GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

COMMENT RECONCILIATION MEMORANDUM

TO: File

THROUGH: Stephen S. Ours, P.E. SSO
Chief, Permitting Branch

FROM: John C. Nwoke SSO FOR JCN
Environmental Engineer

SUBJECT: Response to Comments on Prenotification Draft Permits No. 7263 through 7268 for MedStar Washington Hospital Center (WHC)

DATE: August 22, 2020

BACKGROUND

On July 8, 2019, the Air Quality Division (AQD) of the Department of Energy and Environment (DOEE) received applications for the construction and operation of six dual fuel-fired (natural gas as primary and No. 2 fuel oil as back-up fuel) boilers. The construction consists of the installation of new low oxides of nitrogen (NO_x) burners for all six existing boilers that are currently operating under Title V Operating Permit No. 014-R1. The construction project also includes the installation of flue-gas recirculation technology on the six boilers.

The applications proposed installing burners in the boilers such that each boiler would be rated at 60.00 MMBTU/hour of heat input. Boilers 1-4 are located in the lower plant of the MedStar Washington Hospital Center (WHC) building, 110 Irving Street NW, Washington DC, while Boilers 5 and 6 are located at the upper plant. The originally-proposed burners would have had a slightly higher capacity than the old burners they are replacing. Boilers 1-4 were previously rated at 56.8 MMBTU/hr each and Boilers 5 and 6 were previously rated at 57.3 MMBTU/hr.

The project was undertaken because the existing boilers failed the required stack tests contained in Title V permit No. 014-R1. In order to return to compliance, the facility decided to replace the existing boilers' burners with new low NO_x burners and install flue gas recirculation (FGR). The new burners will have different emission limits from those previously established in the Title V permit.

Based on these applications, draft permits were published in the D.C. Register on March 20, 2020 with comments solicited through April 20, 2020. During the public comment period, WHC submitted comments revising the boiler burner information and configuration and providing justification for those revisions. Specifically Boilers 1-4 are now proposed to have two 26 MMBtu/hr burners per boiler for a total of 52 MMBtu/hr per boiler, while Boilers 5 and 6 would now each be rated at 54 MMBtu/hr. WHC also requested changes to certain emission limits found in the draft permit.

These comments will be addressed in the following comment reconciliation table.

Section	Condition No.	Page No.	MedStar WHC Comments/Requests	Justification	DOEE Response
Title Page	N/A	1	The heat input rating for Boilers #1-#4 should be revised to 52 MMBtu/hr for both natural gas and fuel oil.	After submittal of the permit application, MedStar Washington Hospital Center (WHC) found that the burner configuration for these Boilers would need to be two burners of a smaller size per Boiler, instead of one larger burner as originally planned. Each new burner would be 26 MMBtu/hr heat input, for a total heat input of 52 MMBtu/hr per Boiler.	AQD does not object to changing the burner configuration and reducing the size of burners and will make these revisions in a draft permit for re-proposal.
Title Page	N/A	1	The heat input rating for Boilers #5 and #6 should be revised to 54 MMBtu/hr for both natural gas and fuel oil.	After submittal of the permit application, MedStar Washington Hospital Center (WHC) found that the burner configuration for these Boilers would need to limit the heat input to 54 MMBtu/hr per Boiler.	AQD does not object to reducing the size of burners and will make these revisions in a draft permit for re-proposal.

<table>
<tr><th>Section</th><th>Condition No.</th><th>Page No.</th><th>MedStar WHC Comments/Requests</th><th>Justification</th><th>DOEE Response</th></tr>
<tr><td>II</td><td>II(a)</td><td>2</td><td>Short-term emission limits for Boilers #1-#4 should be revised to the following:
<table>
<tr><th>Pollutant</th><th>Natural Gas (lb/hr)</th><th>No. 2 Fuel Oil (lb/hr)</th></tr>
<tr><td>Carbon Monoxide (CO)</td><td>1.92</td><td>1.87</td></tr>
<tr><td>Oxides of Nitrogen (NOx)</td><td>1.89</td><td>7.43</td></tr>
<tr><td>Total Particulate Matter (PM Total)1</td><td>0.47</td><td>1.25</td></tr>
<tr><td>Sulfur Dioxide (SO2)</td><td>0.031</td><td>1.24</td></tr>
</table></td><td>The reduction in short term emissions limits is due to the reduced heat input for these boilers.

The increase in the No. 2 Fuel Oil limit for NO_X is due to WHC requesting to use the AP-42 emissions factor because the emissions factor provided by the burner manufacturer is valid for combustion of ultra-low sulfur diesel (ULSD). The fuel in the boiler fuel tank is a mix of ULSD and fuel with a higher sulfur content, permissible pursuant to 20 DCMR 801.4</td><td>AQD agrees with the comment and accepts the revisions. Because some individual emission limits are increasing, the permit will need to be re-proposed and opened for an additional 30-day public review period.</td></tr>
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<tr><td>II</td><td>II(a)</td><td>2</td><td>Short-term emissions limits for Boilers #5and #6 should be revised to the following:
<table>
<tr><th>Pollutant</th><th>Natural Gas (lb/hr)</th><th>No. 2 Fuel Oil (lb/hr)</th></tr>
<tr><td>Carbon Monoxide (CO)</td><td>2.00</td><td>1.94</td></tr>
<tr><td>Oxides of Nitrogen (NOx)</td><td>1.97</td><td>7.71</td></tr>
<tr><td>Total Particulate Matter (PM Total)1</td><td>0.49</td><td>1.30</td></tr>
<tr><td>Sulfur Dioxide (SO2)</td><td>0.032</td><td>1.28</td></tr>
</table></td><td>The reduction in short term emissions limits is due to the reduced heat input for these boilers.

The increase in the No. 2 Fuel Oil limit for NO_X is due to WHC requesting to use the AP-42 emissions factor because the emissions factor provided by the burner manufacturer is valid for combustion of ultra-low sulfur diesel (ULSD). The fuel in the boiler fuel tank is a mix of ULSD and fuel with a higher sulfur content, permissible pursuant to 20 DCMR 801.4.</td><td>AQD agrees with the comment and accepts the revisions. Because some individual emission limits are increasing, the permit will need to be re-proposed and opened for an additional 30-day public review period.</td></tr>
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II	II(e)(2)	3	If DOEE is willing to allow for the use of the AP-42 No. 2 Fuel Oil emissions factor for NO_X, this condition will need to be revised to reflect that change (20 lb/1,000 NO_X is approximately 112 ppm NO_X, assuming 3% oxygen.	The increase in the No. 2 Fuel Oil limit for NOX is due to WHC requesting to use the AP-42 emissions factor because the emissions factor provided by the burner manufacturer is valid for combustion of ultra-low sulfur diesel (ULSD). The fuel in the boiler fuel tank is a mix of ULSD and fuel with a higher sulfur content, permissible pursuant to 20 DCMR 801.4.	AQD agrees with the comment and accepts the revision and has changed the limit from 90 to 112 ppmvd corrected to 3% oxygen. Because this and other emission limits are increasing from the previously public noticed draft, the permit will need to be re-proposed and opened for an additional 30-day public review period.

Section	Condition No.	Page No.	MedStar WHC Comments/Requests	Justification	DOEE Response
III	III(c)	4	WHC would like to request the 583 hour limit for operation on No. 2 Fuel Oil instead be a fuel-based limit of 250,000 gallon limit per 12 month rolling period.	This request is being made so that tracking this limit will remain consistent with current recordkeeping practices. The 583 hours shown in the original permit application was calculated based on the 250,000 gallon limit WHC proposed, which was based on historical usage records. This would also allow for greater operational flexibility should the Facility be forced to operate on No. 2 Fuel Oil pursuant to condition III(d) of the draft permit. Additionally, given the revised burner sizes, an hour of operation for Boilers #1-#4 is not equivalent to an hour of operation for Boilers #5 and #6.	AQD accepts this request. This is an alternative way to ensure that 20 DCMR 204 is not triggered and acceptable for the purpose of this condition. As a result of this change, Condition IV(e) was changed to require monitoring of fuel usage instead of hours of operation. Also, Condition V(f) was modified to require that fuel usage records be maintained in a 12-month rolling sum format, rather than just summed each calendar year. Hours of operation using No. 2 fuel oil record keeping requirements were removed from Condition V(e).