxin emissions using EPA research, rather than stack testing, because the EPA emission factor produced the highest estimate of dioxin emissions found after reviewing several credible sources of emission information. The EAB also ruled that it was reasonable for MDEQ to use the EPA emission factor, even though that emission factor was for power plants that burn only wood, rather than wood and TDF, because there was evidence in the record that burning TDF with wood could actually decrease emissions of dioxin compared to burning wood alone. Therefore, the EAB denied the MEC's petition on this issue.

MEC also argued that MDEQ erred by relying on state law to regulate dioxin emissions from the Hillman facility. MDEQ regulations require sources of toxic air contaminant emissions to satisfy two major requirements: (1) install and use the "best available control technology for toxics; and (2) demonstrate that the toxic air contaminant emissions will comply with health-based screening levels established by MDEQ.

The EAB noted that the PSD regulations apply to emissions of "criteria pollutants," which include sulfur oxides, particulate matter, carbon monoxide, ozone (and volatile organic compounds), nitrogen oxides and lead. Dioxin is not a criteria pollutant and, accordingly, is not subject to regulation under the PSD rules. When identifying the "Best Available Control Technology" (BACT) required under the PSD rules, however, MDEQ is required to consider the collateral effects of potential emission control technologies. In evaluating the collateral effects of competing air emission control technologies, the EAB noted that MDEQ has a great deal of discretion to consider issues relating emissions of dioxin and other non-criteria pollutants.

The EAB found that MDEQ had determined that dioxin emissions from the increased use of TDF at the Hillman facility would amount to less than 10% of MDEQ's health-based

screening level for toxics. Under such circumstances, the EAB held, MDEQ had an adequate basis to conclude that the potential dioxin emissions did not compel MDEQ to alter its determination of BACT for the power plant. Therefore, the EAB denied the MEC's petition on this issue.

The EAB considered MEC's third argument that the PSD BACT requirement prohibited MDEQ from approving the requested increase in TDF consumption. Because of economic and technical considerations, MDEQ determined that BACT did not require any add-on emission control technology and MEC did not challenge this conclusion. However, MDEQ noted that some degree of emission control results from burning TDF and wood together because wood ash tends to neutralize acids that are produced by burning TDF. MDEQ considered this neutralization effect to constitute BACT for the Hillman facility. However, MDEQ's analysis concluded that the wood ash in the Hillman facility could effectively neutralize the acids generated by burning up to 3,000 pounds of TDF per hour, yet MDEQ approved an increase in TDF consumption from 3,149 pounds per hour to 5,000 pounds per hour.

MEC argued that the increased TDF usage rate to 5,000 pounds of TDF per hour was not consistent with BACT because the wood ash burned in the power station could neutralize the acids generated by only the first 3,000 pounds of TDF per hour. Hillman and MDEQ countered that the primary purpose of Hillman's permit application was to increase the allowable consumption of TDF and that MEC was impermissibly attempting to re-design (or redefine) the source. EAB noted that EPA guidance states that MDEQ may consider inherently lower polluting processes in the BACT analysis, but that MDEQ should not require a source to change or redefine its basic design. The EAB stated:

In this case, limiting TDF burning to the amount authorized under Hillman Power's existing permit, as advocated by MEC, would

necessarily operate to the exclusion of the process modification Hillman Power seeks; in this sense, Hillman Power and MDEQ argue that MEC is attempting to redefine the source. Although MDEQ clearly has discretion under EPA guidance to consider and even require such a restriction, it chose not to do so and instead determined to review the modification on its merits. In this regard [MDEQ] reviewed and approved Hillman Power's BACT analysis and further concluded that the facility's increased [sulfur dioxide] emissions from increased TDF firing – controlled only by fuel blending/wood ash neutralization and not any post-combustion controls whatsoever – would not exceed the [National Ambient Air Quality Standards] or PSD air increments for northern Michigan.

Thus, the EAB agreed that MDEQ was not required to adopt the approach to BACT advocated by MEC because that would involve “redefining the source.”

Olree's Petition

In his petition, Olree raised three arguments. First, Olree noted that the permit allowed TDF consumption to increase by 62.98% and allowed sulfur dioxide emissions to increase by 400% from 47.8 tons per year to 250 tons per year. Olree argued that, because of the disparity between the increase in TDF burning and the increase in sulfur dioxide emissions, “the permit should not have been granted for more than what is needed.”

The EAB ruled that emissions increases associated with industrial growth are permissible under the PSD regulations provided that the increase will not exceed EPA's National Ambient Air Quality Standards or PSD increments and the BACT requirement is implemented. Therefore, the fact that there may be a substantial increase in emissions is not a basis for MDEQ to deny the permit, provided that the PSD requirements are satisfied. Accordingly, because Olree did not demonstrate that MDEQ committed a clear error in its PSD analysis, the EAB denied his request for review on this basis.

Olree's second argument was that MDEQ did not adequately consider the risks posed by heavy metals present in the fly ash emitted by the Hillman facility. Olree claimed that fly ash

from the plant has been found in the Hillman elementary school's air filters and that heavy metals consistent with the plant's emissions have been detected in soil samples collected from the school playground. The EAB found that MDEQ carefully considered the impact that heavy metals emissions from the Hillman plant would have on human health and the environment in the Hillman area, including consideration of the proximity of the elementary school and children's health issues. The EAB noted that the Olree merely claimed that metals consistent with Hillman's emissions were present in soil samples and in air filters, but Olree did not demonstrate that the concentrations found are high enough to be cause for concern. Therefore, the EAB did not find any clear error in MDEQ's treatment of these matters and did not find that the MDEQ's approach presented an important policy matter or abuse of discretion requiring EAB review. Accordingly, the EAB denied Olree's petition on this issue.

Third, Olree argued that Hillman satisfied the BACT requirement by merely replacing its stack and by changing certain components of the plant. MDEQ countered that this characterization of the approach to satisfy BACT was false because the BACT analysis did not evaluate stack replacement as a pollution control method. In addition, Hillman noted that the facility upgrades discussed in its permit application were in regard to concerns about current and future ash fallout issues and not BACT analysis. The EAB found that Olree ha failed to establish any clear error on MDEQ's part or other reason for EAB review and, therefore denied Olree's petition on this issue.

Baranyai's Petition

The EAB considered two issues raised in the Baranyai petition. First, Baranyai raised the same issues concerning metals in the furnace filters and soil at the Hillman elementary school that were raised in the Olree petition. Because MDEQ considered heavy metals, children's

health and the proximity of the school during its PSD review and concluded that children, adults and the environment would be adequately protected, the EAB found that Baranyai had not identified any clear error committed by MDEQ and, therefore, denied Baranyai's petition on this issue.

The second issue raised by Baranyai concerned a condition of the permit that states:

Operation of this equipment shall not result in the emission of an air contaminant [that] causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or [that] causes unreasonable interference with the comfortable enjoyment of life and property.

The EAB found that this permit condition essentially prohibits emissions that cause a public nuisance. The EAB ruled that this is a state-specific issue that is not subject to regulation under the federal PSD program and, therefore, denied Baranyai's petition on this issue.

Conclusion

Because the EAB found that none of the petitions filed by MEC, Olree and Baranyai raised any issue that warranted review of the permit issued by MDEQ, all the petitions were denied. *In re Hillman Power Company, L.L.C.*, PSD Permit No. 687-86G, PSD Appeal Nos. 02-04, 02-05, and 02-06 (July 31, 2002).

S. Lee Johnson