GSA National Capital Region

May 16, 2022

Mr. Joseph Jakuta,
Branch Chief
Air Quality Planning Branch
Air Quality Division
Environmental Services Administration
Department of Energy & Environment (DOEE)
Government of the District of Columbia
1200 First Street NE, 5th Floor

Dear Mr. Jakuta,

In a question-response format, the GSA Heating Operation and Transmissions District (HOTD) is please to provide the following clarifications to questions received via email dated May 2, 2022.

- In the technical feasibility analysis, GSA made statements about the exhaust temperature of boilers 1, 2, and 6 being below 300°F and the exhaust temperature for boilers 3 and 4 being below 400°F. How was this determined, and how far downstream from the combustion chamber did you measure the temperature?

GSA HOTD's Response:
The actual temperature is a little above 300 deg in most cases. The temperatures are based on temperature data that is part of the operating system. I have attached a screenshot from the Boiler No. 6 operation computer to confirm the flue gas temperature of 315 deg at the exit from the stack. When the Boilers 1, 2, 3, and 4 come online, I can provide you screenshots as well, if necessary.

- GSA relied on an interest rate of 5.5% for use in the cost of capital calculations, what was your basis for choosing this interest rate?

GSA HOTD's Response:
Table A.1 in Appendix A of EPA's Cost Control Manual provides interest rates over the last 25 years. We utilized the lowest value in this table to be conservative and reflect the current relatively low interest rates.

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- Can the operating costs for LNB + FGR be described in more detail? How will operating the units with LNB + FGR installed be more expensive than operating them without these technologies? Also why did you not use more recent cost numbers?

GSA HOTD' Response:
The operation of these burners is expected to require more skilled labor due to increased operating controls over the older burners. Annual tuning of LNB+FGR burners is also more complicated. We were unable to find more recent cost estimates and therefore used the 1993 EPA document which was adjusted for inflation. These estimates will be evaluated further as part of an on-going technical evaluation studies of the boilers.

- Do you have a cost breakdown available for the upfront capital costs?

GSA HOTD's Response:
The number used for the cost analysis was a ballpark figure and was the best information GSA could obtain on the short notice to meet the March 1st deadline. GSA has recently approved a technical study to develop more accurate costs for burner replacements on the boilers. This data is expected to be available in July/August. GSA can provide further information at that time.

- Why did you use the 2020 heat input as the basis for determining operations? Did COVID affect the load in 2020 significantly?

GSA HOTD's Response:
2020 was used as the most recent calendar year of available data at the time the calculations were being prepared. Emissions from the boilers combined is relatively consistent year to year. However, emissions per boiler tend to significantly vary year to year based on plant operations. As such, use of one year was deemed appropriate to see the range of cost effectiveness of a representative operating year rather than averaging out this variability.
COVID did not significantly impact 2020 loads of the plant. 2020 emissions are only slightly below those of 2019 and this is due to use of less fuel oil in 2020 in addition to a slight decrease in plant load. Fuel oil usage has decreased significantly at the plant with no oil burning in the boilers in 2021. As such, the 2020 emissions are considered more representative of typical operations.

- Why were the emission reductions based on the presumptive RACT limit rather than the control effectiveness of the analyzed technology?

GSA HOTD's Response:
Emissions reductions for a burner replacement were based on the presumptive RACT limits as the RACT regulation states that these limits are based on LNB usage, and the burners would be designed to meet these limits.

Emissions reductions for SCR and SNCR are based on control effectiveness.

- What type of operating hour or fuel usage limits would GSA be open to accepting for Boilers 4 and 6 since they are proposing to use them less to avoid cost effectiveness of controls?

GSA HOTD's Response:
GSA is not open to accepting limits on operation of Boilers 4 and 6 currently. These boilers are needed to meet plant redundancy to ensure load requirements can be met. GSA expects that the boilers with newer burners would be utilized more in the future as they would be more reliable and potentially more efficient and can work with operations personnel to favor the use of the modified boilers. However, the other boilers could be needed at any time to meet load requirements. It is also worth noting that Boilers 4 and 6 already have reduced operation due to NOx SIP Call requirements that result in Boiler 4 not operating during ozone season and permit requirements on Boiler 6 that limit operation to 11 months of the year.

Thank you very much for the opportunity to provide these clarifications. If you have any questions or require further clarifications, please contact me at 202-6909719 or by email.

Sincerely,

GEORGE KORVAH Digitally signed by GEORGE KORVAH Date: 2022.05.16 12:02:48 -04'00'

George Korvah
Manager
Environmental & Water Chemistry Branch
GSA HOTD