From: "Yanochko, David M." <dmyanochko@ftch.com>
To: "Melissa Byrnes" <byrnesm@michigan.gov>
Date: 8/7/2008 5:15:52 PM
Subject: FW: Ancillary Equipment Emission Rates

Melissa - During our meeting on Tuesday morning you asked questions regarding several emission rates used in the air dispersion modeling analysis versus those shown as emission limits in the draft permit. The questions related to EUEMGGEN, EUFIREPUMP and EUBLACKSTART. Below are our responses to those questions. The differences between the permit limits and modeled emission rates are all related to the averaging time of the standard we were modeling against and the fact that these EU's are all limited operation units. Regarding EUEMGGEN and EUFIREPUMP we had previously agreed to utilize the EPA NSPS language limiting hours of operation for maintenance checks and testing to 100 hours per year, but not limit emergency operation. However, in our modeling against annual standards we attempted to address the issue of emergency operation by modeling these EUs at 500 hours of operation per year. EUBLACKSTART will operate in situations other than emergencies and as a result is limited to a straight 500 hours per year of operation.

Please let me know if you have any additional questions regarding this issue.

Dave Yanochko
FTC&H

> _____
> From: Kuieck, Susan
> Sent: Thursday, August 07, 2008 2:29 PM
> To: Yanochko, David M.
> Cc: Linck, Jacquelyn
> Subject: Ancillary Equipment Emission Rates
>
> Hi Dave
>
> I took a look into the emission factors and modeled emission rates you
> called about. Following is what I believe occurred for each of your
> questions:
>
> 1. Emergency Generator max NOx emissions are 5.8 g/HP-hr according to
> the BACT analysis. This equates to a maximum hourly emission rate of
> 51.3 lbs/hr. Because the SIL/NAAQS/Increment levels for NOx are all
> based on an annual average and because we've assumed a maximum of 500
> operating hours per year to account for both necessary testing and
> emergency operation, the model was run for the annual average emission
> rate of 2.93 lbs/hr.
>
> 2. Fire Pump max NOx emissions are 3.0 g/HP-hr according to the BACT
> analysis/NSPS. This equates to a maximum hourly emission rate of 2.78
> lbs/hr. Because the SIL/NAAQS/Increment levels for NOx are all based
> on an annual average and because we've assumed a maximum of 500
> operating hours per year to account for both necessary testing and
> emergency operation, the model was run for the annual average emission
> rate of 0.159 lbs/hr. The particulate emission rate used for the fire

> pump was 0.15 g/HP-hr which equates to a maximum emission rate 0.139
> lbs/hr. This max emission rate was used for the daily limits for
> PM10. For the annual PM10 limits, the annual average emission rate
> based on 500 hours of operation of 0.03 lbs/hr was used.
>
> 3. The Black Start Generator SO2 emission rate used in the short term
> modeling was 0.0512 lb/mmBtu which was provided by the vendor. This
> equates to a maximum short term emission rate of 27.63 lbs/hr which
> was used in the short term SO2 modeling. For the annual SO2 modeling,
> the annual average emission rate based on 500 hours of operation of
> 1.58 lbs/hr was used. The 4.93 lbs/hr you mentioned was the modeled
> annual average emission rate for NOx from the Black Start Generator.
>
> Give me a call if you have any questions or require any additional
> information.
>
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