

November 21, 2007

Mr. Robert Schnapp
Energy Information Administration
Electric Power Division, EI-53
Forrestal Building
U.S. Department of Energy
Washington, DC 20585

Re: Proposed Methodology for Calculating Useful Thermal Outputs

Dear Mr. Schnapp:

Thank you for extending an invitation to the Northeast States for Coordinated Air Use Management (NESCAUM) to comment on the U.S. Department of Energy, Energy Information Administration's (EIA's) November 9, 2007 proposal for estimating useful thermal outputs. As articulated in NESCAUM's comments to EIA on May 30, 2007, useful thermal output data are critical to air pollution regulators for a number of reasons. These include: (1) ensuring that sources continue to comply with federal New Source Performance Standards (NSPS); (2) developing output-based standards for cap-and-trade allocations at the state, regional, and national levels; and (3) developing clean energy programs that encourage the installation of energy efficiency and renewable energy technologies such as renewable portfolio standards and combined heat and power (CHP). We are therefore keenly interested in ensuring that any changes to EIA's protocol regarding useful thermal outputs are made in a manner that enhances, and not detracts, from the overall quality and integrity of the data.

It is difficult to put together detailed comments on such a complex technical issue within the requested two weeks time, especially as the EIA staff person who was instrumental in developing the proposed methodologies has not been in the office during this time and has been unavailable to answer questions. We therefore outline our major concerns below and request a follow-up briefing and Q&A session with you and our states in early to mid-December.

A One-Size-Fits-All Approach is not Appropriate

We disagree with the one-size-fits-all approach that is reflected in each of the three proposed methodologies. It is important to vary the method by type of combustion technology (e.g., boiler, turbine) as well as and by type of fuel combusted (e.g., natural gas, oil, wood, bituminous coal, Powder River Basin coal). For example, an equation designed for a boiler will not necessarily translate for turbine operations or reciprocating engines. In addition, all three methodologies assume operations under fairly steady loads/demand. State data indicate that many CHP boilers operate at varying loads depending on steam or electricity demand, and none of the suggested methodologies can capture this dynamic.

Using Historic Estimated Data is not Appropriate

We are concerned about EIA's proposed reliance on historic estimated data for calculating useful thermal output. These data have significant flaws. Furthermore, there appear to be no provisions for EIA to use current or updated data or to quality assure its results. Such practices can severely compromise the proposed methodologies and the integrity of the resultant data outputs. For example, if a plant were to change its operating procedures or switch to an alternate fuel, there would be no way to account for and reflect those changes, and the plant's estimated useful thermal output would appear unchanged, notwithstanding the fact that it had.

The Three Proposed Methods Have Significant Flaws

Method 1, which attempts to calculate a plant's efficiency, is flawed due to its reliance on historic data and especially given the one-size-fits-all approach. Plants are set up for different purposes. Requiring an upfront calculation of plant efficiency based on the assumed standard of 3412 Btu per kilowatt hour and average total plant efficiency factors is misguided, and brings the calculation one step away from the actual data that can be collected. It would be more appropriate at a minimum to require plant-specific parameters such as the actual average plant efficiency and to use a conversion factor for the specific fuels being combusted.

Method 2, which uses an Effective Electric Power Efficiency Factor (EEFF), is based on historic data, and assumes a boiler efficiency of 80 percent. This is a gross assumption, especially given the variety of fuels being combusted. Of the proposed methods, method 2 might show some promise if EIA could develop and use technology-specific defaults that better represent the expected efficiencies of different technology types, sizes, and fuel usages.

Method 3's reliance on historic data and an assumed power steam ratio is also problematic. This method also assumes 80 percent boiler efficiency, which is a concern. Making generalized assumptions about how a plant distinguishes fuel for electric power versus useful thermal outputs is unclear. We need to know the specifics on how the calculations were derived, and the basis on which the assumptions used in these calculations were made.

All three methods could be improved if there were clear provisions for gathering and using parameters that account for specific technology and fuel types, as well as accounting for the size of the system. EIA should be encouraging and supporting methods that realistically reflect the operations of various plant, boiler, and fuel types. In addition, all of the methods must be quality assured with updated, current data.

The Data Needed to More Accurately Calculate Useful Thermal Output are Available

The data needed to report or directly calculate useful thermal outputs are routinely collected by CHP facilities for other purposes. For example, the Council of Industrial Boiler Owners' (CIBO)

publication “CIBO Energy Efficiency Handbook”¹ and Babcock and Wilcox Company’s book, “Steam: Its Generation and Use” both contain useful tables, forms, and calculations. There are also other efficiency handbooks, forms, and tables that could prove helpful. We urge EIA to explore the breadth of resources that are available, as well as the data that are collected by facility operators, and integrate them into its methodology.

Respondent Training is Appropriate and Needed

We understand that EIA has experienced problems in gathering useful thermal output data in the past. We believe that the data are available for the gathering, and that a robust database can be developed. Ideally, EIA should be able to directly collect useful thermal output data. This could be accomplished by making instructions clear enough and providing appropriate training so that there is a reasonable expectation for gathering accurate data. This would be a better alternative than relying on estimated historic data and assumptions about plant efficiencies in order to merely estimate useful thermal outputs.

We Would Like to Review Background Data and Calculations

In order to assess EIA’s proposed methodology, we would need to review the tables, the data, and calculations that EIA used for the methodologies and referenced in EIA’s November 9th briefing presentation. We request copies of these background materials. We urge EIA to work closely with our states to ensure that we understand the data inputs and equations, and to ensure that a robust and transparent methodology is developed.

Changes may be Needed to EIA Forms after the Methodology is Developed

We are concerned that EIA has essentially finalized its new data collection forms prior to developing and finalizing its useful thermal output methodology. It may be that additional data elements will be needed to ensure an adequate methodology. We are concerned that, at this point in time, it may be difficult to modify the forms to ensure the collection of needed data elements. In addition, since EIA presumably has some “good” historic useful thermal output data from Form EIA-767, which includes CHP utility plants, the proposed Form EIA-923 should include data from utility plants as CHP respondents to the appropriate survey items.

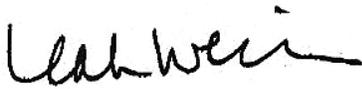
Ensure Public Scrutiny of Methodology

Given the importance of useful thermal output data for regulatory purposes, we urge that EIA allow adequate time for the proposed methodologies to be reviewed by states and other end users. We further recommend that EIA subject the draft methodologies to more formal public review and comment prior to their being finalized.

¹ See <http://www.cibo.org>

We look forward to reviewing the background data that we have requested and discussing it and our comments in greater detail with you and your staff. Please let me know when you are able to meet.

Sincerely,

A handwritten signature in black ink, appearing to read "Leah Weiss". The signature is fluid and cursive, with a small mark above the "i" in "Weiss".

Leah Weiss
Senior Policy Advisor

Cc: Arthur Marin, NESCAUM
NESCAUM Directors
Brian McLean, EPA