

US EPA ARCHIVE DOCUMENT

Fryer, Tim

From: Fuerst, Sherry
Sent: Friday, September 12, 2014 3:56 PM
To: Fryer, Tim
Subject: FW: LCH Heat Rate
Attachments: Heat Rate- with Degradation.xlsx; Siemens Performance.xlsx

Please add the body of this email to the public web for Lon C. Hill. The attachments I sent in an earlier message.
Thanks,
Sherry

From: Mona Johnson [mailto:mjohnson@camesparc.com]
Sent: Tuesday, March 25, 2014 1:49 PM
To: Fuerst, Sherry
Cc: Gary Clark
Subject: LCH Heat Rate

Sherry-

To answer your earlier question about Heat Rate, I have pulled the performance data for the Siemens units (attached) from the PSD application that was submitted to TCEQ and EPA. The GE unit will also meet this performance level. The performance data includes a number of possible operating scenarios and ambient conditions. We looked at the multiple scenarios to ensure that requested emission rate limits could be met regardless of the operating scenario. Separately, we also provided you with a heat rate of 7,730 Btu/KWh (HHV) for consideration for the GHG permit.

The heat rate of 7,730 Btu/kWh (HHV, 2x1 configuration, unfired, adjusted base load nominal output heat rate) used a design heat rate that was considered representative of overall annual conditions with the following margins added:

- 3.3% added for variations between as built and design conditions, including periods of operation at part load conditions,
- 6.0% for efficiency loss due to equipment degradation, and
- 3.0% for variations in operation of ancillary plant facilities.

The calculation workbook showing the inclusion of the degradation amounts is also attached. A design heat rate of approximate 6880 Btu/KWh (HHV) corresponds to approximately 7730 Btu/KWh (HHV) when degradation is considered. These numbers assume adjusted base load nominal output heat rate.

I hope this helps. Feel free to call me if you have any questions.

-Mona

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