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EPA Docket Center, EPA West (Air Docket)  
Attention: Docket ID No. EPA-HQ-OAR-2010-0841  
U.S. Environmental Protection Agency  
EPA West Air Docket  
Mail Code: 6102T  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460

RE: Comments on the guidance titled, "PSD and Title V Permitting Guidance for Greenhouse Gases" found at: <http://www.epa.gov/regulations/guidance/byoffice-oar.html>, as noticed in the Federal Register, November 10, 2010, (75 FR 70254)

To Whom It May Concern:

The Cabinet is authorized by the Kentucky General Assembly under KRS 224 and by the U.S. Environmental Protection Agency (EPA) under 40 CFR 51.166 and 40 CFR Part 70, as the state air pollution control agency and reviewing authority responsible for carrying out the Prevention of Significant Deterioration of Air Quality (PSD) and Title V Operating Permit Programs in the Commonwealth of Kentucky. The Cabinet respectfully submits the following comments, pursuant to the requests from the United States Environmental Protection Agency (EPA) for public comment published in the *Federal Register* on November 10, 2010, for the above referenced document:

**Comment**

Due to the close relationship with the above referenced notice, the Cabinet has attached comments previously submitted on the "Tailoring Rule" as proposed in the *Federal Register* on September 28, 2009, (74 FR 49454) and on the state implementation (SIP) rule as proposed in the *Federal Register*, September 2, 2010 (75 FR 53892). The Cabinet reiterates the submitted comments and finds that these comments have yet to be adequately addressed.

**Comment**

The Cabinet continues to have substantial concerns with the regulatory approach EPA has provided in the Tailoring Rule, the GHG SIP Call, and this guidance document. Specifically, the Cabinet is most concerned with the unworkable premise that GHGs can be treated as a criteria pollutant under the Prevention of Significant Deterioration of Air Quality provisions of Clean

Air Act, Title I, Part C, without first being listed as a criteria pollutant by corresponding EPA action and regulation pursuant to 42 U.S.C. 7409. In the absence of being declared a criteria pollutant with the appropriate attainment area classifications made pursuant to 42 U.S.C. 7407, GHG gases must be treated like any other non-criteria regulated NSR pollutant, such as fluorides, sulfuric acid mist or hydrogen sulfide, total reduced sulfur, and certain contaminants from municipal solid waste plants. This includes, but is not limited to, requiring a Title V permit for GHG emissions only after a source is subject to PSD review (as provided in Step 1 of the Tailoring Rule). Steps 2 and 3 of the Tailoring Rule go beyond the authority that EPA has under the Clean Air Act.

**Comment**

Because the EPA has not followed the established procedure for merging GHG requirements into the Title V operating permit program, GHGs will continue to be considered “regulated NSR pollutants,” but will not become “regulated air pollutants” under Title V (see paragraph 3 on page 51 of the guidance document). The convoluted manner in which GHGs are rolled into Title V seriously impairs the regulatory framework of Title V programs. For example, an activity that is currently approved as an insignificant activity for all regulated air pollutants may at the same time result in significant GHG emissions. This causes the current authorization for use of “insignificant activities” under Title V programs to become problematic for GHGs. Since there is no “de minimus” threshold for GHG emissions and no guidance about how to track and analyze potential GHG emissions from sources, there is no means to ensure that contemporaneous netting is properly performed. The document does not provide concrete guidance concerning such issues, and without such clearly defined procedures, permitting authorities can expect difficult and chaotic implementation of the GHG rules.

**Comment**

The Cabinet finds that the guidance document, with respect to the need for a state agency to obtain and maintain emissions inventories of GHGs, is not consistent with traditional approaches to ensure compliance with potentially applicable requirements. The guidance seems to discourage the development of emission inventories to track both actual emissions and as a resource to determine past actual emissions when a source becomes subject to a threshold. On page 55 of the guidance document, an example is given of a source that is not self-reporting an exceedance of the PSD GHG threshold. The guidance states that “*the permitting authority may determine it necessary to verify that the project did not trigger BACT requirements for GHG emissions.*” The question is “how”? Without reliable emission inventory data, nor a requirement for sources to determine and report existing emissions, states are left without an enforcement tool that EPA has relied upon in many of their own enforcement cases. The guidance should emphasize that 40 CFR 70.5(c)(2) states that “Information required under paragraph (c) of this section must be sufficient to evaluate the subject source and its application and to determine all applicable requirements.” The guidance document should not contradict the plain language of the CFR.

It is important to note that GHG reporting requirements for sources established under EPA’s final rule for the mandatory reporting of GHGs (40 CFR Part 98: Mandatory Greenhouse Gas Reporting) are currently not included in the definition of applicable requirement in 40 CFR 70.2

and 71.2. Although the requirements contained in the GHG reporting rule currently are not considered applicable requirements under the title V regulations, the source is not relieved from the requirement to comply with the GHG reporting rule as a separate requirement.

### Comment

The preamble of the final Tailoring Rule indicates that coverage under Step 2 is based on the date a new source or modification "begins actual construction" even though such a provision is not included in the actual language of the final Tailoring Rule. However, the BACT guidance document repeatedly and exclusively refers to the beginning of Step 2 as the "permit issuance date." The disparity between these two interpretations is immense, in that projects that received minor source construction permits in 2009 or early 2010 are not potentially subject to the PSD permitting program solely because of their GHG emissions unless they begin actual construction by July 1, 2011. Step 2 should be based on the permit issuance date since 1) it reduces regulatory uncertainty, 2) it is simpler for permitting authorities to implement and to communicate to industry and the public, 3) the "begin actual construction" concept was not included in the proposed Tailoring Rule with the opportunity for comment, and 4) the usage of the "begin actual construction" concept would potentially subject projects to PSD that were permitted as minor sources prior to finalization of the Light Duty Vehicle GHG rule.

### Comment

On page 25, paragraph 2, the guidance document applies BACT to emissions that are not released from the source undergoing BACT review as follows:

*"EPA has historically interpreted the BACT requirement to be inapplicable to secondary emissions, which are defined to include emissions that may occur as a result of the construction or operation of a major stationary source but do not come from the source itself.<sup>59</sup> Thus, under this interpretation of EPA rules, a BACT analysis should not include (in Step 1 of the process) energy efficient options that may achieve reductions in a facility's demand for energy from the electric grid but that cannot be demonstrated to achieve reduction in emissions released from the stationary source (e.g., within the property boundary). Nevertheless, as discussed in more detail below, EPA recommends that permitting authorities consider in a portion of the BACT analysis (Step 4) how available strategies for reducing GHG emissions from a stationary source may affect secondary GHG emissions from offsite locations."*

This guidance is a concern because EPA's historical interpretation that BACT does not apply to secondary emissions is correct, and the new interpretation laid out in the guidance document, that BACT consider strategies to reduce emissions from offsite locations, is incorrect.

- 40 CFR 51.166(a)(18) defines secondary emissions as *"emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purposes of this section, secondary emissions must be specific, well defined, quantifiable, and impact the same general areas the stationary source modification which causes the secondary emissions. Secondary emissions include emissions from any*

*offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. Secondary emissions do not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel." [emphasis added]*

- Secondary emissions are subject to PSD, but are not subject to BACT. The guidance has confused secondary emissions with "...energy, environmental, and economic impacts and other costs..." The latter are not secondary emissions as defined above but rather are in reference to collateral impacts of the control technology under review. Secondary emissions are indeed a part of a PSD review, but secondary emissions are considered pursuant to 40 CFR 51.166(k), *Source impact analysis*, and not 40 CFR 51.166(j), *Control technology review*. The source impact analysis requires inclusion of secondary emissions when demonstrating that NAAQS or increment will not be exceeded.

Furthermore, BACT applies at the proposed source and does not require the application of BACT to reduce emissions at offsite locations, such as to reduce a source's electric utility's emissions.

- 40 CFR 51.166(a)(12) defines BACT in part as an "*emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each a regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant...*" [emphasis added]
- The regulation governing the application of BACT, 40 CFR 51.166(j)(2) *Control technology review*, also makes clear that BACT applies to a source's own emissions, as opposed to its electric utility's emissions, when it states "*A new major stationary source shall apply best available control technology for each regulated NSR pollutant that it would have the potential to emit in significant amounts.*" [emphasis added]

It would not be practical to determine that energy efficiency is BACT if the energy is saved by an entity other than the applicant, since cost-effectiveness cannot be determined. For example, in order to estimate greenhouse gas emissions from the source's use of the power grid, the applicant would need to know its utility's greenhouse emissions, which would vary between utilities depending upon generation types, transmission and distribution losses, etc. If these emissions are not quantified, there is no regulatory basis to determine that control measures to affect their reduction are cost-effective, and therefore no basis to require an applicant to make these expenditures. Step 4 of the top-down BACT analysis allows cost considerations in the selection of BACT for direct, source-specific emissions. It would be ironic to use Step 4 of the BACT analysis, which does not even apply to secondary emissions, to require investments to

reduce indirect, non-source specific emissions, but allow for no cost-effectiveness determinations.

If BACT is applicable to secondary greenhouse gas emissions, then it necessarily follows that secondary emissions would need to be considered for other pollutants as well. Considering secondary emissions in the BACT analysis would expand the scope of BACT analyses to an unmanageable degree, especially if the definitional requirement that secondary emissions be "specific, well-defined, and quantifiable" is revised or ignored. If consideration of non-source specific greenhouse gas emissions is required, consideration for non-source specific greenhouse gas emission offsets should be considered.

Finally, the BACT guidance for secondary emissions contradicts the federal PSD regulation. Therefore such an interpretation would require additional regulatory revision at both the federal and state level.

### Comment

On page 32-33, the guidance document states:

*"EPA instead recommends that the BACT analyses for units at a new facility concentrate on the efficiency of equipment that uses the largest amounts of energy, for such units and equipment (e.g., induced draft fans, electric water pumps) will have a **larger** impact on reducing the facility's emissions."* [emphasis added]

The Cabinet requests that the EPA clarify or provide further guidance on the amount of energy consumption that would be considered "largest". Is this in terms of a percentage of a facility's total energy consumption? What are the thresholds and cutoffs for equipment that EPA would recommend for further review: 10, 20, 30, 40, or 50 percent?

### Comment

In the middle of the first full paragraph on page 33, the guidance document states:

*"Still, in some cases, the **ultimate efficiency** of the unit may not be accurately known without testing the installed equipment, especially if multiple vendors or multiple design engineers are involved."* [emphasis added]

The Cabinet requests that EPA clarify the term "ultimate efficiency". Just prior to this statement, in the same paragraph on page 33, the guidance document discusses energy efficiency:

*"While engineering calculations and results from similar equipment demonstrations can often enable the permit applicant or engineer to closely estimate the **energy efficiency** of a unit, we recognize that, in some cases, it may be more difficult to fully and accurately predict the energy efficiency of a unit for BACT purposes."*

And, also on page 32:

*“However, the second category of options appropriate for consideration at a new greenfield facility may include equipment or processes that have the effect of lowering emissions because their efficient use of energy means that the facility’s energy-producing emitting unit can produce less energy.”*

However, the example that is provided later on page 33 is vague and confusing, stating *“Of course, this is substantially similar to many current permitting situations, such as when combustion enhancements are installed for controlling emissions of criteria pollutants and the exact effect on efficiency is somewhat uncertain until it is operationally tested.”*

In order to avoid misinterpretation or use of this guidance out of context, the Cabinet requests that EPA distinguish whether use of the term “ultimate efficiency” in this document refers to energy efficiency or pollutant control efficiency. Further, the Cabinet requests that EPA specifically refer to energy efficiency or pollutant control efficiency rather than using the general term “efficiency” or terms such as “ultimate efficiency” that have no regulatory definition.

#### **Comment**

If a BACT control generates CO<sub>2</sub>e emissions while controlling a PSD pollutant, would that make the control device subject to PSD for CO<sub>2</sub>e. For example, flares, which create CO<sub>2</sub>e emissions while being an established BACT control for other pollutants. Also, some flares use methane purges.

#### **Comment**

Current studies have shown that flare combustion inefficiency can be largely attributed to methane slip, which is the fuel that escapes a flare’s flame without reacting at all (e.g. Gogolek, P.E.G, Performance of Flare Flames in a Crosswind with Nitrogen Dilution, *Journal of Canadian Petroleum Technology*, August 2004, Volume 43, No. 8, Paper 2002-161). Flare pollutant destruction efficiency (also referred to as control efficiency) has considered the destruction efficiency of a flare for regulated air pollutants; however, methane was not considered since it is not a regulated air pollutant. Since methane is now a pollutant that is “subject to regulation” and thus subject to PSD review, uncertainties are raised concerning compliance demonstration and quantifying emissions for sources that operate flares fueled by methane and/or utilizing a methane purge. This will likely have an effect on the BACT determination process for new facilities where a flare is a possible control option. The Cabinet requests that EPA specifically address how new and existing sources utilizing flares (or evaluating the possible use) account for or quantify methane emissions (including methane slip) from flares and how to demonstrate compliance with emission limitations for methane from flares. The guidance document is silent on this issue.

#### **Comment**

The flowchart in Appendix D of the guidance document is entitled, *GHG Applicability Flowchart – Existing Sources (on or after July, 1, 2011)*. However, Table II-B on page 15 of the guidance document, which contains the same information, is entitled *Summary of PSD Applicability Criteria for Modified Sources of GHGs*. It would be clearer if the table and the flowchart titles were consistent and used the same word: either “modified” or “existing”. While

it is understood that a source would have to be existing in order to be modified, the applicability is based on the fact that the plant was **modified** not because it was **existing**.

### Comment

Language on page 46 indicates that the permitting authority is responsible for "defining the form of the BACT Limits." The absence of clear federal guidance for BACT leaves major issues up to state permitting agencies. This has the potential of encouraging the regulated community to propose, and for states to approve, many experimental BACT determinations, resulting in many legal challenges to these questionable determinations.

Equally concerning relative to potential litigation, the guidance document states that "If an applicant is unable to provide to the permitting authority's satisfaction an adequate demonstration for one or more control alternatives, the permitting authority should proceed to establish BACT and prepare a draft permit based on the most effective control option for which an adequate justification for rejection was not provided." The document should emphasize that in the absence of adequate justification for a control device the agency cannot issue a permit.

### Comment

At the top of page 47, the guidance document states that ". . . metrics should focus on longer-term averages (e.g. 30- or 365- day rolling average) rather than short-term averages (e.g. 3- or 24-hr rolling average)." EPA should provide states with the tools necessary to determine and convert emission limitations with different averaging periods. The Cabinet is presented with the following questions related to the averaging period:

- How do states and regulated sources monitor for long-term averages?
- Longer term averages will often be contradictory to state air toxics regulations and thus trigger significant risk, since toxicity is related to short-term averages and compliance with short term averages is always more stringent. How is this dichotomy addressed?
- If the only established numbers are in lb/hr, how do states statistically convert the available data to long term averages?
- How do state permitting agencies do calculations for weighted averages without more data?

### Comment

Concerning the requirements for devices that are not subject to BACT, the first full paragraph on page 47 states:

*"In addition to a permit containing specific numerical emissions limits established in a BACT analysis, a permit can also include conditions requiring the use of a work practice such as an Environmental Management System (EMS) focused on energy efficiency as part of that BACT analysis. The ENERGY STAR program provides useful guidance on the elements of an energy management program. The inclusion of such a requirement would be appropriate where it is technically impractical to measure emissions and/or energy use from all of the equipment and processes of the plant and apply an output-based standard to each of them. For example, a candidate might be a factory with many different pieces of equipment and processes that*

*use energy. In addition to a BACT emissions limit on the boiler providing energy, the permit could also lay out a requirement to implement an EMS along with a requirement that all suggested actions that result in net savings have to be implemented. Consequently, the plant will operate in the most efficient manner through gradual achievable improvements. However, design, equipment, or work practice standards may not be used in lieu of a numerical emissions limitation(s) unless there is a demonstration in the record that the criteria for applying such a standard are satisfied.<sup>113</sup>"*

It should be clarified that the above requirement only applies to emissions units subject to BACT whose emissions are difficult to measure. The last sentence is based upon the definition of BACT that allows work practice standards in the event "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, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology." [40 CFR 51.166(b)(12)] However, the comment that "*Consequently, the plant will operate in the most efficient manner through gradual achievable improvements.*" appears to contemplate applying BACT requirements to existing equipment that are not subject to BACT, which is not permissible under existing federal and state PSD regulations.

#### **Comment**

On page 33-34 of the guidance document, EPA states the following:

*For purposes of a BACT analysis for GHGs, EPA classifies CCS as an add-on pollution control technology that is "available" for large CO<sub>2</sub>-emitting facilities including fossil-fuel fired power plants and industrial facilities with high-purity CO<sub>2</sub> streams (e.g., hydrogen production, ammonia production, natural gas processing, ethanol production, ethylene oxide production, cement production, and iron and steel manufacturing). For these types of facilities, CCS should be listed in Step 1 of a top-down BACT analysis for GHGs.*

Through independent research and a review of the Department of Energy's website, the Cabinet finds that CCS is not an available add-on control technology. By alluding otherwise, the guidance document is misleading and creates unnecessary work for the applicant and the permitting authorities.

In summary, the Cabinet encourages EPA to give serious consideration to the issues raised by the Commonwealth and other states concerning the deleterious effects implementation of the BACT guidance document, the GHG SIP Call, and the Tailoring Rule will have on state permitting programs and the regulated community. We reiterate our recommendation that EPA delay this action until after the proper legal groundwork has been established for regulating GHGs as a criteria pollutant, as a "regulated NSR pollutant" pursuant to 40 CFR 51.166, and as a "regulated air pollutant" pursuant to 40 CFR 70.2. The Cabinet looks forward to continuing to work with EPA in developing a comprehensive and effective climate change policy that will achieve environmental goals without imposing unmanageable or unnecessary burdens on EPA, state and local permitting agencies, and our struggling economy. Thank you for the opportunity



to provide comments and recommendations on this proposal. If you have questions or require further information, please contact me at (502) 564-3999 or email: [john.lyons@ky.gov](mailto:john.lyons@ky.gov).

Sincerely,



John S. Lyons  
Director

JSL/me

- c. Dick Schutt, U.S. EPA, Region 4, Air Planning Branch Chief
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