

**COMMONWEALTH OF KENTUCKY  
BEFORE THE KENTUCKY STATE BOARD  
ON ELECTRIC GENERATION AND TRANSMISSION SITING**

**In the Matter of:**

<b>THE APPLICATION OF THOROUGHbred</b>	)	
<b>GENERATING COMPANY, LLC FOR A</b>	)	<b>CASE NO.</b>
<b>MERCHANT POWER PLANT CONSTRUCTION</b>	)	<b>2002-00150</b>
<b>CERTIFICATE IN MUHLENBERG COUNTY, KY</b>	)	

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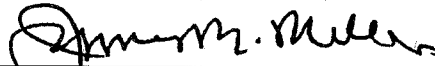
**BRIEF FOR THE INTERVENOR,  
BIG RIVERS ELECTRIC CORPORATION**

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**CERTIFICATE OF SERVICE**

I have served the Intervenor's Brief by mailing a true copy thereof, postage prepaid, to Hon. Carl W. Breeding, Greenebaum Doll & McDonald PLLC, 229 West Main Street, Suite 101, Frankfort, KY 40601-1847; Hank List, Secretary, Natural Resources and Environmental Protection Cabinet, 5th Floor, Capital Plaza Tower, 500 Mero Street, Frankfort, KY 40601; Dianna Tickner, President, Thoroughbred Generating Company, LLC, 701 Market Street, 6th Floor, Suite 781, St. Louis, MO 63101; David G. Rhoades, Chairman, Muhlenberg Joint City County Planning Commission, 203 North 2nd Street, Central City, KY 42330; J.R. Wilhite, Commissioner, Community Development, Economic Development Cabinet, 2300 Capital Plaza Tower, 500 Mero Street, Frankfort, KY 40601; Nick Schmitt and Milo Eldridge, Mactec Engineering & Consulting, Inc., 13425 Eastpoint Centre Drive, Suite 122, Louisville, KY 40223; J. Scott Yaeger, Director, Transmission & Power, Peabody Energy Company, 701 Market Street, Suite 700, St. Louis, MO 63101-0000; Linda S. Portasik, Senior Corporate Attorney, Louisville Gas & Electric Company, 220 West Main Street, P.O. Box 32010, Louisville, Kentucky 40232-2010; Kendrick R. Riggs, Ogden Newell & Welch PLLC, 500 West Jefferson Street, Suite 1700, Louisville, Kentucky 40202; Gary Watrous, 2711 West Main Street, Louisville, KY 40202; Thomas J. FitzGerald, Counsel & Director, Kentucky Resources Council, Inc., Post Office Box 1070, Frankfort, KY 40602, on this 24th day of November, 2003.

SULLIVAN, MOUNTJOY, STAINBACK  
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BRIEF OF INTERVENOR,  
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INTRODUCTION

Thoroughbred Generating Company, LLC ("Thoroughbred") seeks a construction certificate for a 1500 MW merchant generation project. The Kentucky State Board on Electric Generation and Transmission Siting (the "Board") is directed by statute to grant or deny Thoroughbred's application, in whole or in part, based upon several criteria, including the economic impact of the proposed facility upon the affected region and the state.

The project will have negative economic impacts on the region and the state, including a direct negative economic impact on Big Rivers Electric Corporation ("Big Rivers"). The application of Thoroughbred should be denied unless and until the negative economic impacts of the project are cured or substantially mitigated as stated in this brief.

## INTEREST OF BIG RIVERS IN THIS PROCEEDING

Big Rivers is an electric cooperative that has electric power supply and transmission responsibilities. Spainhoward Direct at 1-3. It was created, and is owned entirely by electric cooperatives who have retail distribution responsibilities. Id. They, in turn, are owned entirely by their retail member-consumers. Id.

Big Rivers' interest in the Thoroughbred project coincides with the interests of the region and the state. Any event that affects Big Rivers will eventually affect the persons who take retail electric service at approximately 110,000 homes and businesses in 22 counties in western Kentucky. Spainhoward Direct at 1-3. Electric cooperatives operate on a not-for-profit basis, and for a number of reasons do business almost exclusively with their own members. Id. Big Rivers' member distribution cooperatives are contractually obligated to purchase all their power requirements (with one exception) from Big Rivers. Id. The distribution cooperatives have retail electric service territories certified to them by the Kentucky Public Service Commission ("Commission"). KRS 278.016-.018. They are the exclusive providers of retail electric service within their respective certified service territories. KRS 278.018(1). So if Big Rivers takes an economic hit, sooner or later the ripples from that hit will reach the retail electric consumers in western Kentucky. If Big Rivers incurs an expense as a result of the Thoroughbred project, Big Rivers can only generate revenue to cover that expense through its rates. There is no shareholder equity to absorb costs incurred by Big Rivers that cannot be passed along in that manner.

Big Rivers' right to require its members to buy electricity from it carries a corresponding obligation on the part of Big Rivers to provide that electricity at the lowest cost consistent with sound business practices for a not-for-profit electric cooperative. It is that responsibility that has

spurred Big Rivers' participation and keen interest in this proceeding.

## ARGUMENT

### **I. The burden of proof in this proceeding is on the applicant, Thoroughbred.**

The burden of proof in this proceeding is on the applicant, Thoroughbred, to show that it is entitled to the relief it seeks from the Board: a construction certificate under KRS 278.710. This is an elementary proposition of administrative law in Kentucky, whether this proceeding is governed by common law (Energy Regulatory Commission v. Kentucky Power Co., Ky. App., 605 S.W.2d 46, 50 (1980); Morgan v. Blue Cross and Blue Shield of Kentucky, Inc., Ky., 794 S.W.2d 629, 633 (1990)), or the Kentucky Administrative Procedures Act. KRS 13B.090(7). For the reasons shown in this brief, Thoroughbred has not met that burden.

### **II. The adverse economic impacts of Thoroughbred's merchant generating project should have been analyzed in its application, and should be considered by the Board in determining whether to grant or deny a construction certificate.**

Big Rivers filed a motion to dismiss the Thoroughbred application on September 2, 2003. One of the reasons given by Big Rivers for dismissing Thoroughbred's application was that Thoroughbred's analysis of the proposed facility's economic impact on the region and the state, required by KRS 278.706(2)(j), was incomplete because it did not include a study of the adverse economic impacts of the project. The Board deferred ruling on this motion until after the evidentiary hearing. Order of October 1, 2003, at 3.

The Board must decide whether the General Assembly's requirement that an application to the Board for a construction certificate contain "[a]n analysis of the proposed facility's

economic impact on the affected region and the state . . .” (KRS 278.706(2)(j)) means that the applicant must analyze both positive and negative economic impacts of the project. Big Rivers has briefed the law on this issue extensively in its motion of September 2, 2003, and in its September 19, 2003, Reply to Thoroughbred’s Response, and will not repeat those arguments here. Succinctly put, by failing to analyze negative economic impacts of its project in its application, Thoroughbred failed to satisfy the basic jurisdictional requirements of the siting statute. This prohibits the Board from ruling on the merits of Thoroughbred’s application. McCreary County Bd. of Educ. v. Begley, Ky., 89 S.W.3d 417 (2002); Miller v. Arch of Kentucky Inc., Ky. App., 918 S.W.2d 748, 749 (1996); Scorpio Coal Co. v. Harmon, Ky., 864 S.W.2d 882 884 (1993). The Board has already held that when an application does not contain the information required under KRS 278.706, it does not have jurisdiction to hear the application. See, *The Application of Kentucky Pioneer Energy, LLC*, Case No 2002-00312, order dated April 16, 2003. Failure to submit all of the information required under KRS 278.706 prohibits the Board from exercising jurisdiction over the application.

The facts now developed through the evidentiary hearing on this issue are rather clear-cut. Thoroughbred did not study adverse economic impacts of its project. The KPMG study (“Thoroughbred Energy Campus: An Analysis of Economic Impacts for Kentucky,” Application Section 6.1) was admittedly limited to positive economic impacts of the Thoroughbred project. Tr. 182<sup>1</sup>; Application Section 6.1, at 13. And according to Thoroughbred’s economist, asking if there is a place to input negative economic consequences into the IMPLAN model used in the

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<sup>1</sup> References to the transcript of the November 10, 2003, hearing are formatted as “Tr.,” followed by the page number in that transcript.

KMPG economic impact study is “rather like asking me is there a place for bananas in it. I mean, as I indicated earlier, I don’t agree with the concept of negative economic consequences as defined in [Mr. Durham’s testimony].” Tr. 180-181.

Thoroughbred accordingly offers no evidence on the pending question of whether adverse economic impacts should be analyzed in its application. It jumps straight to the economic impact of the facility as a decisional criterion under KRS 278.710(1)(c), and argues through its economist, Dr. Meyers, that the concept of “negative economic consequences” has no place in a Siting Board hearing. Tr. 176; Meyers Rebuttal at 4. Dr. Meyers and Thoroughbred simply ignore the rulings of the Board to the contrary:

[T]he Board finds that one of the factors to be considered in deciding whether to grant a construction certificate is the economic impact of the facility on the region and the state. See KRS 278.710(1)(c). Nothing in the statute indicates that the economic impact analysis is limited to any specific factors or that the economic impact of emissions and discharges are to be excluded in such an analysis. To the extent that emissions and discharges from a merchant generating plant have an economic impact on the region and the state, that impact can be considered by the Board.

Order dated October 1, 2003 at pages 2-3. In fact, the Board makes the equivalent finding a total of three times in this case. See also, Orders dated September 30, 2003 at 2, and October 30, 2003 at 2 (Board can consider such issues to the extent they directly impact a factor enumerated in KRS 278.710).

Dr. Meyers avoids addressing the negative impacts of the Thoroughbred project, which he concedes are certain to occur (Tr. at 184), by defining away the problem. Once air permits are issued, he does not consider the effects on the region and the state of those permitted emissions and discharges. Tr. 184-186. Those effects, as predicted by Big Rivers’ witness Mick Durham,



and described in detail later in this brief, fall outside Dr. Meyers' definition of negative economic consequences. Meyers Rebuttal at 6. In Dr. Meyers' view, if the Thoroughbred project renders Big Rivers unable to build another unit at Wilson Station, that is not a negative economic consequence of the project, and should not be considered by the Board. Tr. 178. And Dr. Meyers never mentions the economic risks to Big Rivers related to addition of the transmission facilities required to handle interconnection of the Thoroughbred facility.

Dr. Meyers was not part of the KPMG team that prepared the economic impact study filed with Thoroughbred's application. Tr. at 180. Thoroughbred brought him in to rebut the testimony of Mr. Durham. Tr. at 181. He demonstrated his lack of information about the case and Kentucky when it became apparent that he did not realize that air permits were granted on a first-come-first-served basis, and that he considered this fact significant. Tr. 186. The depth of his misinformation is further illustrated in his description of the six-county "vertical" region he used in his analysis, which he described as including five counties in Kentucky and one county in Ohio. Tr. 179-180.

Big Rivers believes that the General Assembly intended that the Board require both positive and negative economic impacts of a merchant generating project to be analyzed in an application for a construction permit, and that the Board should consider and weigh both positive and negative economic impacts of a project in deciding whether to grant or deny an application for a construction certificate. No other conclusion makes sense. Consider Thoroughbred's conclusion. Dr. Meyers (Tr. 184-186) and Mr. Debusschere (Debusschere Rebuttal at 4) argue that the Board should not consider economic impacts caused by air emissions from a facility with an air permit. Yet Mr. Debusschere concedes on cross-examination that economic impacts

caused by air emissions are not part of the statutory mandate for the state permitting agency, the Natural Resources and Environmental Protection Cabinet (Tr. 129), and that it does not consider such issues. Tr. 131. Does this mean that a merchant generating facility can be located in Kentucky, and never have a permitting agency review the negative economic impacts of its air emissions?

A merchant generating project is not constructed because the developers have a public policy goal of improving the economy of the area in which it is located. The Thoroughbred project is located where it is because Thoroughbred's parents own (or claim they will eventually own) the site, and the site is basically on top of coal reserves that are also purportedly owned by the parents. The project is an investment which is calculated to produce a return for the investors. Positive economic impacts that may flow from a merchant generating project are not goals of the project for which a developer should be patted on the back; they are merely incidental to the financial objectives of the project.

What possible reason can be given for ignoring negative economic impacts of the project in either the application or the decision-making criteria? If the Board acquiesces in Thoroughbred's position, the economic impact information it will receive from future applicants will follow the pattern seen in this case: self-congratulatory studies that take credit for every positive impact of the project, and ignore any negative impacts. The application should be denied for incompleteness, and the Board should find that it will consider the negative economic impacts of any proposed merchant generating project, including Thoroughbred's project.

**III. The Thoroughbred project's transmission interconnection requirements can adversely impact Big Rivers, and the ultimate consumers of power sold by Big Rivers.**

The Thoroughbred project puts Big Rivers at risk of having to subsidize the costs of the transmission network upgrades required to reliably interconnect the Thoroughbred facility with the Big Rivers transmission system. Under a strict application of the interconnection pricing policies of the Federal Energy Regulatory Commission ("FERC") applicable to public utilities, Big Rivers would be obligated to refund Thoroughbred its payments for interconnection-related network upgrades -- estimated to cost approximately \$37 million -- through the payment of transmission credits and a cash refund of any remaining balance of credits not amortized after five years, with interest. As a non-public utility (for FERC's purposes), Big Rivers believes it is not subject to FERC's general transmission credits and refund policy applicable to public utilities. Nevertheless, should Thoroughbred be successful in imposing FERC's transmission crediting policy on Big Rivers, Big Rivers will bear a very significant financial burden that could negatively impact Big Rivers, its wholesale customers, and, notwithstanding the protections afforded by Kentucky law, Kentucky retail customers as costs imposed on Big Rivers inevitably trickle down to the ultimate customers of Big Rivers' member cooperatives.

KRS 278.212(2) prohibits the recovery of any costs from Kentucky retail customers arising from Thoroughbred's interconnection with Big Rivers:

Notwithstanding any other provision of law, any costs or expenses associated with upgrading the existing electricity transmission grid, as a result of the additional load caused by a merchant electric generating facility, shall be borne solely by the person constructing the merchant electric generating facility and shall in no way be borne by the retail electric customers of the Commonwealth.

Big Rivers fully supports KRS 278.212(2) and believes that Kentucky retail customers should not bear, directly or indirectly, the costs of interconnecting merchant generators with the Kentucky transmission grid.

Big Rivers consistently has advised Thoroughbred that it expects Thoroughbred to pay all its interconnection-related costs so that Kentucky customers will not be required to bear those costs, and Thoroughbred has professed its agreement with that philosophy. Thoroughbred's president (and a Peabody Holding Company, Inc. Vice President of Energy Development), Dianna Tickner, initially committed that Thoroughbred's proposed Electric Generating Facility will not adversely impact the ratepayers of BREC. Tickner Rebuttal at 2. Jacob Williams (also a Peabody Holding Company, Inc. Vice President of Energy Development) represented in the November 10, 2003, hearing that "Kentucky's consumers will not be [adversely] impacted" by the transmission payment arrangements sought by Thoroughbred. Tr. 81. But these statements conflict with Thoroughbred's position in its September 8, 2003, response to Big Rivers Data Requests 4, 6 and 7 that Thoroughbred expects to recover its expenditures for network upgrades in accordance with FERC's interconnection pricing policies. They also conflict with other testimony of Mr. Williams that reaffirms Thoroughbred's expectation that the FERC interconnection policy will govern the terms of Thoroughbred's interconnection with the Big Rivers transmission system. Williams Direct at 6; Williams Rebuttal at 1 and 6.

Under Thoroughbred's interpretation of those interconnection policies, it will receive transmission credits to recover Thoroughbred's expenditures for network upgrades to Big Rivers transmission system required to handle Thoroughbred's interconnection until all such costs are recovered. Williams Rebuttal at 1. This means Thoroughbred would not pay Big Rivers

transmission tariff rate for service on the Big Rivers' system until “[a]fter such time as the transmission credits are fully used . . . .” Id. Mr. Williams asserts that the FERC interconnection policy does not impose any burdens on BREC (Williams Rebuttal at 6), but as late as the afternoon of November 10, 2003, he refused to eliminate the possibility that Thoroughbred will use the FERC rules to extract a cash payment from Big Rivers of any unused transmission credits in the form of a cash refund of any remaining balance of transmission credits not amortized after five years. Tr. 69.

In a recent data response, Thoroughbred agrees to waive any rights it contends it has to a cash payment from Big Rivers of any unused transmission credits remaining after five years. But Thoroughbred conditions this waiver upon retaining the right to continue receiving transmission credits until its entire investment is recovered, with interest, regardless of how long that might take. Thoroughbred Response to Data Requests from Evidentiary Hearing, at 2. Thoroughbred also purports to agree to comply with Kentucky law (Id.), which Thoroughbred states as though this is a concession on its part. In this regard, the Board should remember that Thoroughbred considers compliance with KRS 278.212 to be a utility issue, not a Thoroughbred issue. Tr. 83.

These ostensible concessions by Thoroughbred are not entirely helpful because they do not fully protect Big Rivers, its members, and Kentucky retail customers from the risk of exposure to network upgrade costs arising directly from Thoroughbred’s interconnection. As Thoroughbred states in its Response to Data Requests from the Evidentiary Hearing at 3, under Thoroughbred’s proposal Big Rivers would be required to continue to provide transmission credits until such time as the credits are extinguished. So long as Thoroughbred has an interest-bearing balance of unused transmission credits from Big Rivers, Thoroughbred would not pay

Big Rivers' approved transmission tariff rates until such time as the transmission credits are fully used. Williams Rebuttal at 1.

Despite the protections afforded under KRS 278.212(2), Kentucky retail customers may be negatively impacted by Thoroughbred's position because FERC's crediting policy could cause a serious cash flow problem for Big Rivers. During the period that Thoroughbred will be utilizing transmission credits to take transmission service from Big Rivers and not paying transmission rates, it will not be contributing to the costs of Big Rivers' existing transmission system. Neither will it be contributing to Big Rivers' ongoing operating and maintenance expenses associated with both its existing system, and the estimated \$37 million of transmission network upgrades arising from the Thoroughbred interconnection. Under Thoroughbred's proposal for Big Rivers to grant Thoroughbred transmission credits for its network upgrade expenditures for an indefinite time, with interest on the balance of those credits at the FERC-mandated rate,<sup>2</sup> Thoroughbred will make no contribution to these costs during the indefinite credit amortization period. Big Rivers will be left to bear these costs without the revenue to offset them. Because Big Rivers is a cooperative and has no shareholders to absorb operating losses, Big Rivers expects that these costs will have to be passed on to its cooperative members (one way or another), which in turn will be forced to pass them on to their members. Such a result clearly is inconsistent with the letter and the spirit of KRS 278.212.

The risk to Kentucky retail customers arises from FERC's transmission crediting policies. Under traditional transmission rate-making principles, if Big Rivers were to upgrade its

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<sup>2</sup> FERC's regulations prescribe the applicable interest rate to be paid on the balance of amounts to be refunded to utility customers. 18 C.F.R. § 35.19a(2). The "FERC rate" is calculated as the average prime rate for each calendar quarter during the refund period, compounded quarterly.

transmission system, it typically would roll the costs of the upgrades into its transmission rate base and recover those costs through its embedded cost rates. In the alternative, Big Rivers could assess the incremental cost of the upgrades against the transmission customer whose service request gave rise to the upgrade project, and then not charge that customer an embedded cost rate with respect to its use of the new facilities. In both cases, Big Rivers could expect to recover its revenue requirement for the facilities.

FERC's interconnection pricing policies, however, put Big Rivers at risk of under-recovering its revenue requirement because it now bears the added, unrecoverable burden of paying transmission credits to interconnection customers. If required to provide transmission credits to Thoroughbred, Big Rivers will assess the cost of the network upgrades from Thoroughbred and collect those revenues up front. Big Rivers will then spend the funds received from Thoroughbred to construct the network upgrades. Under traditional rate-making principles, Big Rivers would then provide Thoroughbred with transmission service on the new facilities without additional charge, Thoroughbred's up front payment representing, effectively, a prepayment for transmission service on those facilities. Under FERC's interconnection pricing and transmission crediting policies, however, Thoroughbred would be granted credits with which it would take "free" service on Big Rivers' entire system, including on portions of the system Thoroughbred has not paid for. Under this scenario, Big Rivers could be left under-recovering its revenue requirement.

The implications of the foregoing are stark. If Big Rivers' transmission revenues from its paying point-to-point transmission service customers are inadequate during the period when Thoroughbred is utilizing transmission credits to take transmission service from Big Rivers, Big

Rivers' members taking network transmission service on the Big Rivers' system likely will be forced to make up the shortfall to permit Big Rivers to recover its revenue requirement and provide safe and reliable service. These impacts to Big Rivers' members likely will trickle down to Kentucky retail customers in the form of higher costs and inevitably higher rates at Big Rivers' member cooperatives. Thoroughbred's demands for transmission credits therefore could have the effect of indirectly impacting Kentucky retail customers, notwithstanding KRS 278.212(2)'s protection of Kentucky retail customers from direct merchant interconnection costs.

Although Thoroughbred contends that Big Rivers should grant it transmission credits, Big Rivers believes that FERC's interconnection pricing policies are not fully applicable to Big Rivers, and that Big Rivers is not obligated under FERC policy to pay transmission credits and refunds. Big Rivers is an unregulated non-public utility under the Federal Power Act (although Big Rivers has a non-jurisdictional reciprocity open access transmission tariff on file with FERC in order to take advantage, for the benefit of its customers, of the reciprocal open access transmission service available on public utility systems to non-utility customers with reciprocity tariffs). In FERC's Order No. 2003 (Standardization of Generator Interconnection Agreements and Procedures, 104 FERC ¶ 61,103 (2003), the "Final Rule"), FERC affirmed most of its preexisting interconnection-related policies with respect to interconnection pricing and transmission crediting. Unexpectedly, however, FERC clarified that "[w]e do not require . . . that a non-public utility also provide transmission credits for Network Upgrade costs, to satisfy the FERC's reciprocity condition." Id. at ¶ 843. Big Rivers believes that this provision of Order No. 2003 should be interpreted to protect Big Rivers from any obligation to pay transmission credits to Thoroughbred for its contributions to interconnection-related network upgrades. But



there is no FERC ruling or commentary on this issue beyond what is contained in ¶ 843 of the Final Rule.

Big Rivers has not, as Thoroughbred contends (see Thoroughbred Response to Data Requests from Evidentiary Hearing at 3), agreed to a transmission cost credit mechanism. The much-heralded e-mail message relied upon by Thoroughbred as committing Big Rivers to a crediting mechanism does nothing more than entertain discussions on the subject. In any event, the message was written before FERC issued the Final Rule, which apparently relieved non-public utilities from the requirement that they pay transmission credits to their interconnection customers for network upgrade costs.

Thoroughbred contends that the various issues surrounding interconnection of Thoroughbred's facility with the Big Rivers' transmission system should be resolved through negotiation in the interconnection agreement. Tr. 80. But as Big Rivers' witness Travis Housley pointed out, these issues can be resolved through a bilateral interconnection agreement only if there is, in fact, agreement. Tr. 210-211. As is apparent from the evidence summarized in this brief, Big Rivers and Thoroughbred are not in total agreement on this subject.

The Board must protect Big Rivers, and ultimately the retail consumers of Big Rivers electricity in western Kentucky, from interconnection costs that are not recoverable by Big Rivers under KRS 278.212(2). In Big Rivers' view, this can be done in one of two ways.

First, the Board can condition its order granting a construction certificate<sup>3</sup> on Thoroughbred paying all costs associated with the interconnection, including network upgrade costs, with no credits, subject to any interconnection agreement reached between Thoroughbred

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<sup>3</sup> This assumes that the construction certificate is not denied on other grounds, in which case the relief requested in this section of Big Rivers' brief becomes moot.

and Big Rivers that is approved by the Commission. KRS 278.212(1). The “no credits” aspect of this result would be consistent both with KRS 278.212(2), which protects Kentucky retail customers from subsidizing merchant generation interconnection costs, and with FERC’s Final Rule, which relieves non-public utilities of any crediting obligation. The Commission’s approval should include a finding that the interconnection agreement does not leave Big Rivers responsible for any interconnection costs that are unrecoverable under KRS 278.212(2) through Big Rivers' rates. In the alternative, the Board should postpone issuing a construction certificate until Thoroughbred files with the Board an interconnection agreement with Big Rivers that meets the requirements of the first alternative, and that interconnection agreement has been approved by the Commission as proposed above.

The Commission’s approval is important in connection with any interconnection agreement or arrangements between Big Rivers and Thoroughbred. The Commission asserts jurisdiction over Big Rivers’ transmission rates, to the extent FERC does not have jurisdiction. Order in P.S.C. Case No. 98-267, dated July 14, 1998, at 19. The Commission will ultimately determine whether an expense incurred by Big Rivers can be recovered through its rates, or is non-recoverable under KRS 278.212(2). If and when Big Rivers receives an order from the Commission approving an interconnection agreement with Thoroughbred, it needs to know that any transmission costs the Commission considers non-recoverable in Big Rivers’ rates under KRS 278.212(2) have been properly assigned to Thoroughbred in that agreement.

**IV. Air emissions from Thoroughbred's facility will cause adverse economic impacts in the region and the state.**

Thoroughbred's consumption of substantial quantities of available air resources will have a significant adverse economic impact on the region and on the state. The Clean Air Act establishes finite limits on the amount of additional pollutants that a new source can add to existing air resources, and the contribution of each new source is evaluated on a cumulative basis. Due to its size, even with relatively low emission rates, as described in more detail later in this brief, the Thoroughbred plant will consume virtually all of the air resources that are available for future growth in the region, thereby significantly restricting economic growth.

Thoroughbred's emissions of sulfur dioxide ("SO<sub>2</sub>") will restrict economic growth by preventing future permitting of SO<sub>2</sub> emission sources in the area, or making permitting of those sources significantly more expensive. Thoroughbred's emissions of fine particulate matter ("PM<sub>2.5</sub>") will potentially contribute to nonattainment of NAAQS standards for PM<sub>2.5</sub> in the area, and cause a direct impact to existing generating units in the area, such as Wilson Unit I. Thoroughbred's participation in the NO<sub>x</sub> allowance pool will increase the cost of NO<sub>x</sub> compliance to all existing generators in Kentucky with little or no benefit to Kentucky or the region.

**A. Thoroughbred's emissions of SO<sub>2</sub> will consume large amounts of available air resources in the region, restricting economic development in the area.**

**1. Few air resources exist for development of new SO<sub>2</sub> emissions sources in the region.**

Very few air resources are available for development of new SO<sub>2</sub> sources in the region

where Thoroughbred has chosen to site its facility. The Clean Air Act strictly limits the amounts of additional pollutants that can impact national parks in the area, such as Mammoth Cave National Park.

Areas of the state that meet the National Ambient Air Quality Standards (“NAAQS”) are designated as “attainment” areas. 401 KAR 51:010. In these attainment areas, minimal air quality degradation is allowed, and the Prevention of Significant Deterioration (“PSD”) program establishes specific limits on the amount of new pollutants that may be added to the ambient air. 401 KAR 51:017. The process by which degradation is measured (i.e., use of the air resources in the band between the existing air quality level and the minimum air quality level) is known as “increment consumption.”

Increment consumption analysis is described in detail EPA’s summary of the PSD program in the August 7, 1980 Federal Register, attached hereto as Appendix A. For PSD purposes, attainment areas in Kentucky are subdivided into Class I and Class II areas. 401 KAR 51:017 Section 5. Class I areas are afforded special protection, and are specifically defined in the Clean Air Act to include national parks like Mammoth Cave. Id. Class II areas are areas where greater, but still limited, degradation of air quality is allowed to occur. Aside from Mammoth Cave, all other areas in Kentucky including Ohio and Muhlenberg Counties, Id. are Class II areas. “Increments” represent the maximum allowable increase in pollutant concentrations over baseline concentrations in Class I or Class II areas. See Summary of PSD Program, 45 Fed. Reg. 52677, attached hereto as Appendix A.

Congress has determined that little or no deterioration of air quality is allowed in Class I areas. Consequently, the increments in Class I areas are very small. For example, in Class I

areas, the cumulative 24 hour maximum level for SO<sub>2</sub> is only 5 micrograms per cubic meter (ug/m<sup>3</sup>) over the baseline concentration. See 42 U.S.C. § 7473(b)(1); 401 KAR 51:017 Section 23. Class II increments are larger. By comparison, the 24 hour maximum increase for SO<sub>2</sub> in Class II areas is 91 ug/m<sup>3</sup> over the baseline concentration. See 42 U.S.C. § 7473(b)(2); 401 KAR 51:017 Section 24. Consequently, with respect to Class I areas, Congress left very little room for expansion.

Economic consequences associated with increment consumption can be enormous. Increment consumption can lead to a complete bar of future permitting in the area. "Where a proposed project would cause a new violation of the increment or contribute to an existing violation, it cannot be approved. Existing violations must be entirely corrected before PSD sources which affect the area can be approved." 45 Fed. Reg. 52678 (August 7, 1980), attached as Appendix A. Furthermore, with respect to Class I areas, a permit can be denied merely for visibility impacts, even if emissions from a source will not cause an increment violation. Id. See Durham Direct at 7; 401 KAR 51:017 Section 15(5). Obviously, if permitting is barred, new sources that would emit SO<sub>2</sub> cannot come into the area, and modifications of existing sources would be prohibited until the violations are corrected.

**2. Thoroughbred's SO<sub>2</sub> emissions will consume virtually all of the limited air resources available for economic growth in the region.**

Thoroughbred's emissions of SO<sub>2</sub> will consume virtually all of the available air resources in the area, which will add another serious handicap to prospects for future economic growth in the region. New sources and modifications to existing sources in the area will be required to factor Thoroughbred's emissions into their own emissions modeling, which will effectively

prevent new sources from locating in the area.

When a proposed new source submits a PSD permit application, it will be required to perform air quality modeling sufficient to demonstrate compliance with the NAAQS and PSD Class I and Class II increment. 401 KAR 51:017 Section 13 (1)(c); 45 Fed. Reg. 52678 (August 7, 1980), attached as Appendix A. When conducting air quality modeling, the proposed source will be allowed to use actual emissions for all sources that have been operating in the area to be modeled for at least two years prior to the application. Debusschere Rebuttal at 14. Since actual emissions cannot be used for permitted sources that are not yet in operation, an estimate of emissions from these sources based upon the “potential to emit” must be used for modeling purposes. 45 Fed. Reg. 52718-52719, (August 7, 1980), attached as Appendix A. For example, in modeling its own emissions, Thoroughbred was required to base its modeling on emissions at its permit limits. Durham Rebuttal at 1. Until the Thoroughbred facility is constructed and in operation for at least two years (Debusschere Rebuttal at 14), subsequent sources will be required to use the same limits when analyzing the effect of Thoroughbred.

Thoroughbred’s permit contains two limits on SO<sub>2</sub> emissions. Tr. 131. The permit contains a 30-day rolling average limit of 0.167 lb/MMBtu SO<sub>2</sub>. Id. The permit also contains a 24-hour block average of 0.41 lb/MMBtu SO<sub>2</sub>. Id. Under the 24-hour block average limit, Thoroughbred's average emissions during a 24-hour period cannot exceed 0.41 lb/MMBtu. The 24-hour block average limit is required under the permit to protect the short term increments. Hearing Exhibit B.R. No. 3, Tr. 134, 149. Thoroughbred was required to perform modeling using both limits to demonstrate that increments were not violated. Tr. 149, Statement of Basis, B.R. No. 3, p. 31; see also Hearing Exhibit B.R. No. 4, Letter dated July 18, 2002.

Thoroughbred obtained its PSD/Title V permit in October, 2002. In seeking a permit, Thoroughbred sought to emit the maximum amount of pollutants it could without violating the NAAQS or PSD Class I or Class II increments. Mr. Debusschere testified that negotiations regarding Thoroughbred's 24 hour block average permit limit was based in terms of "[h]ow much can [Thoroughbred] emit and not exceed the standard." Tr. 133, or "[h]ow much can [Thoroughbred] emit and still not violate the 24-hour standard?" Tr. 134. Stated differently, what is the maximum amount that Thoroughbred can be permitted to emit without causing a PSD increment or NAAQS violation? Through a number of modeling runs and adjustments to its permit limit, Thoroughbred demonstrated compliance. Tr. 134. However, Thoroughbred's effort to give itself maximum flexibility resulted in permitted emissions that leave little to no room for additional growth in the region.

Thoroughbred has asserted contradictory positions throughout this proceeding regarding its increment consumption, and, therefore, its impact on the region. In response to data requests, Thoroughbred maintained that it will consume no PSD Class I increment. See Thoroughbred Response to Big Rivers' First Data Request, Request No. 25. ("Therefore, no increment has been consumed."). However, Mr. Debusschere testified that Thoroughbred does consume increment, as set forth in the Statement of Basis. Debusschere Rebuttal at 12. The increment consumption values to which Mr. Debusschere refers were based upon Thoroughbred's 30-day rolling average limit. Tr. 145. PSD increment consumption calculations based on the 24-hour block average limit are much higher, as shown in the attached table from the Pre-hearing Memorandum of Thoroughbred Generating Company LLC, Case No. DAQ-26003-37 and DAQ-26048-37, attached as Appendix B. The Board may take judicial notice of public documents filed by

Thoroughbred, K.R.E. 201 and KRS 13B.090(1). See also, Durham Rebuttal, Ex. MD-2, Table 3.

As explained in Mr. Durham's rebuttal testimony, Thoroughbred and other existing increment consuming sources are predicted to consume 4.98 ug/m<sup>3</sup> of the available 5.0 ug/m<sup>3</sup>, or 99.6 percent of 24-hour PSD Class I increment for SO<sub>2</sub> in Mammoth Cave National Park. Durham Rebuttal, Ex. MD-2. Regardless of the likelihood of the actual emissions from the plant being at or close to the 24-hour block average limit for a significant period, a new source locating within 100 kilometers of Mammoth Cave National Park or near Thoroughbred will be required to base emissions modeling on the 24-hour limit rather than Thoroughbred's actual emissions, just as Thoroughbred was required to do. Durham Direct at 8, line 8-12. See 45 Fed. Reg. 52718-52719. Just like Thoroughbred, a new source will be required to model Thoroughbred's emissions using Thoroughbred's 24-hour block average to assess the combined effect of Thoroughbred and the new source on the short term (3 and 24 hour) NAAQS, PSD Class I and Class II increments. Although the process of determining a source's "potential to emit" involves an exercise of regulatory discretion, it simply would not make sense for USEPA, the Division for Air Quality ("DAQ") or the National Park Service ("NPS") to apply less strict standards to a subsequent source that could have an impact on Mammoth Cave National Park. Otherwise, the permit limitations required of Thoroughbred would be meaningless. The notion that a subsequent source would not be required to include Thoroughbred in its analysis, as Mr. Debusschere suggests, Tr. 152, is preposterous and contrary to law. 45 Fed. Reg. 52718-52719.



**3. Thoroughbred's SO<sub>2</sub> emissions will have a direct impact on Big Rivers' plans to develop a Wilson Unit 2.**

Big Rivers has provided evidence of direct impacts Thoroughbred's emissions will have on the potential development of a Wilson Unit II by Big Rivers and others. To estimate this possible impact, Mr. Durham presented a single model run using the Industrial Source Complex Model, ISCST3. (Big Rivers Data Responses To Thoroughbred October 10, 2003 Data Request, Response No. 3.)

The results of the modeling indicate three issues. First, PSD increment violations due to the cumulative impacts of existing Wilson Unit 1, Thoroughbred, and new Wilson Unit 2, were indicated for several years. (Ex. 1 to Big Rivers' Data Responses). Second, Thoroughbred has a significant contribution to the increment consumption. Id. The modeling presented indicates contributions from Thoroughbred ranging from at least 2.4 to 2.9 micrograms per cubic meter. Id. Third, the contribution from a unit at Wilson Station would contribute to an exceedance of the PSD Class I increment. Id.

The modeling analysis was performed to determine if Thoroughbred and Big Rivers would impact the same location, and what possible impact a second unit at Big Rivers' Wilson site would have on PSD increment consumption. (Durham, Tr. 254, 267.) The ISCST3 model was used for the evaluation of increment consumption and the model run was intended to be a screening tool. (Durham, Tr. 254, 270). Thoroughbred's criticism of the ISCST3 model is inappropriate. Based on widespread use, public familiarity, and availability, ISC is the recommended model for a wide range of regulatory applications. 40 CFR Part 51, Appendix W, Section 4.1(b). Use of the ISCST3 model as a screening tool is perfectly acceptable under

Appendix W of 40 CFR Part 51. See 40 CFR Part 51, Appendix W, Section 11.2.3.3.c., p. 427. (“The maximum distance for refined Gaussian model application for regulatory purposes is generally considered to be 50 km. Beyond the 50 km range, screening techniques may be used to determine if more refined modeling [such as Calpuff] is needed.”) Mr. Durham also pointed out that CALPUFF is a data intensive model, requiring meteorological data not readily available from state or National Weather Service sources compatible for easy analyses. (Tr. 270).

The Thoroughbred emissions will have significant effects on permitting a second unit at Wilson, and on other economic development in the region. Because modeling demonstrates that Thoroughbred emissions based upon the 24-hour limit will consume virtually all of the PSD Class I increment, it may be inferred that Big Rivers will have three options to permit a second unit: 1) emit sulfur dioxide at levels well below Thoroughbred, which will require additional control technologies or operating restrictions more limiting than those applicable to Thoroughbred, 2) reduce emissions from Wilson Unit No. 1 well below current actual levels, or 3) secure reductions in sulfur dioxide emission levels, at significant cost, at other facilities (such as Thoroughbred) that contribute to increment consumption on the maximum days and locations of increment consumption. If these options are even possible, any of the three will result in significant costs to Big Rivers and its customers, thus creating an economic detriment that has not been analyzed by Thoroughbred. As for Thoroughbred’s complaints that Big Rivers has not quantified the exact cost to it of adding pollution control equipment to meet these additional requirements, Mick Durham testified that the cost of such controls is measured in millions of dollars. Durham Direct at 6.

The potential impact of Thoroughbred’s emissions on future plans to construct another

generating unit at Wilson is exacerbated by the uncertainty of the completion date for the Thoroughbred facility. When assessing the combined effect of Thoroughbred and the new unit on short term increments, the 24-hour average emission limit must be used for modeling until the Thoroughbred facility has been operating for at least two years. Tr. 149-150; Debusschere Rebuttal at 14; Durham Direct at 8. Only at that point can Big Rivers model using Thoroughbred's actual emissions, which Thoroughbred anticipates will be substantially lower. Id.

The latest Thoroughbred estimate is that its facility will be brought on line approximately between early 2008 and early 2009 (Tickner Direct at 4), meaning that it will be 2010 or 2011 before Thoroughbred's actual emissions can be used by Big Rivers in the air permitting process. And those dates are in question due to the substantial issues that surround the Thoroughbred project itself. The selection process by Peabody for a Kentucky merchant generating project site began in early 2000. Application Section 9. Thoroughbred lost its original investor, Mirant. Tr. 52. It currently has no other investors, and none are committed to participate.<sup>4</sup> Tr. 29, 61 and 75. Thoroughbred has no construction contractor for the project (Tr. 29), no operator for the plant (Tr. 30), no power sales contracts (Tr. 29 and 75), no interconnection agreement with Big Rivers (Tr. 30), and no interconnection agreement with TVA (Tr. 62).

The two principal persons working on the project, Ms. Tickner and Mr. Williams, are employed by Peabody Holding Company (Tr. 59-60), as Thoroughbred has no employees. (Tr. 27). Thoroughbred has no assets other than its permits, engineering and designs. Tr. 28. The

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<sup>4</sup> The testimony of Thoroughbred's witnesses on this point confirms Mr. Spainhoward's testimony (Spainhoward Direct at 8), that was earlier disputed by Ms. Tickner (Tickner Rebuttal at 4).

parent companies have not conveyed the plant site to Thoroughbred, and do not even have written agreements to acquire a portion of the plant site (Tr. 31).

Neither have the parent companies conveyed to Thoroughbred the coal reserves that are to serve as the sole source of fuel for the facility, or even entered into a contract to do so. Tr. 36-37. There is no contract for acquisition by Thoroughbred of the coal reserves that are the sole source of fuel for the facility (Tr. 36), Thoroughbred has no coal purchase agreement or contract for development and operation of the mine (Tr. 36), and there is no contract for purchase of the limestone required to operate the scrubber. Tr. 38. The coal reserves proposed to be used as Thoroughbred's fuel source are not under a mining permit, and no pre-application or application has been filed for a mining permit. Tr. 46. The mining permits and the permit for use of unreclaimed surface mines have not been listed by Thoroughbred as permits required in connection with the project. Application Section 10; Tr. 33, 47. But Thoroughbred relies heavily on the benefits to the area of that mine in describing the positive economic impacts of the project. Tickner Direct at 9; Application Section 5.

As noted by Mr. Housley, the parties with an interest in another generating unit at Wilson are parties with whom Big Rivers has an existing relationship. Tr. 208-209. Mr. Williams has identified those parties from his meetings on the proposed Wilson project as Western Kentucky Energy, ALCAN, Century and Kenergy. Williams Rebuttal 3-4. ALCAN and Century are aluminum smelters in the region with enormous energy requirements whose existing contracts expire in 2010 and 2011. Spainhoward Direct, Exhibit DAS-1. Together, they employ more than 1500. Spainhoward Direct at 6. So even based upon the current estimated completion date, Big Rivers and the parties interested in another unit at Wilson find themselves stuck with an

unrealistically high regulatory limit for Thoroughbred's emissions for modeling purposes through the expiration dates of the power contracts that the smelters are investigating replacing, in part, with power from a second Wilson unit.

Thoroughbred's contention, expressed through Ms. Tickner, that "few, if any steps" have been made toward construction of a new Wilson generating unit (Tickner Rebuttal at 5) is curious in the face of Mr. Williams' testimony about his involvement in that very effort. He testifies that he met with Big Rivers on February 27, 2001, about a Wilson II project, and on six other occasions to specifically discuss Thoroughbred's interest in participating in such a project. Williams Direct at 5. A copy of Mr. Williams' proposal of June 6, 2003, outlining the terms on which Peabody would participate in a Wilson project is attached as Exhibit DAS-3 to David Spainhoward's rebuttal testimony. Mr. Williams emphasizes, in fact, that his participation in those meetings with Big Rivers, Western Kentucky Energy, ALCAN, Century and Kenergy was in good faith, was not casual, and added value to the discussions. Williams Rebuttal at 3-4. Perhaps Ms. Tickner was unaware of these discussions, just as she was unaware at the time the application was filed, that Mr. Williams and persons acting on behalf of Thoroughbred investigated locating the Thoroughbred project at sites where existing generation owned by Big Rivers, Kentucky Utilities and TVA is located. Tr. 35. The Wilson project is serious, and will unquestionably be adversely affected by the Thoroughbred facility.

**4. Thoroughbred's SO<sub>2</sub> emissions will affect any new source or any modification of an existing source located within 100 kilometers of Mammoth Cave National Park.**

Any proposed new source, or existing source planning modifications to its facility located within 100 kilometers of Mammoth Cave National Park will have to include Thoroughbred's

SO<sub>2</sub> emissions in its required modeling. Durham Direct at 8-9. For the same reasons Thoroughbred's emissions affect plans for another generating unit at Big Rivers' Wilson site, the Thoroughbred emissions will also affect development or modification of other sources in the region by making permitting more difficult and expensive, or perhaps impossible. Yet Thoroughbred made no effort to analyze this impact in its application, and continues to deny the existence of any adverse impacts from its project.

Big Rivers provides modeling data in response to Thoroughbred's October 10, 2003, data request showing that a facility ten miles north of the Thoroughbred plant emitting one-third the level of SO<sub>2</sub> of Thoroughbred would cause significant modeled PSD increment violations. See Big Rivers Response to Thoroughbred's Data Request of October 10, 2003, Response No. 3. Based on Thoroughbred's modeling, construction of a sulfur dioxide emitting source that would contribute a slight 0.02 ug/m<sup>3</sup> at Mammoth Cave National Park will be restricted if it is in a location that would cause PSD increment violations at the park. Durham Rebuttal at 1.

The size and location of the new source will have a significant impact on modeling its effects on the PSD Class I area. This is demonstrated by the fact that Thoroughbred's emissions had a much higher impact closer to the Thoroughbred facility. Thoroughbred's modeled emissions had an impact of 53.8 ug/m<sup>3</sup> in Muhlenberg County, and 47.98 ug/m<sup>3</sup> in Ohio County, but, according to Thoroughbred, less than 5.0 ug/m<sup>3</sup> at Mammoth Cave National Park. See Thoroughbred's Response to Big Rivers' First Data Request, Item 23. Therefore, if a large source is located closer to Mammoth Cave National Park, its emissions are more likely to cause a significant impact. Mick Durham provides a list of 15 existing Kentucky facilities that could be affected by Thoroughbred's emissions. Durham Rebuttal, at 1-2, Exhibit MD-1. Furthermore,

Mr. Durham testifies that there are over 30 significant industrial parks currently being marketed within 100 kilometers of Mammoth Cave National Park, and that new sources coming into any of these industrial parks will be required to include Thoroughbred's emissions in their modeling. Durham Rebuttal at 2-3.

During the hearing, the Board chair requested that the parties discuss in their briefs the potential impact of the Thoroughbred facility on the state taking into account the effect of Thoroughbred on the proposed Cash Creek Generating facility, another merchant plant, on economic development in western Kentucky. He also asked whether Thoroughbred's facility would prohibit a Toyota plant employing 10,000 persons from being located in Paducah.<sup>5</sup>

To actually demonstrate the impact of a proposed automotive facility in Paducah, it would be necessary to quantify the amount of emissions from the new plant and model the impact. If it maintains a consistent position, Thoroughbred will state that the impact cannot be assessed without modeling.

It is safe to assume, however, that future facilities that could impact Mammoth Cave National Park will be required to perform the same type of modeling that was required of Thoroughbred. Since it is already known that Thoroughbred will have a very significant effect on Mammoth Cave National Park on certain days of the year, future modeling will have to take Thoroughbred's significant contribution on those days into account.

When the potential contributions from the Cash Creek Generation facility are included, it becomes clear that the combined impacts of the merchant plants can significantly restrict economic growth in the region. Neither a facility in Paducah nor the Cash Creek facility is in the

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<sup>5</sup> This request, by the Board's chair near the end of the hearing, emphasizes why an application to the Board should contain an analysis of the adverse economic impacts of a proposed project.

area modeled by Thoroughbred. However, the contribution of either of these facilities could impact ambient air quality at Mammoth Cave National Park. On the days that Thoroughbred is causing a maximum impact, minimal additional impact from these facilities would push air quality to problematic levels. This concern becomes even greater as major manufacturing facilities are located near Thoroughbred or within 100 km of the park.

**B. Thoroughbred's fine particulate matter emissions can cause substantial economic impacts in the region.**

**1. Fine particulate matter standards are now in effect, and many areas in Kentucky are threatening violation of those standards.**

NAAQS fine particulate matter standards for PM<sub>2.5</sub> have been in effect since 1997. Based on monitoring results, many areas of the state are close to exceeding those standards, which would classify those areas "nonattainment."

Ambient air quality standards for PM<sub>2.5</sub> were established in 1997. Durham Direct at 2. Although implementing regulations are not yet in effect, the federal Clean Air Act requires that States promulgate programs to achieve attainment with the PM<sub>2.5</sub> standard by 2007. *Id.* Regulation of PM<sub>2.5</sub> emissions is a certainty. After promulgation of a primary NAAQS, like the PM<sub>2.5</sub> standard, each state is required to adopt a plan which provides for the implementation, maintenance and enforcement of such primary standard in each air quality control region within the state. 42 U.S.C.S. § 7410 (a)(1). Contrary to Thoroughbred's implications that action by the Board regarding PM<sub>2.5</sub> would be arbitrary, the failure to address the effects of PM<sub>2.5</sub> has been cause for reversal of agency action in other jurisdictions. See e.g., Uprose v. Power Authority of New York, 285 A.D.2d 603, 729 NYS 2d 42 (2001).



The Commonwealth of Kentucky will be required to designate areas as attainment, nonattainment or unclassifiable for PM2.5 within the next year based upon statewide monitored levels, and to revise the State Implementation Plan (SIP) to maintain or attain these standards. Durham Direct at 2. The NAAQS for PM2.5 on an annual basis is 15 ug/m<sup>3</sup>. Durham Direct at 3. Many areas of Kentucky are on the brink of violating the standard. Mr. Debusschere testified that he believed Jefferson County would be considered nonattainment. Tr. 169. The statewide average for the year 2002 for PM2.5 is 14.4 ug/m<sup>3</sup>, which is just below the annual standard. Durham Direct at 3. Specific monitoring data is not available for Muhlenberg or Ohio Counties because there are no monitoring stations in these counties. Id.

**2. A “nonattainment” designation would significantly restrict economic development in the region.**

NAAQS nonattainment designations can restrict economic growth due to strict permitting requirements associated with nonattainment areas. In nonattainment areas, no major new sources or modifications are allowed unless the new source or modification secures sufficient reductions in existing emissions within the area to equal the amount added by the new source. Durham Direct at 6; 401 KAR 51:052. Furthermore, in order to ensure that the area reaches attainment status, regulatory authorities will secure reductions from existing sources for the regulated pollutants. Debusschere Rebuttal at 10.

A nonattainment designation would cause a distinct economic disadvantage to the affected region. Durham Direct at 3. Tr. 162-163. Mr. Debusschere agreed that economic costs would be incurred by major stationary sources and smaller sources, also known as area sources. Id. Mr. Debusschere’s testimony was based on his personal experience in Jefferson County. Tr. 161.

**3. Thoroughbred did not address the impacts of its PM2.5 emissions in its application, and there is a substantial likelihood that Thoroughbred will contribute to PM2.5 nonattainment.**

Thoroughbred did not address the economic impacts of its PM2.5 emissions on the region and state in its siting application because it did not believe the Siting Board had authority to consider such issues. Debusschere Rebuttal at 7. Likewise, Thoroughbred did not address the effect of its emissions on PM2.5 ambient air quality in its air permit application because it was not required to do so.

Once the facility is constructed, it will be too late for the Siting Board to correct the problems created by Thoroughbred. As Thoroughbred points out, the state SIP will likely seek reductions from existing facilities rather than a plant like Thoroughbred. Debusschere Rebuttal at 7. Consequently, with Siting Board approval, Thoroughbred will be allowed to contribute to the problem of PM2.5 nonattainment without accountability for the economic impacts caused by its contribution. If a construction certificate is granted, the Board has an obligation to ensure that Thoroughbred is accountable for such impacts by imposing mitigating conditions in the certificate to protect existing sources.

There is a substantial likelihood that Thoroughbred will contribute to PM2.5 nonattainment. Mr. Durham presented testimony that the background levels being monitored within counties nearest to Muhlenberg County range from 13.5-14.5 micrograms per cubic meter for annual concentrations. Durham Direct at 5.

Mr. Durham presented an estimate of the possible Thoroughbred contribution utilizing existing modeled concentrations from Thoroughbred and USEPA-supplied factors of particle size breakdown. Durham Direct at 5. As acknowledged in the hearing, Mr. Debusschere was

unaware of how these same USEPA factors are applied and confirmed that Mr. Durham's estimate of the contribution of Thoroughbred emissions to the ambient levels was correct. Debusschere, Tr. 153-156. Mr. Durham correctly applied the emission factors and estimated, that Thoroughbred's contribution could be as high as 0.8 ug/m<sup>3</sup>. Durham Direct at 5. And, as Thoroughbred points out, its contributions of sulfur dioxide will have an even greater impact on PM2.5 emissions than particulate alone. Debusschere Rebuttal at 10, lines 8-10.

Because Thoroughbred's contribution will likely raise ambient PM2.5 levels above the NAAQS annual standard, existing sources in the area, like Big Rivers' existing Wilson Station Unit 1, will be subject to the substantial likelihood of additional emission control for purposes of compliance with the Kentucky SIP. Debusschere points this out in his rebuttal testimony, and states that Thoroughbred will probably not be affected. Debusschere Rebuttal at 9, 10.

With respect to PM2.5, Thoroughbred seeks to rely on the report prepared by NREPC for the Siting Board regarding cumulative effects of new and existing power plants. However, this report suggests that close attention should be paid to the number and location of power plants being proposed, and that "if a local air quality impact of significant proportions is encountered during review of an application, that issue should be dealt with on its own merits." A Cumulative Assessment of the Environmental Impacts Caused by Kentucky Generating Units, Kentucky Department for Environmental Protection, Division for Air Quality, Appendix A, p. A-23 (2001). Clearly, the report is not intended to be a declaration, as Thoroughbred suggests, that the new plants will not cause problems.

It is also clear that PM2.5 emissions from the Thoroughbred facility will have a significant effect on permitting a second Wilson unit. Big Rivers will have three possible options

to permit a second unit at Wilson; 1) emit PM2.5 at levels less than Thoroughbred, which will require additional control technologies or operating restrictions more limiting than those applicable to Thoroughbred, 2) further reduce emissions from the existing Wilson Unit 1 below current actual levels to offset additional PM2.5 emissions from the new unit, or 3) reduce PM2.5 emissions at other facilities that contribute to the maximum days and locations of combined Thoroughbred and Big Rivers impact. The costs of such controls would be in the millions of dollars. Durham Direct at 6. All three options will result in significant costs to Big Rivers and its customers, thus creating an economic detriment that has not been quantified by Thoroughbred.

**C. Thoroughbred Will Cause Adverse Economic Impacts to Existing Facilities When it Enters The NOx Allocation Pool For Units in Commercial Operation Created in 401 KAR 51:160.**

Kentucky is required to reduce statewide NOx emissions under the NOx SIP Call. 401 KAR 51:160. This is accomplished through the creation of NOx budgets based upon an allocation of NOx allowances by the USEPA. Id.

During the hearing, the Board's chair requested an analysis of the economic impact of Thoroughbred's allocation of NOx credits under the state's NOx program. The cost of Thoroughbred's participation in Kentucky's NOx allowance allocation program will be equal to the amount of credits Thoroughbred will be allocated times the cost of those credits at the time of the allocation. In Thoroughbred's case, the formula for allocation of NOx allowances will be based on the facility's average heat input times 0.08 lb/mmBtu, the NOx emission limit in the facility's permit. 401 KAR 51:160, Section 4(5). Then each facility's allowances are reduced by a specified factor to allow for contributions from new sources. Id. By the time Thoroughbred

begins commercial operation, the amount of total NOx allowances allocated under the Kentucky program to existing sources will be 98%, and new sources will be allocated 2%. 401 KAR 51:160 Section 3.

Allocation periods are established every three years. (2004-2006, 2007-2009, 2010-2012, 2013-2015). 401 KAR 51:001 Section 1(8). A facility must be in commercial operation for three years before it may participate in the allocation pool for existing sources. 401 KAR 51:160, Section 2(1)(a). To illustrate, if the Thoroughbred Plant is in commercial operation by May 1, 2008, the earliest allocation period in which it would receive a full NOx allocation as an existing source is the 2013 control period.

The Thoroughbred facility will consist of two units with rated heat inputs of 7443 MMBtu. Statement of Basis, Hearing Exhibit B.R. No. 3. The facility has a permit limit for NOx of 0.08 lb/MMBtu. Id. If Thoroughbred operates at a level of 95 % of its rated heat input during the applicable averaging period it will be allocated allowances based on the following formula:  $(0.95 \times (7443 \text{ mmBtu/hr} \times 2 \text{ units}) \times 24 \text{ hrs/day} \times 153 \text{ days (ozone season)}) \times 0.08 \text{ lb/mmBtu}$ . 401 KAR 51:160, Section 4(5)(a). This equals 4,154,266 pounds of NOx, or 2077 tons per ozone season. Applying the 98% adjustment for new sources reduces the allowances to  $(2077 \times 0.98) = 2035$  tons. Kentucky's initial total NOx allocation to electric generating units for the 2007 period is 36,504 tons. 67 Fed. Reg. 17264 (April 11, 2002). Assuming that all sources used in the initial allocation have identical heat inputs and permit limits when Thoroughbred is eligible to receive allocated allowances, and that the allowances allocated by EPA remain constant, Thoroughbred's allowances would be accounted for based on the following formula:  $2035 \text{ tons} \times [36504 \text{ tons} / (36504 \text{ tons} + 2035 \text{ tons})] = 1928 \text{ tons}$ . See 401 KAR 51:160 Section

4(5)(b)(2).

Based on this formula, Thoroughbred would receive 1928 tons in the allocation period. Based on an estimated price of \$2400 to \$4000/ton, Thoroughbred's participation in the allocation pool would cost existing generators approximately \$4.6 million to \$7.7 million per year, because the allowances assigned to Thoroughbred will reduce the number of allowances for distribution among existing sources. As other new merchant plants are factored into this analysis, Thoroughbred's allocation will correspondingly decrease, but the costs for compliance by pre-existing units will increase. Of course, as additional sources of NOx are added, competition for NOx credits will increase, as well as the cost of those credits.

**D. Thoroughbred's application should be denied.**

Thoroughbred's application should be denied, without prejudice, and Thoroughbred should be directed that any refile of its application should include an analysis of the negative economic impacts of the emissions and discharges from its proposed facility, and a proposal for mitigating the economic effect of those emissions and discharges on the region and the state.

**CONCLUSION**

The Board must consider the law and evidence, and decide whether or not to issue a construction certificate to Thoroughbred for its project. Big Rivers believes that the positions it has taken regarding this application are appropriate, and are in the best interest of the region and the state.

If the Board issues a construction certificate, the Thoroughbred project will increase Big Rivers' costs, and these costs will ultimately be paid by retail electric consumers in western Kentucky; there is no one else to pick up these costs.

The Board should enter an order reaching the same conclusions advocated by Big Rivers. First, with respect to the economic impacts of the emissions from Thoroughbred's facility on the region and the state, there is no relief available except denial of Thoroughbred's application. The denial should be without prejudice, and Thoroughbred should be directed that any refile of its application should include an analysis of the negative economic impacts of the emissions and discharges from its proposed facility, and a proposal for mitigating the economic effect of those emissions and discharges on the region and the state.

Second, with respect to the costs of interconnecting the Thoroughbred facility with the Big Rivers transmission system the Board should either:

1. Condition any order granting a construction certificate (if one is granted) on Thoroughbred paying all costs associated with the interconnection, including network upgrade costs, with no credits, subject to Thoroughbred and Big Rivers agreeing on the terms of an interconnection agreement that is approved by the Commission with a finding that the interconnection agreement does not leave Big Rivers responsible for any interconnection costs that are unrecoverable under KRS 278.212(2); or
2. In the alternative, the Board should postpone issuing a construction certificate until Thoroughbred files with the Board an interconnection agreement with Big Rivers that meets the requirements of the first alternative, and that interconnection agreement has been approved by the Commission as outlined in 1, above.

Respectfully submitted, this the 24<sup>th</sup> day of November, 2003.

## APPENDIX A



45 FR 52676-01  
1980 WL 90291 (F.R.)  
(Cite as: 45 FR 52676)

RULES AND REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, and 124

[FRL 1538-2]

Requirements for Preparation, Adoption, and Submittal of Implementation Plans;  
Approval and Promulgation of Implementation Plans

Thursday, August 7, 1980

\*52676 AGENCY: Environmental Protection Agency.

ACTION: Final rules.

SUMMARY: In response to the decision of the U.S. Court of Appeals for the D.C. Circuit in Alabama Power Company v. Costle, EPA is today amending its regulations for the prevention of significant deterioration of air quality, 40 CFR 51.24, 52.21. Today's amendments also include regulatory changes affecting new source review in nonattainment areas, including restrictions on major source growth (40 CFR 52.24) and requirements under EPA's Emission Offset Interpretative Ruling (40 CFR Part 51, Appendix S) and Section 173 of the Clean Air Act (40 CFR 51.18(j)).

DATES: The regulatory amendments announced here come into effect on August 7, 1980. State Implementation Plan revisions meeting today's regulatory changes are to be submitted to EPA within nine months after this publication.

FOR FURTHER INFORMATION CONTACT: James B. Weigold, Standards Implementation Branch (MD-15), Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, 9 19/541 -5292.

SUPPLEMENTARY INFORMATION: The contents of today's preamble are listed in the following outline. A section entitled Summary of PSD Program has been added to provide a concise narrative overview of this program.

Outline

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- I. Summary of PSD Program

The purpose of this summary is to help those people who are unfamiliar with the PSD program gain an understanding of it. Because this summary seeks to condense the basic PSD rules, it may not precisely reflect the amendments announced in this notice. Should there be any apparent inconsistency between the summary and the remainder of the preamble and the regulations, the remaining preamble and the regulations shall govern.

A. PSD Allows Industrial Growth Within Specific Air Quality Goals

The basic goals of the prevention of significant air quality deterioration (PSD)

regulations are (1) to ensure that economic growth will occur in harmony with the preservation of existing clean air resources to prevent the development of any new nonattainment problems; (2) to protect the public health and welfare from any adverse effect which might occur even at air pollution levels better than the national ambient air quality standards; and (3) to preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas.

States are required to develop SIP revisions for PSD pursuant to regulations published today. See 40 CFR 51.24, 'Requirements for Preparation, Adoption and Submittal of Implementation Plans.' If EPA approves the proposed PSD plan, the state can then implement its own program. In the absence of an approved state PSD plan, another portion of today's regulations will govern PSD review. See 40 CFR 52.21, 'Approval and Promulgation of Implementation Plans.' EPA will implement this regulation itself if the state does not submit an approvable PSD program of its own.

States can identify in their SIPs the local land use goals for each clean area through a system of area classifications. A 'clean' area is one whose air quality is better than that required by the National Ambient Air Quality Standards. Each classification differs in the amount of growth it will permit before significant air quality deterioration would be deemed to occur. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable maximum allowable increase ('increment'), the amount of which varies with the classification of the area. The reference point for determining air quality deterioration in an area is the baseline concentration, which is essentially the ambient concentration existing at the time of the First PSD permit application submittal affecting that area. To date, only PSD increments for sulfur dioxide and particulate matter have been established. Increments or alternatives \*52677 to increments are currently under investigation for the other criteria pollutants.

There are three types of area classifications. Class I areas have the smallest increments and thus allow only a small degree of air quality deterioration, while Class II areas can accommodate normal well-managed industrial growth. Class III designations have the largest increments and are appropriate for areas desiring a larger amount of development. In no case would the air quality of an area be allowed to deteriorate beyond the National Ambient Air Quality Standards. Except for certain wilderness areas and national parks, which are mandatory Class I areas, all clean areas of the country were initially designated as Class II. Flexibility exists under the Act to adjust most of these designations, except for those mandated by Congress.

The principal mechanism within the SIP to implement the objectives of the PSD program is the preconstruction review process. These provisions require that new major stationary sources and major modifications are carefully reviewed prior to construction to ensure compliance with the National Ambient Air Quality Standards, the applicable PSD air quality increments, and the requirements to apply the best available control technology on the project's pollutant emissions. In addition, proposed SIP relaxations which would limit further use of increment must be reviewed for their anticipated impact and not be approved if the applicable increment would be violated. The SIP must also contain PSD provisions for periodically reviewing all emissions increases, including those which occur outside the SIP revision and the new source review (NSR) process, and for restoring clean air when such increases cause violations of the applicable PSD increment. This corrective action may require additional controls on existing emissions sources which contribute to the problem.

## B. Who is Subject to the Prevention of Significant Deterioration Regulations?

The requirements of today's PSD regulations apply to major stationary sources and major modifications which meet certain criteria concerning the geographic location, type of pollutants to be emitted, and timing of proposed construction. No source or modification subject to today's rules may be constructed without a permit which states that the stationary source or modification would meet all applicable PSD requirements. This section summarizes how PSD review as modified in response to Alabama Power will apply.

The primary criterion in determining PSD applicability is whether the proposed project is sufficiently large (in terms of its emissions) to be a major stationary source or major modification. Source size, for applicability purposes, is defined in terms of 'potential to emit.' 'Potential to emit' means the capability at maximum design capacity to emit a pollutant after the application of all required air pollution control equipment and after taking into account all federally enforceable requirements restricting the type or amount of source operation. A 'major stationary source' is any source type belonging to a list of 28 source categories which emits or has the potential to emit 100 tons per year or more of any pollutant subject to regulation under the Act, or any other source type which emits or has the potential to emit such pollutants in amounts equal to or greater than 250 tons per year. A stationary source generally includes all pollutant-emitting activities which belong to the same industrial grouping, are located on contiguous or adjacent properties, and are under common control. Pollutant activities which belong to the same major group as defined in a standard industrial classification scheme developed by the Office of Management and Budget are considered part of the same industrial grouping. (See SOURCE).

A 'major modification' is generally a physical change in or a change in the method of operation of a major stationary source which would result in a significant net emissions increase in the emissions of any regulated pollutant. In determining if a proposed increase would cause a significant net increase to occur, several detailed calculations must be performed. First, the source owner must quantify the amount of the proposed emissions increase. This amount will generally be the potential to emit of the new or modified unit. Second, the owner must document and quantify all emissions increases and decreases that have occurred or will occur contemporaneously (generally within the past five years) and have not been evaluated as part of a PSD review. The value of each contemporaneous decrease and increase is generally determined by subtracting the old level of actual emissions from the new or revised one. Third, the proposed emissions changes and the unreviewed contemporaneous changes must then be totalled. Finally, if there is a resultant net emissions increase that is larger than certain values specified in the regulations, the modification is major and subject to PSD review.

Certain changes are exempted from the definition of major modification. These include: (1) routine maintenance, repair, and replacement; (2) use of an alternative fuel or raw material by revision of an order under sections (2)(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation); (3) use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act; (4) use of an alternative fuel at a steam generating unit to the extent it is generated from municipal solid waste; (5) use of an alternative fuel which the source is capable of accommodating; and (6) an increase in the hours of operation, or the production rate. The last two exemptions

can be used only if the corresponding change is not prohibited by certain permit conditions established after January 6, 1975.

If a source or modification thus qualifies as major, its prospective location or existing location must also qualify as a PSD area, in order for PSD review to apply. A PSD area is one formally designated by the state as 'attainment' or 'unclassifiable' for any pollutant for which a national ambient air quality standard exists. This geographic applicability test does not take into account what new pollutant emissions caused the construction to be major. It looks simply at whether the source is major for any pollutant and will be located in a PSD area.

Once a source applicant has determined that proposed construction falls under PSD based on the above size and location tests, it must then assess whether the pollutants the project would emit are or are subject to PSD. If a new major stationary source emits pollutants for which the area it locates in is designated nonattainment, then the source is exempt from PSD review for those pollutants. These sources must, however, meet the applicable requirements of NSR for each nonattainment pollutant. Similarly, if a major modification to be constructed in a PSD area involves changes only for nonattainment pollutants then the source is not subject to PSD. These modifications must meet the appropriate nonattainment NSR under the SIP for the pollutant. Once the question of NSR jurisdiction is resolved, then the PSD review applies to all significant emissions increases of regulated air pollutants. Specific numerical cutoffs which define what emissions increases are 'significant' have been spelled out in the regulations. These pollutant-\*52678 specific cutoffs can exempt a source from PSD review for a particular pollutant, except where the proposed construction would adversely impact a Class I area.

If a proposed source or modification would be subject to PSD review based on size, location, and pollutants emitted, then its construction schedule must meet certain tests before the PSD rules promulgated today would apply. All major construction otherwise qualifying for PSD review would not need a PSD permit under these regulations if the proposed construction: (1) was subject to the old PSD rules, has submitted a complete application under these rules before today, and was or is subsequently approved to construct based on this application; or (2) was not subject to the old PSD rules, has received all federal, state, and local air permits needed before today and commences construction in a continuous fashion at the proposed site within a reasonable time.

Finally, the PSD regulations contain some specific exceptions for some forms of source construction. The requirements of today's regulations do not apply to any major stationary source or major modification that is: (1) a nonprofit health or educational institution (only if such exemption is requested by the governor); or (2) a portable source which has already received a PSD permit and proposes relocation.

#### C. What Must A Source or Modification Do To Obtain A PSD Permit?

1. It must apply the best available control technology.

Any major stationary source or major modification subject to PSD must conduct an analysis to ensure application of best available control technology (BACT). During each analysis, which will be done on a case-by-case basis, the reviewing authority

will evaluate the energy, environmental, economic and other costs associated with each alternative technology, and the benefit of reduced emissions that the technology would bring. The reviewing authority will then specify an emissions limitation for the source that reflects the maximum degree of reduction achievable for each pollutant regulated under the Act. In no event can a technology be recommended which would not meet any applicable standard of performance under 40 CFR Parts 60 and 61.

In addition, if the reviewing authority determines that there is no economically reasonable or technologically feasible way to accurately measure the emissions, and hence to impose an enforceable emissions standard, it may require the source to use source design, alternative equipment, work practices or operational standards to reduce emissions of the pollutant to the maximum extent. For example, if an immense pile of uncovered coal emits coal dust into the atmosphere, it would make little sense to impose an emission, standard, since measuring the amount of coal dust rising off the pile is nearly impossible. A much more direct approach to controlling emissions is, for example, requiring the owner to wet the coal pile daily. This type of standard or practice will be equivalent to an emissions limitation for purposes of the BACT requirement.

2. It must conduct an ambient air quality analysis.

Each PSD source or modification must perform an air quality analysis to demonstrate that its new pollutant emissions would not violate either the applicable NAAQS or the applicable PSD increment. This analysis ensures that the existing air quality is better than that required by national standards and that baseline air quality will not be degraded beyond the applicable PSD increment.

Each proposed major construction project subject to PSD must first assess the existing air quality for each regulated air pollutant that it emits in the affected area. This analysis requirement does not apply to pollutants for which the new emissions proposed by the applicant would cause insignificant ambient impacts. Today's PSD regulations define pollutant-specific impacts that are typically considered inconsequential and that can be exempted from analysis, unless existing air quality is poor or adverse impacts to a Class I area are in question. For pollutants for which a NAAQS exists, the applicant must provide ambient monitoring data that represent air quality levels in the year's period preceding the PSD application. Where no existing data are judged representative or adequate, then the source applicant must conduct its own monitoring program. This is often the case where the applicant will be establishing the baseline concentration for the affected area. Typically air quality dispersion modeling is used by applicants to support or extend the assessment made with gathered monitoring data. For pollutants for which there is no NAAQS, the required analysis will normally be based on dispersion modeling alone.

Source applicants who are subject to the ambient analysis requirement for sulfur dioxide or particulate matter must also perform an analysis to compute how much of the PSD increment remains available to them. In general the amount of increment that is available depends on certain changes in actual emission. First, actual emissions changes occurring after January 6, 1975 which are associated with physical changes or changes in the method of operation at a major stationary source can affect the available increment. Accordingly, cleanup adds to the available growth margin while new emissions diminish it. Second, all changes in emissions, including those from minor sources and other types of changes at major sources, affect the available



increment provided they occur after the baseline date. The baseline date is essentially the time that the first PSD application affecting the area is filed.

Once the question of how much increment remains is resolved, then the applicant must demonstrate that his proposed new emissions would not exceed the remaining PSD increment. Where a proposed project would cause a new violation of the increment or contribute to an existing violation, it cannot be approved. Existing violations must be entirely corrected before PSD sources which affect the area can be approved.

3. It must analyze impacts to soils, vegetation, and visibility.

An applicant is required to analyze whether its proposed emissions increases would impair visibility, or impact on soils or vegetation. Not only must the applicant look at the direct effect of source emissions on these resources, but it also must consider the impacts from general commercial, residential, industrial and other growth associated with the proposed source or modification. The results of this analysis may be used to determine if the project would have an adverse impact on a Class I area.

4. It must not adversely impact a Class I area.

If the reviewing authority receives a PSD permit application for a source that could impact a Class I area, it will immediately notify the Federal Land Manager and the federal official charged with direct responsibility for managing these lands. These officials are responsible for protecting the air quality-related values in Class I areas and for consulting with the reviewing authority to determine whether any proposed construction will adversely affect such values. If the Federal Land Manager demonstrates that emissions from a proposed source or modification would impair air quality-related values, even though the emissions levels would not cause a violation of the allowable air quality increment, the Federal Land \*52679 Manager may recommend that the reviewing authority deny the permit.

5. Its application must undergo adequate public participation.

The regulations solicit and encourage participation by the general public, industry, and other affected persons impacted by the proposed major source or major modification. Specific public notice requirements and a public comment period are required before the PSD review agency takes final action on a PSD application. The public notice must indicate whether the reviewing authority proposed permit approval, denial, or conditional approval of a proposed major source or major modification. Consideration is given to all comments received provided they are relevant to the scope of the review. Where requested, or at its own discretion, the reviewing authority may conduct a public hearing to help clarify the issues and obtain additional information to assist in making a final permit decision.

6. It must start construction on time.

The source owner, once receiving a PSD permit, must start construction within a reasonable period of time (typically within 18 months of approval) and must stay on a continuous construction schedule. Normally, long delays will invalidate the permit.

## II. Background

45 FR 52676-01  
1980 WL 90291 (F.R.)  
(Cite as: 45 FR 52676)

RULES AND REGULATIONS  
ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51, 52, and 124

[FRL 1538-2]

Requirements for Preparation, Adoption, and Submittal of Implementation Plans;  
Approval and Promulgation of Implementation Plans

Thursday, August 7, 1980

\*52676 AGENCY: Environmental Protection Agency.

ACTION: Final rules.

SUMMARY: In response to the decision of the U.S. Court of Appeals for the D.C.

\* The requested pages begin below \*

1. Rationale for Use of Actual Emissions.

\*52718 As discussed in the Baseline Concentration section, the Alabama Power decision supported EPA's requirements that baseline concentrations reflect actual air quality in an area. Increment consumption or expansion is directly related to baseline concentration. Any emissions not included in the baseline are counted against the increment. The complementary relationship between the concepts supports using the same approach for calculating emissions contributions to each. Since the Alabama Power decision and the statute both provide that actual air quality be used to determine baseline concentrations, but provide no guidance on increment consumption calculations, EPA has concluded that the most reasonable approach, consistent with the statute, is to use actual source emissions, to the extent possible, to calculate increment consumption or expansion.

EPA's decision is also based on concerns raised by the Gulf Coast problem, discussed below. In that area, and possibly others, source emissions allowed under permits and SIP provisions in many cases are higher than actual source emissions. Sources could therefore increase their emissions without being subject to PSD review or the SIP revision process. However, if increment calculations were based on allowable emissions, EPA believes increment violations would be inappropriately predicted and proposed source construction would be delayed or halted. In practice, EPA expects that few, if any, sources will increase their emissions to allowable levels.

EPA believes it is unwise to restrict source growth based only on emissions a

source is permitted to emit but which, in many instances, have not been and are not likely to ever be emitted. Increment calculations based on the best prediction of actual emissions links PSD permitting more closely to actual air quality deterioration than calculations based on allowable 'paper' emissions. In addition, use of actual emissions for increment consumption is consistent with using an actual emissions baseline for defining a major modification and for calculating emissions offset baselines.

## 2. Calculation of Increment Consumption Using Actual Emissions.

To determine how much increment remains available to a proposed major source or modification, the source owner or operator must analyze several types of emissions changes as of its application date. These changes generally include: (1) emissions changes that have occurred at baseline sources and emissions from new minor and area sources since the baseline date; (2) emissions that have occurred or will occur at sources which have submitted complete PSD applications as of thirty days prior to the date that the proposed source files its application; and (3) emissions changes reflected in SIP relaxations submitted after August 7, 1977, and pending as of thirty days prior to the date the source files its application, or emissions changes reflected in SIP relaxations which have been approved since August 7, 1977, but which have not yet occurred. (See, discussion below on calculation of increment consumption for SIP relaxations.) The thirty-day cutoffs are specified to stabilize the review process by preventing new applications and SIP relaxation proposals from invalidating otherwise adequate increment consumption analyses without warning.

Increment calculations will generally be based on actual emissions as reflected by normal source operation for a period of two years. EPA has selected two years based on its recent experience in reviewing state NSR programs for nonattainment areas. The state submittals use periods of between one and three years to evaluate source emissions. In EPA's judgment, two years represents a reasonable period for assessing actual source operation. Since the framework for nonattainment NSR programs will generally form the basis for a state's PSD plan, EPA believes it is appropriate to use the same time period for evaluating actual source emissions in the PSD program. Two years is also being used to calculate the emissions offset baseline for modifications in nonattainment areas.

The two-year period of concern should generally be the two years preceding the date as of which increment consumption is being calculated, provided that the two-year period is representative of normal source operation. The reviewing authority has discretion to use another two-year period, if the authority determines that some other period of time is more typical of normal source operation than the two years immediately preceding the date of concern. In general, actual emissions estimates will be derived from source records. Actual emissions may also be determined by source tests or other methods approved by the reviewing authority. Best engineering judgments may be used in the absence of acceptable test data.

EPA believes that, in calculating actual emissions, emissions allowed under federally enforceable source-specific requirements should be presumed to represent actual emission levels. Source-specific requirements include permits that specify operating conditions for an individual source, such as PSD permits, state NSR permits issued in accordance with § 51.18(j) and other § 51.18 programs, including Appendix S (the Offset Ruling), and SIP emissions limitations established for individual sources. The presumption that federally enforceable source-specific requirements correctly reflect actual operating conditions should be rejected by EPA

or a state, if reliable evidence is available which shows that actual emissions differ from the level established in the SIP or the permit.

EPA believes two factors support the presumption that source-specific requirements represent actual source emissions. First, since the requirements are tailored to the design and operation of the source which are agreed on by the source and the reviewing authority, EPA believes it is generally appropriate to presume the source will operate and emit at the allowed levels. Second, the presumption maintains the integrity of the PSD and NSR systems and the SIP process. When EPA or a state devotes the resources necessary to develop source-specific emissions limitations, EPA believes it is reasonable to presume those limitations closely reflect actual source operation. EPA, states, and sources should then be able to rely on those emissions limitations when modeling increment consumption. In addition, the reviewing authority must at least initially rely on the allowed levels contained in source-specific permits for new or modified units, since these units are not yet operational at a normal level of operation. EPA, a state, or source remains free to rebut the presumption by demonstrating that the source-specific requirement is not representative of actual emissions. If this occurs, however, EPA would encourage states to revise the permits or the SIP to reflect actual source emissions. Such revisions will reduce uncertainty and complexity in the increment tracking system, since it will allow reviewing authorities and sources to rely on permits and SIP emissions limitations to model increment consumption.

Review of increment usage due to SIP relaxations will also be based initially on emissions allowed under the SIP as revised (provided this allowed level is higher than the source emissions contributing to the baseline concentration). Calculations will generally be made on the difference between the source emissions included in the baseline concentration and the \*52719 emissions allowed under the revised SIP. Initial use of allowable emissions is necessary because the increment calculation generally occurs before the source has actually increased its emissions. Therefore, at the time the revision is reviewed, increment consumption must be based on the predicated source operation under the revision. In addition, since SIP revisions are commonly based on source requests, it is reasonable to assume such sources will actually emit at levels permitted by the relaxation.

Subsequent to the initial review process, increment calculations for SIP relaxations may depart from allowable emissions under the SIP, if the source has not actually increased its emissions. For example, three years after approval of a SIP relaxation, if it is found that the source has not increased its emissions to levels allowed in the SIP, estimates of increment usage should be revised to reflect actual source emissions. If this occurs, EPA would also encourage states to revise the emissions levels allowed in the SIP to represent the source's actual emissions.

Finally, the required increment consumption analysis can be amended by the applicant after the PSD review process has begun. For example, an applicant would normally revise its analysis to reflect increment made available by the withdrawal of PSD applications previously considered in the applicant's calculation of increment consumption. In no event, however, will the source be required to take account of emissions changes or changes due to pending PSD applications or SIP relaxations that could increase the amount of increment consumed by other sources.

#### B. Exclusions From Increment Consumption

## 1. Exclusions Requested by Governors.

Section 163(c) authorizes four exclusions from increment consumption upon the request of a governor. Exemptions are available for federally-ordered fuel switches under the Energy Supply and Environmental Coordination Act of 1974 or superseding legislation, fuel switches due to natural gas curtailment plans under the Federal Power Act, temporary emissions of particulate matter due to construction and related activities, and new sources constructing outside the United States. In the cases of the federally-ordered switches and natural gas curtailment plans, the exclusion is limited to a maximum of five years after the effective date of the order or plan.

The statute provides that these exclusions are available only if the state has an EPA-approved PSD plan. Section 163(c). In its June 1978 regulations, however, EPA permitted governors to use the exclusions during the nine-month period between promulgation of the regulations and the date plan revisions were required to be submitted. See § 52.21(f)(3) (1979). As discussed in the preamble to the June 1978 regulations, EPA concluded that prohibiting use of the exclusions after the nine-month period would be an adequate incentive to states to submit PSD plans. See 43 FR 26402 (Col. 1).

EPA has decided to extend this policy to today's regulations. In view of the many changes in the regulations resulting from the court's decision, states which have already submitted plans will have to submit revised provisions and states which have not yet submitted plans will have to develop plans based on the new regulations. As with the June 1978 requirements, EPA believes that disallowing the exclusions nine months from today will provide sufficient encouragement to states to submit plans, and will offer states more flexibility for growth in this interim period. Therefore, governors may request the exclusions until nine months from today's promulgation, even if no PSD plan has been submitted to or approved by EPA. Thereafter, the exclusions will be unavailable unless the state has submitted an approvable PSD plan to EPA.

## 2. Temporary Emissions

EPA's June 1978 regulations and the September 1979 proposal provided that temporary emissions from new sources or modifications would be exempt from impact analysis requirements §§ 51.24(k)(iii), 52.21(k)(iii) (1979); 51.24(k)(1), 52.21(k)(1) (proposed). Temporary emissions typically include, but are not limited to, emissions from a pilot plant, a portable facility, construction or exploration activities. Similarly, EPA proposed to exempt from increment analyses the impacts on the PSD increments from the temporary emissions associated with the development of an approved innovative control technology system, provided the applicable ambient standards were not jeopardized. The regulations, however, did not provide a comparable exemption for temporary emissions resulting from short-term SIP relaxations.

Only three commenters addressed the concern of temporary emissions and increment consumption. These commenters offered suggestions in light of the proposed position on innovative control systems. These commenters supported the existing policy of exempting temporary emissions from increment air quality analyses when no Class I areas or areas with known increment violations would be impacted.

Temporary SIP relaxations are comparable to temporary emissions from new and modified major stationary sources since both affect air quality for a limited period of time. Therefore, the Administrator has decided that the existing policy of exempting temporary emissions should be extended to those associated with certain SIP relaxations. A SIP relaxation will be eligible for such relief if it meets the following five conditions. These conditions are intended to ensure that the emissions increase associated with the SIP relaxation will be limited in duration and that no residual harm will occur to the environment as a result of the relaxation. (1) The SIP revision allows an emissions increase for a temporary period only. As stated in the preamble to the June 1978 regulations, temporary emissions generally would last no more than two years at one location, although emissions for a longer period of time may be considered temporary if an appropriate demonstration is made. See 43 FR 26394 col. 2. (2) There revision is nonrenewable. This condition is intended to prevent sources from indefinitely postponing compliance with emissions limitations necessary to prevent PSD increment violations. (3) The temporary emissions will not cause or contribute to the violation of any applicable NAAQS. (4) At the expiration of the temporary SIP relaxation, the source must be required to comply with an emissions limitation that ensures the post-exemption emissions will be equal to or less than the emissions existing before the exemption was granted. (5) The temporary emissions from the revision do not impact any Class I area and any area where an increment is known to be violated. Restricting the exemption to sources impacting Class II or III areas conforms to Congress' intent to provide maximum protection of air quality values in Class I areas and meets the commenter's concerns.

In addition to SIP relaxations for individual sources, the exemption will be available for temporary emissions due to SIP relaxations that apply to several sources, if the state provides adequate assurances that no standards will be violated.

#### C. Increment Expansion Due to Emissions Reductions Prior to the Baseline Date

EPA's policy under the June 1978 regulations is unclear as to whether emissions reductions prior to the \*52720 baseline date increase the amount of available increments. The policy allows decreases after January 6, 1975, and prior to the baseline date, to be used by sources to offset subsequent increases and exempt the increases from the requirement for an ambient air quality assessment. In effect, EPA treats such decrease as expanding available increments, since the decreases permit later emissions increases at the same source to avoid the otherwise required air quality assessment. The policy did not state, however, whether isolated decreases not made in conjunction with intrasource increases were considered to expand available increments. In contrast, the policy is clear that emissions reductions after the baseline date increase available increments.

As a result of the revised definition of modification which permits offset credit for emissions reductions occurring within a moving five-year period, EPA has decided to clarify its existing policy. All emissions reductions prior to the baseline date at major stationary sources will now be considered to expand available increments. Since contemporaneous emissions reductions accomplished before the baseline date can be used by a source to offset a contemporaneous

## APPENDIX B

COMMONWEALTH OF KENTUCKY  
NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET  
FILE NO. DAQ-26003-037  
FILE NO. DAQ-26048-037

FILED

OCT 17 2003

Office of Administrative Hearings

SIERRA CLUB, VALLEY WATCH, INC.,  
LESLIE BARRAS, HILARY LAMBERT, and  
ROGER BRUCKER,

PETITIONERS,

v.

PREHEARING MEMORANDUM OF RESPONDENT  
THOROUGHbred GENERATING COMPANY, LLC

NATURAL RESOURCES AND  
ENVIRONMENTAL PROTECTION CABINET, and  
THOROUGHbred GENERATING COMPANY, LLC,

RESPONDENTS.

\*\* \* \* \* \*

Pursuant to the Hearing Officer's Orders of January 9, 2003 and April 4, 2003, and in advance of the formal hearing set for November 3, 2003, Respondent Thoroughbred Generating Company, LLC ("TGC") submits this prehearing memorandum.

**I. INTRODUCTION**

TGC applied to DAQ in early 2001 for a permit to construct Thoroughbred Generating Station ("TGS"), a 1500 MW, pulverized coal electric generating facility in Muhlenberg County. Pet. ¶ 8. DAQ reviewed the application, carried out its public notice and comment process, and issued Permit No. V-02-001 ("Permit") on October 11, 2002. Pet. ¶ 9. DAQ made clarifications to the Permit on December 6, 2002. On November 14, 2002, Petitioners filed their challenge to the Permit.

The evidence will show that DAQ, TGC, the United States Environmental Protection Agency ("EPA"), and the National Park Service ("NPS") worked extremely hard on this Permit. The entire process lasted almost two years. Recognizing TGS as a high-profile project, the agencies were especially diligent to ensure that the Permit met all applicable requirements. The



## TGS DOES NOT VIOLATE INCREMENT CONSUMPTION

<b>Pollutant</b>	<b>Averaging Period</b>	<b>PSD Class II Increments (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>TGS Class II Increment Consumption Muhlenberg County (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>TGS Class II Increment Consumption Other Counties<sup>1</sup> (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>PSD Class I Increment (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>TGS Class I Increment Consumption (0.167 lb SO<sub>2</sub>/mmBtu) (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>TGS Class I Increment Consumption (0.41 lb SO<sub>2</sub>/mmBtu) (<math>\mu\text{g}/\text{m}^3</math>)</b>
NO <sub>x</sub>	Annual	25	0.697	NA	2.5	0.018	0.018
PM <sub>10</sub>	Annual	17	1.69	NA	4	0.016	0.016
	24-hour	30	8.86	NA	8	0.137	0.137
SO <sub>2</sub>	Annual	20	3.25	6.16	2	0.142	0.4
	24-hour	91	53.8	56.38	5	1.16	4.97
	3-hour	512	186.5	268.92	25	4.37	11.03

<sup>1</sup> Based on highest High, Second High for the Counties Modeled with 0.167 lb SO<sub>2</sub>/mmBtu or 0.41 lb SO<sub>2</sub>/mmBtu.