

US EPA ARCHIVE DOCUMENT

**Wilson, Aimee**

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**From:** Eric Quiat <equiat@zephyrenv.com>  
**Sent:** Wednesday, June 04, 2014 1:25 PM  
**To:** Wilson, Aimee  
**Cc:** Karen Olson; Tammy Lasater  
**Subject:** RE: Formosa Turbine calculation  
**Attachments:** image001.gif

Aimee,

In our permit application we had indicated that a value of 0.568 ton CO<sub>2</sub>e/MWhr (gross) was the equivalent value associated with the BACT heat rate limit (Btu/kWh) that we proposed. The ton CO<sub>2</sub>e/MWh value was calculated as follows from the information in the original permit application:

Ton CO<sub>2</sub>e/MWh = [GHG annual emission rate (ton CO<sub>2</sub>e/yr) / (8760 hours/yr operation)] / total energy output from the combined cycle unit (MW)

$$\begin{aligned} &= [525,051 \text{ (ton CO}_2\text{e/yr) / 8760 (hr/yr) ] / 105.5 \text{ MW} \\ &= 0.568 \text{ ton CO}_2\text{e/MWh} \\ &= 1,136.2 \text{ lb CO}_2\text{e/MWh} \end{aligned}$$

Using the combined cycle GHG emission rate in the final version of the draft permit (572,466 tpy CO<sub>2</sub>e), this value is calculated as 1,238.9 tpy CO<sub>2</sub>e/MWh.

Regards,

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From: Wilson, Aimee [Wilson.Aimee@epa.gov]  
Sent: Wednesday, June 04, 2014 7:29 AM  
To: Eric Quiat  
Subject: Formosa Turbine calculation

Eric,

Can you provide the calculation you had used for determining the lb CO<sub>2</sub>/MWh for the turbines? We are not establishing that as BACT, but still using the value to show that although Formosa's heat rate is higher, that their output based emissions are lower than Air Liquide.

Thanks,  
Aimee