

October 6, 1999

(AR-18J)

Lynn Fiedler, Supervisor  
Permit Section  
Michigan Department of Environmental Quality  
P.O. Box 30260  
Lansing, Michigan 48909-7760

Dear Ms Fiedler:

The purpose of this letter is to inform you of the United States Environmental Protection Agency's (USEPA) position regarding the Prevention of Significant Deterioration (PSD) permit application and proposed permit for Cadillac Renewable Energy. It is the USEPA's position that the applicant has not performed an appropriate Best Available Control Technology (BACT) analysis. Specifically the applicant has not documented or substantiated the information on which assertions and conclusions are made. Most importantly, even assuming the unsubstantiated information as valid, the applicant has not adequately justified why the source should not be required to apply emissions controls.

All major stationary sources undertaking a major modification subject to the PSD regulations of title 40 Code of Federal Regulations section (40 CFR) 52.21 must conduct an analysis to ensure the application of BACT. The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act, and in the implementing regulations at 40 CFR 52.21(j). Further, under 40 CFR 52.21(n), the applicant must submit and substantiate all information necessary to perform an analysis and make determinations. In these regulations, BACT is defined as "... an emission limitation based on the *maximum degree of reduction* for each pollutant subject to regulation under the ACT which would be emitted from ... any source ... which is determined to be *achievable* taking into account energy, environmental and economic impacts." It should be noted that possible grounds for overturning a BACT decision include an inappropriate review (BACT procedures not correctly followed), an incomplete review (BACT decisions not correctly justified), or a review based on false or misleading information.

The USEPA requires a "top-down" BACT analysis to determine the appropriate emission limitation (See the memorandum dated December 1, 1987, entitled Transmittal of Background Statement on "Top-Down" BACT.) Following a top-down approach, the applicant

must consider all available alternatives, and demonstrate why the most stringent should not be adopted. The top-down approach explicitly calls upon PSD applicants to consider the most stringent controls first, and either adopt those controls or explain why they are not achievable. Under BACT, consideration of energy, environmental, or economic impacts *may* justify a lesser degree of control.

The USEPA has consistently interpreted statutory and regulatory BACT definitions as containing two core requirements that the agency believes must be met by any BACT determination, regardless of whether it is conducted in a top-down manner. First, the BACT analysis must include consideration of the most stringent available control technologies (i.e., those which provide the maximum degree of emissions reduction). Second, any decision to require a lesser degree of emissions reduction must be justified by an objective analysis of energy, environmental, and economic impacts.

#### Most stringent Control Technology

Pursuant to 40 CFR 52.21(j), Cadillac Renewable Energy must conduct a BACT analysis and determination for sulfur dioxide, sulfuric acid, and particulate matter emissions. The USEPA believes that the most stringent control technology available can achieve a greater than 90 percent reduction in sulfur dioxide, sulfuric acid, and particulate matter emissions. As stated above, the top-down approach explicitly calls upon PSD applicants to consider the most stringent controls first, and either adopt those controls or explain why they are not achievable. The applicant has neither identified this level of control for these pollutants nor demonstrated that it is infeasible. Any decision to require a lesser degree of emissions reduction must be justified by an objective analysis of energy, environmental, and economic impacts.

#### Economic Considerations

BACT is required by law, and its costs are integral to overall cost of doing business. As stated above, as part of the BACT analysis, the applicant must justify why controls should not be required due to economic impact. This justification must include documenting capital and operating costs, either with data supplied by an equipment vendor or by a referenced source. Furthermore, the applicant must document the design parameters to independently verify claimed costs. Finally, where the initial control cost projections on the part of the applicant appear excessive or unreasonable, more detailed and comprehensive cost

data are necessary. Because the applicant has not substantiated or documented such costs, any claim of adverse economic impact cannot be considered valid.

Even assuming the applicants cost claims as legitimate, USEPA has not found any valid justification for a determination that would not require the most stringent controls. The applicant claims that the anticipated economic benefit to the company for burning tires is \$339,400. The applicant then concludes essentially that any environmental controls that would cost more than that sum are economically infeasible, and therefore should not be required. However a closer inspection of the applicants analysis reveals that the justification is flawed. The sum of \$339,400 represents the savings the company would generate by burning tires in place of wood without proper environmental controls. As stated above, BACT is required by law, and it's costs are integral to the overall cost of doing business. The USEPA cannot allow applicants to claim economic infeasibility simply because the total profit generated by the source would be less if the proper environmental controls are required.

Further, even using the applicants cost calculations, the total annualized cost for an 80 percent efficient sodium scrubber is \$1.6 million. Based on a 375 ton reduction in sulfur dioxide emissions, and a 60 ton reduction in sulfuric acid mist, this annualized figure translates into a cost effectiveness of \$3,700/ton of pollutant removed. The USEPA maintains, barring other information of adverse economic impact, that a cost effectiveness of \$3,700/ton of pollutant removed is not cost infeasible. We also believe that the actual annualized cost would be much closer to the number calculated by MDEQ, which is \$662,000. This number, while not taking into account site-specific retrofit issues, translates into a cost effectiveness of \$1,500/ton pollutant removed.

Finally, where controls have been effectively employed in the same source category, the economic impact of such controls on the particular source under review should not be nearly as pertinent to the BACT decision making process. Thus, where controls have been successfully applied to similar sources in a source category, an applicant should concentrate on documenting significant cost differences, if any, between the application of the controls on those sources and the particular source under review.

At least three other facilities in this source category have been identified that employed flue gas desulfurization emissions controls. The facilities are:

Ridge Generating Station, Florida  
Champion International, Alabama  
Chewton Glen Energy, IL

The applicant has not documented any significant cost differences between these facilities, that have been required to employ flue gas desulfurization emissions controls, and the Cadillac Renewable Energy facility. The only cost differences that have been identified are unsubstantiated, and include costs for removal and demolition of the existing stack and costs for demolition and relocation of the ash building. The USEPA finds these costs do not justify a determination of not requiring controls.

### Conclusion

Regardless of what pollution controls other projects were required to install, the modification of this source triggered a PSD review, which in turn requires a "top-down" BACT analysis. The "top-down" BACT analysis requires that the most stringent controls be evaluated first, the second most stringent controls evaluated second, and so on. Only after convincing arguments are presented showing that a control is either technically infeasible or is unreasonable based upon energy, environmental or economic concerns, can this control be rejected as BACT.

The applicant has only made unsubstantiated claims of adverse economic impact. Analyzed without substantiation, these claims do not justify requiring a lesser degree of control due to economic impact. Unless unique and convincing arguments are presented showing that the use of 90 percent efficient wet scrubber controls are infeasible, the controls should be required as BACT.

Based on the issues outlined above, it is the position of the USEPA that this permit does not meet the requirements of the Clean Air Act section 165(a)(4) and its implementing regulations at 40 CFR 52.21. We would like to continue to work with Michigan Department of Environmental Quality to ensure that a permit meeting the requirements of the Clean Air Act and associated rules and regulations is issued. If we can answer any questions

regarding these comments, please contact Eaton Weiler, Permit Engineer, at (312) 886-6041.

Sincerely yours,

/s/

Robert B. Miller, Chief  
Permits and Grants Section

cc: Mary Ann Dolehanty  
Michigan Department of Environmental Quality

Hein Nguyen  
Michigan Department of Environmental Quality

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