Comments of Owensboro Building & Construction Trades Council Concerning a Draft Prevention of Significant Deterioration & Title V Operating Air Discharge Permit for the Proposed Peabody Thoroughbred Power Plant, Muhlenberg County, KY

Presented to

Kentucky Division for Air Quality
&
U.S. Environmental Protection Agency, Region IV,
Air, Pesticides and Toxics Management Division,
Air Planning Branch, Air Permits Section

August 24, 2002

Counsel to Owensboro Building & Construction Trades Council
Attorney Charles L. Berger, Berger & Berger
313 Main Street
Evansville, IN 47708-1485
(812)425-8101; cberger@bergerlaw.com

Alexander J. Sagady, Environmental Consultant
PO Box 39, East Lansing, MI 48826-0039
(517)332-6971; ajs@sagady.com

Table of Contents

1 Introduction

The Owensboro Building and Construction Trades Council submits herewith its comments on the Thoroughbred Air Quality Permit. The comments are from an organization that represents numerous construction unions and their members and families in the area of the proposed power generating facility. The members and their families represent a large number of people whose lives and earning power are totally dependent on the ability of industry to create jobs without endanger air quality limits already existing in this region.

The Council is concerned about maintaining the quality of the air and living environment for its members, their families and all citizens in the area of this proposed power plant. In order for air quality to be maintained to provide a safe place for our members' families, the type of construction that can be approved must meet the Best Available Control Technology standards to allow for the continuation of a safe living environment and to permit future construction work in our area. The current draft proposal for this facility will cause significant deterioration of air quality to jeapordize the health of our members and their families. The significant amounts of pollution from the proposed plant will place at great risk the prospects for further industrial development in our region because of the amount of pollutants that will be discharged under the current proposal and the decision to allow the Thoroughbred Plant to use up or exceed the last full measure of permissible air quality deterioration allowed.

The comments and data we have submitted establish critical failures in the draft permit in its current condition. The points brought out by these comments that are included herein demonstrate the major failures and dangers contained in the proposal to build the facility in its current plan.

The Owensboro Building and Construction Trades Council is represented in the Kentucky permitting proceeding for the Thoroughbred plant by Counsel of record, Charles L. Berger of the firm Berger & Berger of Evansville, IN. Technical comments below were prepared by Alexander J. Sagady, Environmental Consultant, and have been approved for submittal on behalf of the Owensboro Building and Construction Trades Council in the Thoroughbred Power Plant permit proceeding before the Kentucky Division for Air Quality and the U.S. Environmental Protection Agency, Region IV.

2 Comments Relating to Prevention of Significant Deterioration Best Available Control Technology (BACT) Determinations

2.1 Introduction to the BACT Determination Issues

In 1977, Congress first enacted the Prevention of Significant Deterioration provisions of the Clean Air Act. Congress was reacting to the need to ensure that growth in emissions would not allow community and rural air quality to degrade all the way up to just under national health standards. In addition, Congress was attempting to protect the air quality-related values associated with our great national land treasures at national parks, national lakeshores and recreation areas, wild and scenic areas of designated wilderness and national wildlife areas.

Kentucky's treasure and frequent family and major tourist designation, the Mammoth Cave National Park was among the protected areas designated with a special "Class I" designation for its air quality related values. Although the skeptical might ask the value of an air quality protection program in a cave park, it turns out that 75% of Mammoth Cave Park visitors don't enter the cave and otherwise use the surface and scenic resources of the Park.[1]

In order to ensure healthy air and protect such air quality-related values, Congress created an air quality planning and management system with two major features. The first feature of this system involved assessment of and limits on permissible ambient air quality deterioration for sulfur dioxide, nitrogen oxides and particulate matter.

The second feature of the air quality planning and management program was a requirement to install Best Available Control Technology (BACT) for every new major stationary source of key pollutants or major physical modifications of existing major stationary sources that have significant increases in pollution. BACT is decided on a case by case basis as state-of-the-art controls at the time of the decision. BACT is a "technology-forcing" requirement that encourages the development of new and better air pollution control methods.

Best Available Control Technology is defined by Kentucky regulations in conformance with the Clean Air Act and EPA PSD regulations as:

> "'Best available control technology' means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under 42 USC 7401 to 7671q (Clean Air Act), which would be emitted from a proposed major stationary source or major modification which the cabinet, on a case-by-case basis, taking into account

[1] August 21, 2002 telephone conference with Bob Carson, Mammoth Cave National Park

energy, environmental, and economic impacts and other costs, determines is achievable for that source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of that pollutant. Application of best available control technology shall not result in emissions of a pollutant which would exceed the emissions allowed by an applicable standard under Title 401, KAR Chapters 57, 59, 60, and 63, or 40 CFR Parts 60, 61, and 63. If the cabinet determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, or operational standard, or combination of design, equipment, work practice, or operational standard, may be prescribed instead to satisfy the requirement for the application of best available control technology. That standard shall, to the degree possible, establish the emissions reduction achievable by implementation of the design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results."[2]

2.2 Background on EPA's "Top-Down" BACT Policy

Under the U.S. Environmental Protection Agency's "top-down" Best Available Control Technology (BACT) determination policy, the following process must be conducted to ensure that a valid BACT determination has been made:

"In brief, the top-down process provides that all available control technologies be ranked in descending order of control effectiveness. The PSD applicant first examines the most stringent--or "top"--alternative. That alternative is established as BACT unless the applicant demonstrates, and the permitting authority in its informed judgment agrees, that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not "achievable" in that case. If the most stringent technology is eliminated in this fashion, then the next most stringent alternative is considered, and so on."[3]

EPA describes a 5 step process for conducting such a "top down" process:

"STEP 1: Identify All Control Technologies.
- LIST is comprehensive (LAER included).

STEP 2: Eliminate Technically Infeasible Options.

---

[2] 401 KAR 51:017, Sec 1(8)

[3] EPA 1990 Draft NSR Workshop Manual, P. B.2

- A demonstration of technical infeasibility should be clearly documented and should show, based on physical, chemical, and engineering principles, that technical difficulties would preclude the successful use of the control option on the emissions unit under review.

STEP 3: Rank Remaining Control Technologies by Control Effectiveness.
Should include:
- control effectiveness (percent pollutant removed);
- expected emission rate (tons per year);
- expected emission reduction (tons per year);
- energy impacts (BTU, kWh);
- environmental impacts (other media and the emissions of toxic and hazardous air emissions); and
- economic impacts (total cost effectiveness, incremental cost effectiveness).

STEP 4: Evaluate Most Effective Controls and Document Results.
- Case-by-case consideration of energy, environmental, and economic impacts.
- If top option is not selected as BACT, evaluate next most effective control option.

STEP 5: Select BACT
- Most effective option not rejected is BACT."[4]

The Applicant has constantly asserted throughout their numerous submittals with the apparent support and approval from KDAQ and, at times, EPA-Region IV, that it has conducted a valid BACT analysis and that the submitted BACT determinations have been carried out within the context of EPA's "Top Down" BACT policy. commentors will assert significant challenges to Applicant's assertions and BACT demonstrations in subsequent sections of this comment.

2.3 BACT Determinations and Consideration of Related Environmental Factors in Review of the Effects of BACT Control Technology Selections on Unregulated Toxic Air Contaminants

The environmental impact aspect of the BACT determination process must consider, in part, the effect of the control technology scoping and selection decision on the emission of unregulated toxic pollutants occurring in the process stream being evaluated for control.

[4] Ibid, 1990 EPA NSR Workshop Manual, P B.6

The first time this doctrine was clearly articulated was in a case of a municipal waste combustor in California in which citizen commentors appealed a decision of EPA Region IX on a proposed PSD permit for the North County Resource Recovery Associates.[5]

In a remand order back to EPA Region IX, then-EPA Administrator Lee Thomas wrote as to petitioner's allegations:

> "Among the reasons the petitioners present for granting review is Region IX's alleged failure to establish emission limitation for all pollutants, including hazardous pollutants, that will or could possibly be emitted from the facility; the alleged inadequacy of Best Available Control Technology (BACT) determinations;..... With one exception, Region IX has addressed each of petitioners' allegations and has provided rational explanations for not making any alterations in its permit determination."
>
> "The exception concerns Region IX's assertion that EPA lacks the authority to 'consider' pollutants not regulated by the Clean Air Act when making a PSD determination. This assertion is correct only if it is read narrowly to mean EPA lacks the authority to imposed limitations or other restrictions directly on the emission of unregulated pollutants. EPA clearly has not such authority over emissions of unregulated pollutants."
>
> "Region IX's assertion is overly broad, however, if it is means as a limitation on EPA's authority to evaluate, for example, the environmental impact of unregulated pollutants in the course of making a BACT determination for the regulated pollutants. EPA's authority in that respect is clear....."
>
> "As defined in §169(3) the term BACT refers to an 'emission limitation' that is set on a case-by-case basis for regulated pollutants, 'taking into account energy, environmental, and economic impacts and other costs' associated with the particular emission control system that is selected to achieve the BACT emissions limitation. 42 USC §7479(3), 40 CFR §52.21(b)(12)." (emphasis supplied).
>
> "Hence, if application of a control system results directly in the release (or removal) of pollutants that are not currently regulated under the Act, the net environmental impact of such emissions is eligible for consideration in making the BACT determination. The analysis may take the form of comparing the incremental environmental impact of alternative emission control systems with the control system proposed as BACT; however, as in any BACT determination, the

[5] EPA Administrative Decision In the Matter of North County Resource Recovery Associates, Remand Order, PSD Appeal No. 85-2, June 5, 1986.

> exact form of the analysis and the level of detail required will depend upon the facts of the individual case. Depending upon what weight is assigned to the environmental impact of a particular control system, the control system proposed as BACT may have to be modified or rejected in favor of another system."
>
> "In other words, EPA may ultimately choose more stringent emission limitations for a regulated pollutant than it would otherwise have chosen if setting such limitations would have the incremental benefit of restricting a hazardous but, as yet, unregulated pollutant." (Decision at p 3-4)

The precedent that PSD BACT determinations must consider the effects of control technology decisions on unregulated pollutants as part of the environmental impact analysis has been extended and clarified in EPA's transitional guidance memo after the passage of the 1990 Clean Air Act Amendments.

> "Toxic Effect of Unregulated Pollutants Still Considered in BACT Analysis -- Based on the remand decision on June 3, 1986 by the EPA Administrator in North County Resource Recovery Associates (PSD Appeal No. 85-2), the impact on emissions of other pollutants, including unregulated pollutants, must be taken into account in determining BACT for a regulated pollutant. When evaluating control technologies and their associated emissions limits, combustion practices, and related permit terms and conditions in a BACT proposal, the applicant must consider the environmental impacts of all pollutants not regulated by PSD. Once a project is subject to BACT due to the emission of nonexempted pollutants, the BACT analysis should therefore consider all pollutants, including Title III hazardous air pollutants previously subject to PSD, in determining which control strategy is best."[6]

Commentors assert that Applicant's BACT demonstration is deficient in a number of subsections outlined below because of failure to consider unregulated toxic air contaminants in the selection of BACT technologies.

2.4 Applicant's BACT Submittal and Plant Information Submitted to Date is Incomplete and Unapprovable Because the Applicant has Failed to Adequately and Completely Physically Characterize Both Uncontrolled and Interim Controlled Flue Gas Streams and has Failed to Adequately Characterize the Coal to be Used

The Applicant has failed to submit fundamental information usually found in air permit applications and which is usually demanded by technically vigilant and analytical

---

[6] Ibid, March 11, 1991 Seitz memo at P. 3.

government air quality agency staff determined to do a *de novo* review on an air permit application.

The Applicant has failed to submit detailed physical/chemical characterizations of uncontrolled boiler flue gases and physical/chemical characterizations of interim controlled flue gases at various points in the air pollution control train. This failure means that the effect of emission control device efficiencies and their effect on output residual gas stream air contaminants cannot be evaluated after each proposed control device. The lack of physical/chemical information means that the Applicant has denied EPA, KDAQ and the public the opportunity to evaluate, review and comment upon the potential for alternative controls from the ones proposed by the Applicant and the possibility of using technology transfer to evaluate new control methods in the coal-fired electric generating industry where they have not been previously used. Consideration of using both alternate control measures and technology transfer are mandatory elements of "top-down" BACT reviews.

In addition to the above failure, Applicant has failed to submit a complete chemical analysis by known and approved analytical methods, including representative samples from multiple mine locations, for the expected Kentucky Seam 8 and 9 coals to be used at the facility. Without such information, many elements of the PSD BACT and MACT determinations must be considered subject to considerable question and doubt. This also is a matter of an unapprovable application for failure to provide complete information.

2.5 Main Combustion Stack BACT Determinations

2.5.1 Sulfur Dioxide and Sulfuric Acid BACT Determinations

2.5.1.1 The Comparatively High Sulfur Dioxide Proposed Emissions Mitigate for Thorough Consideration of Additional Sulfur Dioxide Control Measures

The fact that comparative emissions of sulfur dioxide from the proposed Thoroughbred facility are high for new power plants and the fact that a sensitive receptor site at Mammoth Cave National Park is not far downwind both mitigate for a careful search for additional sulfur dioxide emission controls. However, the Applicant has failed on several grounds to adequately conduct such a search in a manner that makes Applicants submittals approvable, as outlined below.

2.5.1.2 The Applicant has Failed to Conduct a "Top-Down" BACT Analysis for both Sulfur Dioxide and Sulfuric Acid by Failing to Consider and Assess the Potential for Adding a Lime Spray Dryer in Addition to the Wet Scrubber and Wet ESP Controls Selected

Under BACT determination procedures, the Applicant was supposed to identify all technically feasible sulfur dioxide and sulfuric acid control measures. Only after all such control measures were identified should some of these technically feasible measures be rejected on economic, environmental or energy grounds (consistent also with other needed environmental protections).

In the present case, Applicant did not identify all available sulfur dioxide and sulfuric acid control measures and, as such, did not consider that such available but unstudied technically feasible measures would have other environmental benefits.

Evaluation of Table 5.2 and all of the Applicant's submittals indicates that the Applicant failed to consider as a technically feasible control measure the addition of a lime spray dryer between the air preheater exit and the primary PM control device (in the present case, an ESP). A lime spray dryer allows a carefully mixed solution of water and calcium oxide to be finely atomized and mixed with the uncontrolled flue gas in a chamber designed to maximize flue gas mixing with the finely sprayed control medium. The amount of water and size of the droplets is designed to allow the hot flue gases to completely evaporate the available water so that the resulting dried out particulate matter may be satisfactorily collected by the downstream PM control device.

In addition to controlling both sulfur dioxide and sulfuric acid, a lime spray dryer would promote flue gas particle agglomeration so that heavier particles could be more easily collected by the PM control device. In addition, the flue gas temperature reduction would promote additional mercury control by lowering mercury compound volatility and increasing mercury to carbon adsorption.

Lime spray drying would be an additional technically feasible sulfur dioxide control measure added in addition to the proposed wet scrubbers and wet ESP sulfur dioxide controls. Although lime spray drying might have received some limited early consideration as part of earlier consideration of fabric filter controls for the primary PM control device, the Applicant never at any time considered having both a lime spray dryer and the selected wet scrubbers and wet ESP, all at the same time in the flue gas emission control train. Under "top-down" scoping of all available and technically feasible control methods, all such combinations of controls must be first listed and considered; then such combinations of controls are be evaluated for economic costs, environmental detriments, environmental benefits and energy considerations. Only then can any such combinations of control train methods be ruled out. The Applicant never considered or completed

such an analysis for the addition of a lime spray dryer to the other selected sulfur dioxide emission control equipment.

2.5.1.3 The Applicant has Failed to Conduct a "Top-Down" BACT Analysis for both Sulfur Dioxide and Sulfuric Acid by Failing to Consider and Assess the Potential for Adding Boiler Lime/Caustic Injection

Lime/caustic boiler injection is a technically feasible method of sulfur dioxide and sulfuric acid emission control in which these materials are injected directly into or above the boiler firebox. Both dry limestone injection and semi-dry calcium oxide injection have been successfully used to control sulfur dioxide in uncontrolled boiler flue gases. Although these methods usually do not have as good a sulfur dioxide control efficiency as a fully wet flue gas desulfurization system, they can nevertheless be incorporated in addition and in combination with the selected wet scrubber/wet ESP control system. In addition, duct injection of these materials is also technically feasible and can be done downstream of the SCR if fouling of the SCR catalyst is a concern.

Boiler firebox injection of lime for sulfur dioxide control also has the side benefit of reducing the potential for arsenic trioxide formation which participates in SCR catalyst poisoning and deactivation by preferentially forming a calcium-arsenic compound which will not react with catalyst materials (unlike arsenic trioxide).

Scoping of technically feasible sulfur dioxide and sulfuric acid control options required consideration of dry limestone and semi-dry lime boiler firebox and duct injection under a "top down" BACT review. Such review procedures also require consideration of a mix of multiple control techniques.

The Applicant never considered boiler firebox and/or duct injection of caustic/lime or limestone, either alone or in combination with the selected wet scrubber/wet ESP as an additional technically feasible measure to control the high sulfur dioxide emissions from the proposed Thoroughbred Plant.

2.5.1.4 The Applicant Never Considered Fuel Switching, Fuel Blending or Maximum Limits on Fuel Sulfur Content as an Available Measure to Reduce Sulfur Dioxide Emissions

That Applicant has proposed a mine-mouth plant does not entitle the Applicant to disregard all other possibilities for potential fuel switching or fuel blending. Neither the PSD BACT regulations, nor Federal New Source Performance Standard Subpart Db, establish mine mouth electric utility steam boilers as single source categories apart from

all other electric utility steam boilers which receive their fuel supplies from remote sources.

In the United States it is not at all unusual for electric utility steam boilers to receive shipments of coal as fuel from hundreds, even thousands of miles away. As a result, receipt of fuels delivered from remote sources is considered a technique in wide use and cannot be disregarded as a potential control measure, regardless of the cost.

It is clearly technically feasible for the Applicant to obtain low sulfur fuels to replace some or all of the high sulfur local mine fuels and a "top down" BACT review must consider such a technically feasible means of control. In addition, it is also technically feasible to abide by a sulfur content limit for as burned coal. The Applicant never considered this technically feasible sulfur dioxide control measure in the BACT review process. Failure to consider fuel replacement, fuel blending and maximum sulfur contents in fuel as burned as additional sulfur dioxide and sulfuric acid control measures over an above the selected controls in the application renders the BACT review unapprovable.

2.5.1.5 Applicant's Failure to Specify FGD Spray Tower Design and Operating Parameters Constitutes a Failure to Ensure that All Top Level Sulfur Dioxide and Sulfuric Acid Control Measures Have Been Adequately Considered

Applicant's submittal utterly fails to provide any salient details about FGD design and operational parameters. As a result, the application fails to ensure that all top level controls have been considered for sulfur dioxide, sulfuric acid and mercury since neither the public nor the agencies have been notified of the potential for design and operating alternatives that might increase collection efficiencies for these pollutants.

For example, there is no information at all provided for target spray tower scrubber fluid alkalinity, scrubber fluid recirculation rates, density and number of spray tower nozzles, design velocity for nozzle discharge and use of any additives in scrubber fluids. All of these items are essential to determine whether the application considered all top level controls for sulfur dioxide, sulfuric acid and mercury.

In addition, all of these issues raise important consideration for compliance monitoring and potential additions to permit monitoring requirements.

2.5.2 NOX BACT Determination

At this writing, Applicant has accepted and KDAQ has approved a 0.08 lb-NOX per million BTU emission limitation. Commentors dispute this determination for the reasons set forth in subsequent subsections.

2.5.2.1 A January 23, 2002 Letter from Black and Veatch to Peabody Concerning Conditions that would Lead to Emissions over 0.08 lb-NOX per MMBTU Presents Issues Which are Not a Proper Basis for Making a BACT Determination

On January 23, 2002, Vendor to Peabody, Black and Veatch, sent a letter to Applicant stating that the following conditions might cause upsets leading to excessive emissions and that such conditions might mitigate against more stringent NOX Emission limitations:

Operator Error
Equipment Failure
Control Malfunction
Catalyst Degradation
Ammonia Distribution Grid Pluggage
Variance in Ammonia Quality

While Black and Veatch might legitimately want to qualify its guarantee to the Applicant, Commentors assert that the matters raised in their letter are not a proper basis for setting a less stringent BACT limit for the subject facility.

Operator error and variance in ammonia quality are matters directly under the control of Applicant. Sloppy operation of a major stationary source and failure to carry out the required "good air pollution control practice" is not a proper basis for setting more lenient BACT determinations and the public and the environment should not bear the consequences of such conduct in the form of less restrictive BACT-derived emission limitations.

Equipment failure and control malfunction can happen in any plant and the effects of these events can be lessened by proper design and operation, use of components with adequate margins of operational limits and quality levels, continuous improvement systems and exemplary levels of equipment maintenance and management diligence. Failure to carry out these elements of major stationary source design, construction, operation and reliability improvement are not reasons to grant less stringent emission control technology determinations.

Finally, the Black and Veatch letter raises the matter of SCR catalyst degradation as a basis for a more lenient standard. Commercial SCR catalysts have been proven with acceptable life in several installations. There are strategies to assist in managing catalyst degradation that involve responsible source operation and design. Again, this is not a basis to set a more lenient NOX BACT determination.

2.5.2.2 Applicant Failed to Consider All Technically Feasible Means for Maximizing NOX Control by Failing to Consider Placement of a Third SCR Catalyst Bed; the Applicant Thus Failed to Conduct an Approvable "Top Down" NOX BACT Review and Failed to Consider the Effect of this BACT Technology Selection Decision on an Unregulated Toxicant as part of BACT Environmental Review

A March 10, 2002 Document in the file from Charles Barranger, Product Manager of Alstom Power, Knoxville, TN was reviewed as Alstom is a vendor to the Applicant. Page 2 of the Barranger letter indicates:

> "The SCR system consists of the following major components..... SCR reactor with two (2) active and a **space for a third catalyst module layer**." (emphasis added).

Just as industrial permit applicants can't pretend that all electrostatic precipitators with different plate areas and number of fields are the same, and that different baghouses with different air-to-cloth ratios are the same, they also cannot pretend that somehow the total SCR catalyst bed area and number of modules can be ignored in the evaluation of technically feasible controls.

"Top down" BACT reviews which Applicant claims to have done must necessarily consider all technically feasible controls at the beginning of the process. The statement in the Barranger letter is an explicit acknowledgment that use of three catalyst modules to increase NOX control efficiency is technically feasible and must be considered in top-down BACT analysis.

The Applicant must submit such all such technically feasible control measures to economic control cost efficiency and environmental review in the BACT determination process and the Applicant has not completed this process.

In addition, the Applicant has not conducted environmental analysis on the effects of the 2 or 3 SCR catalyst bed decision on unregulated contaminants with high environmental consequence. Both the Applicant and other research sources consider the SCR catalyst part of the mix of mercury emission controls because the SCR catalysts are capable of converting the difficult to control elemental form of mercury vapor to more

easily collected oxidized, chemical valence II forms. An additional SCR catalyst bed can be expected to improve mercury control by increasing this oxidation effect. The Applicant impermissibly failed to carry out environmental review aspects of the required BACT demonstration on this issue, as well as impermissibly failing to examine this issue in Mercury BACT and Mercury MACT decision making.

2.5.2.3 The NOX BACT Determination Should be at Least as Stringent as 0.07 lbs-NOX Per Million BTU

Commentors agree with the National Park Service in their assertion that a NOX BACT determination should be set for not more than 0.07 lbs-NOX per million BTU.

Unfortunately, the Applicant has obstructed public comment and agency technical review on the NOX BACT issue because the Applicant's submittals have failed to disclose the physical/chemical characteristics of uncontrolled boiler flue gas streams including the uncontrolled NOX gas concentration and uncontrolled emission of NOX per million BTU. Without such information, known SCR control efficiency performance cannot be applied to the physical/chemical characteristics of uncontrolled flue gas process generation at the boiler outlet of the Thoroughbred facility.

Because of time limitations, Commentors are unable to present a complete exposition of the NOX control experience elsewhere, but cite for the record the following NOX information on other plants and achievements in the control of NOX:

> The AES Somerset LLC plant at Barker, NY, a 675 MWe unit, has achieved 0.055 lb-NOX/MMBTU with an SCR system and low NOX burners reflecting 90% NOX reduction.
>
> The AES Cayuga LLC Plant at Lansing, NY, a 160 MWe unit, has achieved 0.042 lb-NOX/MMBTU with an SCR system and low NOX burners and is a retrofit unit, reflecting 90% reduction.
>
> Although the Spurlock plant permit is for a SNCR system, KDAQ issued this permit with a NOX limit of 0.07 lbs/MMBTU in 1999.
>
> Two retrofit plants in GA, Bowen 1-4 and Wansley 1-2, are targeted for performance at 0.07 lb-NOX/MMBTU.
>
> PPL Montour Plant, Allentown, PA achieved 0.045 lb-NOX per million BTU on a 750 MW with a 90% reduction of NOX emissions.

The NOX control experiences cited above are a reasonable and compelling basis for considering a final NOX control limit more stringent than the 0.08 lb-NOX/MMBTU limit presently approved for draft permit purposes by KDAQ.

2.5.2.4 Any SCR and Associated Control System Installed at the Thoroughbred Plant Should Have a Mandatory Ammonia Slip Detector and Ammonia Discharge Emission Limit

Implementation of SCR technologies should be accompanied by use of an ammonia slip detector, integrated controls based on both NOX emissions and ammonia slip, and the ability to automatically adjust ammonia addition rates to compensate for both NOX emissions and detected ammonia in the flue gas stream. Nothing in the draft permit and the application adopts controls on ammonia slip and provides for integrated sensing and feedback control over ammonia injection rates.

An ammonia emission limit in the range of 2-3 ppmv should be imposed in the draft permit.

2.5.3 Opacity BACT Determination

Visible emission limitations must be set within the context of a Prevention of Significant Deterioration BACT decision as visible emissions are explicitly mentioned in the definition of PSD BACT.

The Applicant has presented absolutely no basis at all for the selected limit of 20% opacity on the main boiler combustion stack.

Commentors assert that the application in the pollution control train of 3 different PM control devices, including a large dry electrostatic precipitator, a FGD spray tower and a wet electrostatic precipitator, mitigates for a lower opacity limitation as BACT than the 20% opacity limitation that would have been applied to a boiler constructed 25 years ago with far less PM control efficiency.

Commentors suggest that an opacity limitation of no more 10% should be applied to the facility.

2.5.4 Particulate Matter BACT Determination

Commentors note that the original configuration of the proposed emission control train featured a fabric filter as the primary and first PM control device. Fabric filters are

a top level PM control device and neither the Applicant through its submittals, nor KDAQ through its Preliminary Determination and Statement of Basis, have explained the basis for dropping the fabric filter PM control device on the main boiler combustion flue gas emission control train. A failure to explain the dropping of a top-level PM control device violates the "top down" BACT procedure which the Applicant and KDAQ so assiduously and persistently embrace as being in alleged compliance. Applicant and KDAQ must explain on the record why fabric filter control was abandoned and then allow the public to comment on this determination. The present application as submitted denies the public the opportunity to make such comments on an absolutely crucial PM, acid gas and toxicant emission control decision.

In addition to PM control, fabric filters also provide some control of acid gases from alkaline particulate deposited as filter cake, even without use of a lime spray dryer. It is clear from the application and other materials that Applicant never considered use of alkaline furnace and/or duct injection, lime spray dryer and fabric filter in addition wet FGD spray tower and wet ESP flue gas polishing from the standpoint of PM control, sulfur dioxide/sulfuric acid control, other acid gas control, particle toxicant control and mercury control (and the associated PSD BACT and MACT determinations). This failure also violates BACT determination requirements and requirements to consider all top levels controls and their combinations in the top-down BACT policy.

Although the Applicant has not stated on the record the reason why they went from fabric filter control to dry ESP control, the May 14, 2002 meeting minutes of an EPA official meeting with Applicant indicates in part:

> "Definitely using an ESP vs. a baghouse – do not believe that bags will hold up with high sulfur coals."

This statement is troubling because it indicates that 2 technically feasible top-level controls were never considered — use of pre-fabric filter sulfur dioxide controls with a lime spray dryer and boiler injection, and the use of high temperature acid resistant bags made with a Poly Tetra Flouro Ethylene membrane and fabric or a Poly Tetra Flouro Ethylene fiber with fiberglass laminate.

The application is absolutely silent on the matter of whether any form of bottom ash or fly ash re-injection and/or reburning is being used in the proposed facility. The Applicant should specifically state whether such practices are planned or not as use of such methods would affect BACT determinations for PM and mercury control decisions.

The application contains no analysis or review of the consequences for PM emissions from the selection of dry ESP vs. fabric filter as to PM emissions during startup, shutdown and boiler upset. In general, sources may be reluctant to operate ESPs at all during times when flue gas train oxygen concentrations are in excess of 8-10% and

when there is presence of unburned carbon in fly ash. Sources may also turn off ESPs during upset conditions when carbon monoxide in flue gases exceeds about 1 %. Such conditions may cause explosions from arcing that occurs in dry ESPs. Fabric filters are not vulnerable to these conditions an may provide more stable PM control under such conditions. Such matters are legitimate parts of the environmental consideration review required and implicit in BACT determinations and the application is incomplete without such discussion and balancing. Such discussions should also address whether required cessation of ESP controls during startup, shutdown, malfunction and upset would lead to excessive fouling of the wet FGD system and subsequent problems with maintaining assured levels of sulfur dioxide control from such fouling.

The application contains no information about any bypass equipment around PM emissions control devices (or other emission control equipment) or dump stacks that might be incorporated into the design. If either bypass or dump stack devices are incorporated into the design, the Applicant must disclose this information as their existence raises important control technology, monitoring and enforcement concerns.

2.5.5 Mercury BACT Determination

Applicant's alleged "top down" BACT analysis has failed to consider a maximum mercury content for as fired coal at the proposed facility. Such limits are technically feasible. Mercury monitoring requirements contained in the proposed permit are inadequate to ensure the facility does not burn high mercury coal and to provide adequate assurances of compliance with mercury emissions limitations.

As mentioned in previous sections, Applicant's "top down" BACT analysis failed to include all top level controls for mercury emissions. Technically feasible control technique elements impermissibly omitted from the "top down" analysis (in addition to limits on mercury in coal) include:

> Running a third module of SCR catalyst to increase elemental mercury conversion to mercury valence II that is easier to collect in the downstream emissions control train.
>
> Implementing lime spray-dryer control after the SCR and air heater in order to produce earlier cooling of process flue gas with less mercury compound volatility, greater likelihood of elemental mercury absorption to carbon and more overall susceptibility of mercury-laden flue gas to yield to emission controls in the downstream pollution control train.
>
> Use of lime spray-dryer/fabric filter primary PM control device to increase capture of mercury compounds as fine particulate matter over and above the control that

would be afforded by a dry ESP operating at hotter temperatures than the spray dryer fabric filter combination.

Use of mandatory activated carbon injection to increase elemental mercury vapor and other mercury compound volatile materials and subsequent collection in downstream PM control devices.

Finally, the FGD spray tower and wet ESP control of mercury emissions raises certain multi-media mercury management concerns. No discussion is provided by the application on the chemical fate of mercury in the scrubber fluid aqueous waste management system and in the management system for the aqueous waste of the wet ESP system. For water soluble mercury compounds there is no explanation of how buildup of these compounds in scrubber fluids with be managed from a chemistry standpoint. For example, it would be undesirable for soluble mercury compounds to build up in scrubber fluids and to be re-entrained in aerosals that would be discharged from the FGD unit. The application is deficient because it doesn't describe how mercury compounds will be precipitated out from aqueous flows in the FGD and wet ESP aqueous support systems. In addition, there is no discussion of multi-media aspects of mercury controls that will ensure that soluble mercury compounds or insoluble but suspended mercury solids will be kept from any blow down to aqueous waste discharges.

2.6 PM BACT for Other Emission Units

The permit should be amended to require that all baghouse controlled units for coal handling, conveyors, ash handling, etc. be subject to a PM limit in the range of 0.008 to 0.01 grains per dry standard cubic foot. The existing proposal to evade setting all emission limits but opacity on such equipment doesn't comply with PSD BACT requirements.

The proposed opacity requirement for such baghouse controlled units should be revised to 10% opacity.

The draft permit allows emissions from a cooling tower controlled with drift eliminators achieving a 0.002% drift rate. This limit is too high and does not represent BACT. Several recent power plant projects, including several in California, have been permitted to achieve drift rates of 0.0005% to 0.0006% and others are proposed to achieve similar rates. In its BACT analysis, the KDAQ fails to evaluate the availability and technical feasibility of more stringent drift elimination requirements than those which were proposed by the Applicant. Both Applicant and KDAQ must re-do the BACT determination concerning the cooling towers and specify a drift elimination rate of no more than 0.0005%.

The proposed ash and scrubber sludge storage landfill is proposed as an insignificant emission unit. The draft permit should incorporate specific permit-enforced work practice requirements to ensure they stay as insignificant units as fugitive emissions from fly ash disposal areas is a common problem that has a high potential to release hazardous air pollutants collected by PM control devices.

3 Comments Relating to the Inadequate and Unacceptable Form of the Permit's Emission Limitations

3.1 There are No Federally Enforceable Conditions Contained in the Permit that Limit the Maximum Time Rate of Mass Emissions for PSD Pollutants

There are absolutely no federally enforceable applicable requirements contained in the permit that limit the maximum rate of mass per unit time emissions of PSD pollutants from Applicant's facility on a short or long term basis.

All of the emission limitations in Section B(2)(a), (c), (d), (e), (f), (g), (h), (i), (j), (k), and (l) for PSD pollutants are written in the form of maximum pounds of emissions per million BTU of heat input.

The consequences of this failure to limit the time rate of mass emissions are significant under any real life expectations of future plant operations. Under such conditions, deposits in boiler tubes or blocked boiler tubes from leaks cause a deterioration in the heat rate of the facility, or the amount of heat required in BTUs to generate a gross kilowatt hour of electric generation. The following table examines the sulfur dioxide emission consequences of such degradation in heat rate performance (more heat required to produce the same amount of electricity) that could conceivably occur in the future assuming the boiler could be run somewhat above its nominal capacity in a plant that was generator-limited in plant output.

Pollutant	**Permissible Emissions at Commencement of Plant Operation (both units)**	**Permissible Emissions at 5% Deterioration in Heat Rate from Base at Commencement**	**Permissible Emissions at 10% Deterioration in Heat Rate from Base at Commencement**
Heat Rate (Average BTU Heat Input per KwHr gross generation)	9924	10420	10916
SO2 (at 30 day average limit)	313.5 g/s	329.2 g/s	344.8 g/s
SO2 (at 24 hour average limit in draft permit, 0.45 lbs/MMBTU)	844.8 g/s	887.0 g/s	929.2 g/s

All of the other pollutants would display similar patterns of emissions increases under conditions of similar degradation of plant heat rate. Under the conditions of the draft permit, all such emission increases would be permitted because no federally enforceable conditions limit the time rate of mass emissions in any way, shape or form, for either short term emissions or annual emissions.

3.2 There are No Federally Enforceable Conditions in the Draft Permit that Limit Process Physical Conditions in Such a Manner that Ultimate Time Rate of Mass Emissions Will be Limited

There are no conditions contained in the permit that limit the maximum heat input rate on a daily or annual basis, there are no conditions limiting the maximum rate of coal burning and there are no conditions that limit the maximum rate of electricity production on a daily or annual basis.

The Applicant's submittals indicate that the plant contains two electric generation units that are "nominally 750 MW" each. There is no content contained anywhere in the application or supplemental materials which specifies in any way the maximum physical capacities of generators, turbines and boiler equipment. There is no information at all on the maximum rated physical capacities of the boilers in pounds of steam per hour, steam temperature, maximum turbine mechanical power output and maximum rated

manufacturers capacity of generators and/or turbo-generators. There is no information on the maximum physical rate of operation of coal mills, the maximum rate of combustion air addition, maximum capabilities of fuel feeding equipment and other relevant parameters. As such, there is no information contained anywhere in the application that could be relied upon as Applicant's certification as to any such maximum physical capacities.

And even if these information elements were present in the application, there is no condition in the permit which makes application-submitted information and conformance to such information an inherently enforceable condition of the permit. As such, any characterization of annual and short term average emissions in the application cannot be considered in any manner to be binding on the Applicant.

3.3 Because the Permit Contains No Federally Enforceable Limitations on the Time Rate of Mass Emissions and on Physical Conditions that Limit the Potential to Emit, Issuance of the Draft Permit Would Impermissibly Authorize the Applicant to Consume Additional PM, NOX and SO2 PSD Increments in the Future Without Permit Authorization and Air Quality Analysis

Congress authorized the Prevention of Significant Deterioration (PSD) permitting program as a means of ensuring that new and modified major stationary sources did not pollute the air all the way up to just under the National Ambient Air Quality Standard through in games of air pollution "brinksmanship." The PSD program was intended to prevent the "tragedy of the commons" in which multiple emitters would jeopardize health and other air quality values through growth in emissions. The intent was to ensure that growth in air pollution emissions would be well managed by air quality planning and control technology implementation.

The impermissible failure to incorporate federally enforceable limits on the time rate of mass emissions and physical conditions to limit the potential to emit ensures that the permit will be a "floor" and not a "ceiling" on the consumption of both short term and long term PSD increments for all pollutants requiring ambient air quality analysis. Under the terms of the proposed permit with its failure to limit in any way the time rate of mass emissions, the Applicant is free to consume additional sulfur dioxide, PM and nitrogen oxide increments over and above modeled increment consumption at the time of permitting. This cannot be a result that was ever intended by Congress in providing for state authorizations of PSD programs.

Allowing a source to consume additional PSD increments after the issuance of new major stationary source permit at the Applicant's own discretion means that the entire purpose of the PSD permitting program is undermined, as all such increment

consumption would take place impermissibly without public notice, source impact analysis, air quality evaluation and permitting, all required by 40 CFR Sec. 52.21, et seq. and 401 KAR 52:017.

3.4 The Draft Permit Should Include Multiple Forms of Emission Limitation for Each Pollutant

After the Applicant is called upon for more detailed information to submit with the application, the draft permit should be amended to provide three different forms of emission limitation for each regulated pollutant.

The permit already contains limits based on pounds of pollutant per million BTU and such limits are useful to ensure that levels of emission control performance are maintained when the plant is not operated at 100% capacity. **In addition, the draft permit should also incorporate BACT/MACT-based limits that are time rate of mass emissions and oxygen-corrected stack discharge gas concentration limits.**

Each such limit contained in the permit should have an averaging time appropriate to any ambient standard or toxic screening value to be protected as well as to any compliance testing methods to be employed. All such ambient protection values will be protected with time rate of mass emission limits for one hour averages and can also be verified by traditional stack testing protocols and testing condition durations.

The permit should be amended to require percentage reduction requirements of at least 90% for mercury, enforced through the requirement to measure the both uncontrolled and controlled mercury emission rate via a stack test.

Commentors challenge repeated comments by KDAQ, the Applicant, U.S. EPA and NPS that somehow 30 day average emission limitations (and even 24 hour average emissions limitations) protect visibility related air quality values at Mammoth Cave National Park. Applicant's proposed plant is about 70-80 km of air fetch from the Park. Lite winds would bring pollution plumes from the Thoroughbred Plant to the Park under the right wind conditions within hours. As a result no averaging time on an emission limitation longer than 1 hour should be use to assess and restrict the impact of emissions from the Thoroughbred Plant on air quality related values at the Park. In addition to visibility degradation from atmospheric transformation to sulfate and nitrate particulate matter, emission limitations at the Thoroughbred plant should ensure that brown NO2-related plume blight from the Thoroughbred Plant does not occur at the Park during times of Class E and F stability and times of exceptionally long visual range and clear sky conditions.

Finally, long averaging times should not be incorporated in the permit for airborne carcinogens and persistent and bioaccumulative toxicants.

4 Comments Relating to Emissions Data Inputs to Air Quality Modeling Activities

4.1 Applicant and Their Consultants, U.S. EPA Region IV, Kentucky Division for Air Quality and the National Park Service have Directly Derived Gram per Second Emissions Data for Input to Air Quality Models in a Manner that Violates National Air Quality Modeling Guidance

A Kentucky Division of Air Quality document responding to public comments and comments from EPA indicates that the Applicant submitted data to the Division on November 11, 2001 concerning "worst case operating scenarios"[7] that were used in the air quality modeling demonstration for both PSD increment consumption and compliance with National Ambient Air Quality Standards. On page 20, the document contains a table indicating that 100% load emissions are 93.78 grams/second for carbon monoxide, 84.4 grams per second for nitrogen oxides and 156.613 grams per second for sulfur dioxide. It is presumed that these rates are only for a single unit. These gram per second emission rates are calculated to be equivalent to corresponding rates for emissions per million BTU published as final or revised limits in Table 4.5-1, being 0.10 lbs per million BTU for carbon monoxide, 0.09 lb per million BTU for nitrogen oxides and 0.167 lb per million BTU for sulfur dioxide (assuming a single unit).

However, the terms of the pound per million BTU emission limitations contained in the draft permit are all for 30 day averaging periods. All of the Applicant's modelers and all of the government modelers all made the same assumption that an instantaneous or short term gram per second emission rate could be extrapolated from the 30 day averaging time pound per million BTU limits contained in the permit as drafted.

Rules at 40 CFR 51, Appendix W are the controlling authority in how such matters are to be handled (See 40 CFR Sec. 52.938). The regulatory language governing how modelers should handle such issues are indicated below with a paragraph after each indicating how the matter was handled by Applicant, KDAQ, EPA-IV and NPS:

> ".....If a source operates at greater than design capacity for periods that could result in violations of the standards or PSD increments, this load should be modeled."

---

[7] Undated public comment responsiveness document, Page 19-20, which commentors believe was actually drafted by the Applicant and/or their consultants.

There was no attempt at a detailed air quality modeling compliance demonstration in the publicly provided statement of basis or in subsequent activities at gram per second limits for clearly permissible emission rates over the alleged "worst case" rates for 3 hour and 24 hour averaging times for both PSD increment and NAAQS compliance.[8]

> ".....For a power plant, the following paragraphs b through h of this section describe the typical kind of data on source characteristics and operating conditions that may be needed....."

> "d. Boiler size. For all boilers, the associated megawatts, 10^6 BTU/hr, and pounds of steam per hour, and the design and/or actual fuel consumption rate for 100 percent load for coal (tons/hour)....."

Applicant has not provided, nor agreed to as federally enforceable physical conditions to limit the potential to emit, on any physical conditions that state the absolute maximum boiler megawatt capacities, heat input rates and actual fuel consumption rates.

> "e. Boiler parameters. For all boilers, the percent excess air used....."

Applicant has not provided any information on percent excess air or any information on capacities of induced draft fans. Applicant has not agreed to any federally enforceable physical conditions limiting the amount of combustion air or the rate of induced draft fan operation.

> "f. Operating conditions. For all boilers, the type, amount and pollutant contents of fuel....."

Applicant has not provided any assured maximum rate of sulfur in coal and has provided no detailed analysis of representative sampling of Kentucky Seam 8 and 9 sulfur, nitrogen, BTU content, ash content or toxicant contents. No limits exist in the draft permit addressing any of these factors.

> "g. .....mass emission rate..."[9]

Proposed permit for applicant contains absolutely no time rate of mass emission limitations that are federally enforceable conditions for PSD and BACT pollutants. Applicant's application submittal did not explicitly indicated any maximum short term mass per unit time emission rates for PSD and BACT pollutants. Applicant has provided

---

[8] Telephone conference with Stanley Krivo, EPA Region IV air quality modeler, August 22, 2002.

[9] 40 CFR Sec. 51, Appendix W, Section 9.1.2(a)

absolutely no information on stack gas concentrations of PSD and BACT pollutants, information on the percent moisture of discharged gases and the dry standard cubic meter stack gas flow rates.

> "PSD NAAQS compliance demonstrations should follow the emission input data shown in table 9-2"[10]

Table 9-2 of Appendix W indicates that for "Short term (***less than or equal to 24 hours***), the input emission data is calculated by taking the "Maximum allowable emission limit or federally enforceable permit limit" (emission per MMBTU) times the "Operating level" (MMBTU/hr) as the "Design capacity or federally enforceable permit condition" times the "Operating factor" as to continuous hours of operation. (Emphasis added).

In violation of the requirements for Table 9-2, Applicant, EPA-IV, KDAQ and NPS have based all comprehensive modeling studies for PSD increment consumption and NAAQS compliance for 3 hour and 24 hour averaging times on emission input data calculated from 30 day averaging time limits.

40 CFR Sec. 51, Appendix W goes on to state:

> "Emission limits should be based on concentration estimates for the averaging time that results in the most stringent control requirements....."[11]

..And, explicitly in regard to setting emission limits in NAAQS analyses for new or modified sources:

> "The most restrictive standard should be used in all cases to assess the threat of an air quality violation."[12]

Commentor's conclusions from review of 40 CFR Sec. 51, Appendix W authorities in regard to the conduct of air quality modeling demonstrations and from the facts known to date of how short term gram per second emission rates were calculated for the Thoroughbred plant and run in both ISCST3 and Calpuff models, by participants own submittals, is that:

> Applicant's submittals have failed to provide any assurances at all that mass per unit time emissions from the Thoroughbred plant will be limited.

---

[10] 40 CFR Sec. 51, Appendix W, Section 9.1.2(i)

[11] 40 CFR Sec. 51, Appendix W, Section 11.2.3.1(a)

[12] 40 CFR Sec. 51, Appendix W, Section 11.2.3.2(a)

Applicant is refusing to be bound by any federally enforceable conditions limiting the physical potential to emit.

Applicant's articulation of "worst case" short term emission rates are not at all credible because of their basis in 30 day averaging times.

No acceptable air quality modeling demonstration has been performed that will show compliance with PSD increments and NAAQS requirements because no modeling has taken place that uses the maximum 3 hour and 24 short term emission data inputs that can occur under future plant operating conditions.

Because there are no federally enforceable conditions that limit the physical potential to emit as a matter of mass per unit time emissions that are exclusively relevant to air quality modeling inputs, issuance of the proposed permit would impermissibly allow continued increment consumption over and above all such PSD increment consumption evaluated in any air quality modeling demonstration provided to date. Under the circumstances, all evaluations of visibility protection at Mammoth Cave National Park and any potential conclusions concerning protection of air quality related values and visibility at the Park must be rendered as doubtful or suspect as underestimates of ambient impacts and predicted future visibility degradation. Failure to protect air quality-related values is virtually guaranteed by reliance on air quality modeling studies done under such circumstances.

4.2 KDAQ's Simultaneous Implicit Reliance on the Applicant's Model Input Emissions Data and its Subsequent Decision to Return Such Data to the Applicant, and the Applicant's Claim that Such Emission Data is Entitled to Confidential Treatment All Constitute Serious Error and Renders the Application and Administrative Record Incomplete and Unapprovable

Attachment 1 is a letter written by S. Lyons of KDAQ to Attorney David McIntosh of the Natural Resources Defense Council which indicates that KDAQ took actions so as to ensure that emission data input files to the air quality modeling performed by the Applicant to support their application would no longer be available for public review by returning such records to the Applicant. KDAQ acted in response to a public request to receive and review the emission data records in question.

This action by KDAQ also denied Commentors the opportunity to review the same emissions data records because they are no longer retained by KDAQ and are, therefore, unavailable to anyone from the public. As outlined elsewhere in this comment, the emission data inputs to air quality modeling efforts have become an important issue in this permit proceeding. KDAQ's action denies all members of the public the opportunity

to verify that correct and appropriate emissions data information has been incorporated into air quality modeling efforts, not only for Thoroughbred's emissions but for other area sources that were modeled along with Thoroughbred to check for both PSD increment consumption and compliance with the National Ambient Air Quality Standards.

Mandatory disclosure of emissions data is required by both federal and state law. The Clean Air Act provides:

> "Any records, reports or information obtained under subsection (a) of this section shall be available to the public, except that upon a shoring satisfactory to the Administrator by any person that records, reports, or information, or particulate part thereof (**other than emission data**), to which the Administrator has access under this section if made public, would divulge methods or processes entitled to protection as trade secrets of such permits, the Administrator shall consider such record, report or information or particular portion thereof confidential in accordance with the purposes of section 1905 or title 18...."[13]

In addition, Federal authority further provides for disclosure of "emissions data" at 40 CFR Sec. 2.301, *et seq.*

Federal Court of Appeals rulings have long recognized the fundamental importance of public availability of emission data under the Federal Clean Air Act and the relation of this concept to the Act's provision on citizen enforcement:

> "The public information and disclosure requirements of section 1857c-5(a)(2)(F)(iii), (iv)[14] have an important function under the 1970 Amendments. The Amendments embraced the concept of "citizen enforcement" of anti-pollution laws. 42 U.S.C. §1857h-2 permits "any person" to bring a civil action in the federal district courts to enforce compliance with "any emission standard or limitation" promulgated under the Clean Air Act. The public information requirements play a crucial role in assuring effective citizen enforcement. They are designed to ensure that "citizen enforcers" will have access to any and all information they will need in prosecuting enforcement suits or in deciding whether to bring them....."
>
> "In holding as we do, we are not insensitive to private interests in protection confidential trade information. We view that interest, however, as subordinate to the public interest in full disclosure of emission data. This was the balance Congress itself struck in the 1970 Amendments. The Amendments provide for the

---

[13] 42 USC Sec. 7414(c)

[14] Codified later at 42 USC §7410(a)(2)(F)

> confidentiality of trade secrets contained in information supplied to federal officials, but expressly state that emission data is not entitled to trade secret protection. See 42 U.S.C. §1857c-9(c). The statute is not similarly explicit where information supplied to state officials is concerned, but there is no reason to strike the balance differently in that context." Natural Resources Defense Council, Inc., et al v. Environmental Protection Agency 489 F.2d 390 (1974) at 397, 398.

The importance of public disclosure of emission data was also recognized in the legislative history of the Clean Air Act:

> "Section 209 of the Committee bill is substantially similar to section 207 of existing law except the trade secrets protection language would be modified to place the burden of showing the need for confidentiality on the person filing the report with the Secretary.
>
> The Committee believes that requiring the person filing records and reports to prove the need for proprietary protection would avoid abuse of section 1905 of title 18 of the United States Code and facilitate the availability of information related to air pollution to the public. In addition, the Committee bill would exempt emission data from proprietary protection. The Committee believes public knowledge of emissions overrides the private interest in proprietary information.
>
> The purpose of 18 U.S. Code 1905 is to prevent the unauthorized disclosure by Federal employees of data obtained in connection with any authorized Federal activity which would, if divulged, reveal trade secrets or secret processes. It is not aimed at preventing the disclosure of such data by Federal agency officials as part of their duty to effectively control and prevent air pollution. Moreover, the Committee believes that it is not in the public interest for data relating to the quantity and quality of the emissions to be considered confidential. The public has a right to know who is polluting the atmosphere and in what amounts."[15]

The State of Kentucky operates its PSD and Title V permit program under the aegis of the Federal Clean Air Act. More specifically, Federal Regulations provide:

> "Data availability:
>
> a) The State must retain all detailed data and calculations used in the preparation of each plan or each plan revision, and make them available for public inspection and submit them to the Administrator at his request.

[15] Senate Committee Report No. 91-1196, at p. 38-39 (1970)

(b) The detailed data and calculations used in the preparation of plan revisions are not considered a part of the plan.

(c) Each plan must provide for public availability of emission data reported by source owners or operators or otherwise obtained by a State or local agency. Such emission data must be correlated with applicable emission limitations or other measures. As used in this paragraph, correlated means presented in such a manner as to show the relationship between measured or estimated amounts of emissions and the amounts of such emissions allowable under the applicable emission limitations or other measures."[16]

And specifically as to the federally enforceable Kentucky State Implementation Plan:

"General Requirements:

(a) The requirements of Sec. 51.116(c) of this chapter are not met since the legal authority to provide for public availability of emission data is inadequate."[17]

As to specific Kentucky authorities on the matter of "emissions data:"

"(6) "Emission data" means, with reference to any source of emission of any substance into the air:

(a) Information necessary to determine the identity, amount, frequency, concentration or other characteristics (to the extent related to air quality) of the emissions which have been emitted by the source (or of any pollutant resulting from any emission by the source), or any combination of the foregoing;

(b) Information necessary to determine the identity, amount, frequency, concentration or other characteristics (to the extent related to air quality) of the emissions which, under an applicable standard or limitation, the source was authorized to emit (including, to the extent necessary for such purposes, a description of the manner or rate of operation of the source);

(c) A general description of the location and/or nature of the source to the extent necessary to identify the source and to distinguish from other sources

[16] 40 CFR Sec. 51.116

[17] 40 CFR Sec. 52.925

(including, to the extent necessary for such purposes, a description of the device, installation or operation constituting the source); and

(d) Notwithstanding the foregoing, the following information shall be considered to be "emission data" only to the extent necessary to allow the cabinet to disclose publicly that a source is or is not in compliance with an applicable standard or limitation, or to allow the cabinet to demonstrate the feasibility, practicability or attainability or lack thereof of an existing or proposed standard or limitation:

1. Information concerning research, or the results of research on any project, method, device or installation (or any component thereof) which was produced, developed, installed, and used only for research purposes; and

2. Information concerning any product, method, device or installation (or any component thereof) designed and intended to be marketed or used commercially but not yet so marketed or used."[18]

And the following Kentucky regulatory requirements as to disclosure of emissions data:

"Section 2. Asserting Claims of Entitlement to Confidential Treatment. (1) An owner or operator submitting a record or other information to the cabinet may assert a claim that the record or other information, **not related to emission data or effluent data**, is entitled to confidential treatment as a trade secret or confidential business information."[19] (emphasis added)

"(3) The claim shall be limited to the record or other information, or portion thereof, for which a claim of entitlement to confidential treatment **may reasonably be asserted in good faith**, and **shall not be asserted for any record or other information relating to emission data or effluent data**."[20] (emphasis added)

"(2) The statement shall contain.....

[18] 400 KAR 1:060, Section 1(6)

[19] 400 KAR 1:060, Section 2(1)

[20] 400 KAR 1:060, Section 2(3)

c) Whether there has been a previous determination by a court, an Environmental Protection Agency legal office acting under **40 CFR Part 2, Subpart B**, or other governmental agency that the record or other information is, or is not, entitled to confidential treatment;"[21] (emphasis added)

After reviewing relevant federal and state authorities, Commentors assert that the following grievous errors have been committed and that Commentors have arrived at the following conclusions:

Once emissions data was submitted by applicant it became a mandatory public disclosure information element under federal and state law.

KDAQ reliance on the results of the Applicant's air quality modeling exercises requires that emissions data inputs to such modeling are inextricably intertwined as public records to consideration of and reliance upon the air quality modeling outputs. The mere fact that KDAQ "didn't access them" is not material to the fact that such emissions data input is part of the public record of the permit proceeding.

A KDAQ decision that emissions data inputs to air quality modeling exercises cannot be considered as confidential information followed by a decision to take such public records and return them to the Applicant in a manner that they would no longer be available to the public is not distinguishable from a *de facto* KDAQ decision to impermissibly hold emissions data records as confidential in violation of federal and state law.

The Applicant's effort to declare the emission data inputs to air quality modeling to be "copyrighted" and to be declared as "confidential" constitute bad faith claims under Kentucky regulation and obstructionist and malicious acts aimed at frustrating public participation and review of whether the proposed facility complies with all state and federal air pollution control requirements.

The KDAQ action to take public emission data records implicitly and explicitly relied upon to support permit issuance and impermissibly remove them from the public domain creates an incurable defect in any proceeding to approve the proposed Thoroughbred permit. KDAQ must not approve any such permit until and unless such public records are returned to the public domain by the Applicant and the public has another opportunity to comment on such emissions data and to verify that the proper emissions data for all modeled sources was incorporated into air quality modeling to support issuance of the Thoroughbred permit.

---

[21] 400 KAR 1:060, Section 3(2)(c)

5 Clean Air Act Title V Permitting-Related Comments

The proposed Title V permit doesn't appear to incorporate the requirement for Applicant to comply with 40 CFR Sec. 60, Subpart A, which is the preamble to federal New Source Performance Standards.

The permit is deficient because the language of the permit does explicitly identify which applicable requirement elements of the permit are federally enforceable and which elements are state-only enforceable.

The language of the permit is vague and indeterminate as to what emission limitations or applicable requirement will be compliance tested when conducting an on site compliance stack test. Such tests usually consist of a series of 3 periods of 1-3 hours each during which times emissions are measured by a known stack testing methodology. However, it is extremely unclear from the text of the permit just what applicable requirement is being compliance tested in this way since all emission limitations of the permit are written as 30 day or 24 hour averages. It is absolutely unclear on how traditional stack testing methodologies can verify compliance with a 30 day or 24 hour average. It is simply unacceptable for the only basis to enforce the permit to be solely confined to a continuous emission monitoring system detection of a violation.

Because of the size of the facility, the permit should be amended to include annual stack testing requirements for all criteria and non-criteria pollutants for which the permit contains an emission limitation.

The permit should be amended to include a provision requiring that the plant shall not operate unless all air pollution control equipment is installed and operating properly.

Permit provisions attempting to verify emissions rates of toxics and sulfuric acid by making correlations to fuel contents are unverifiable and do not provide compliance assurances that emission limitations are being met. There are too many other process and emission control variables in place entertain any validity to such correlations. These compliance monitoring requirements should be replaced with annual stack testing requirements.

6 Case by Case MACT

Commentors object to contentions by the Applicant that U.S. EPA and KDAQ do not have the authority to require that Case by Case MACT determinations done on steam electric utility plants address hazardous air pollutants other than mercury as being without a defensible legal basis under the Federal Clean Air Act.

Acknowledgment:

Commentors would like to recognize the assistance provided by Phyllis Fox, Ph.D. in providing research materials and information about NOX control achievements from around the United State and on PM BACT determinations for cooling towers.

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LN
FRANKFORT KY 40601-1403

August 8, 2002

Mr. David McIntosh
Natural Resources Defense Council
1200 New York Avenue, NW
Washington, DC 20005

Re: Draft PSD/Title V Permit-Thoroughbred Generating Station

Dear Mr. McIntosh:

Thank you for the inquiry in your letter of August 4, 2002, regarding the short-term SO_2 limit at the Thoroughbred Generating Station and the files for which Peabody requested confidentiality.

In response to the first question, the short-term (24 hour) SO_2 limit has, in fact, been resolved to the Division's satisfaction. A limit of .41 lb/mmBTU has been shown by Peabody's engineers to be protective of both the Class II NAAQS and the Class I increment, and results in visibility impacts which are acceptable to the Division.

The modeling inputs to which you refer were never used by the Division because the modeling results presented by Peabody matched the modeling results produced by the National Park Service when the same input parameters were used. While no letters determining the confidential status of these files were ever sent to Peabody, in accordance with 400 KAR 1:060 the input files were held as confidential material. On July 25, Peabody was informed that the material would not be considered to be confidential, and that it would be made available to the public fifteen (15) days after Peabody received written notification of that decision. As stated in their claim of confidentiality, Peabody considers the information to be proprietary, and asked if they could withdraw the disks since the Division had never accessed the disks and had no need of the information contained on them. Upon receipt of a written request from Peabody the disks were returned to them. Therefore, the copyrighted information on them is not available to the public from the Division.

I hope that this satisfactorily answers your questions. If you need further assistance please contact me at (502) 573-3382.

Sincerely,

J. S. Lyons

JSL/DON/cam