

US EPA ARCHIVE DOCUMENT

Todd, Robert

From: Todd, Robert
Sent: Tuesday, January 21, 2014 2:51 PM
To: 'Bergmann, Edwin'
Subject: RE: GHG Permit - Enterprise Products Mont Belvieu Propane Dehydrogenation Unit

Ed thanks for the info.

I'm going through it now to make sure I understand the calc and assumptions.

A question did you use a value of 12.011 AW for Carbon?

Also, did you know the CO_{2e} values for CH₄ and N₂O were revised last November?

CH₄ now has a carbon equivalent value of 25 and N₂O has a carbon equivalent of 298.

I haven't read the FR to see if old applications were "grandfathered" for the old CH₄ value of 21.

In any case I need to be sure efficiencies of 118.5 lb CO₂/mmBTU for a gas turbine will fly since we've already set a standard of 117 lb CO₂/mmBTU for a turbine firing NG on a similar source.

I'll call you tomorrow afternoon.

Thanks, Robert

From: Bergmann, Edwin [mailto:EJBERGMANN@eprod.com]
Sent: Monday, January 20, 2014 7:30 PM
To: Todd, Robert
Cc: Sartor, Rodney; Steve Langevin
Subject: RE: GHG Permit - Enterprise Products Mont Belvieu Propane Dehydrogenation Unit

January 20, 2014

Mr. Robert Todd
Environmental Protection Agency

Robert:

Please find attached a spreadsheet showing the how the value 125 lb CO₂/MMBtu of fuel was derived for CO₂/CO_{2e} as represented in the GHG application. This Btu value reflects the use of a combination of methane (118 lb CO₂/MMBtu), Ethane (131 lb CO₂/MMBtu), Deethanizer Offgas (131 lb CO₂/MMBtu) and PSA Tail Gas 96 lb CO₂/MMBtu) in the combustion units at PDH. These BTU values are based on the compositions included in the attached Table A-1.

Natural Gas is used in the Regeneration Air Compressor Turbines, as these turbines are design to be fired on natural gas and not waste gas or ethane. PSA Tail Gas and Deethanizer Off gas are byproducts of the propylene manufacturing, and are utilized as fuel rather than the undesirable alternative of flaring this material. In addition ethane is available as a fuel from fractionation processes in the Mont Belvieu area due to the over-abundance of this hydrocarbon from natural gas production facilities. Thus, the flexibility in design of this to use various fuels, allows the plant to better utilize locally available fuels with minimal environmental impact.

If you have any questions, please feel free call me at any of the numbers below.

Ed Bergmann
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