

**GOVERNMENT OF THE DISTRICT OF COLUMBIA**

Department of Energy and Environment

**CHAPTER 2 OPERATION PERMIT MEMORANDUM**

TO: File

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

FROM: Abraham T. Hagos *ATH*  
Environmental Engineer

**SUBJECT: U.S. Department of the Navy, Joint Base Anacostia-Bolling  
Permit to Operate Three Boilers at Building 18**

DATE: September 4, 2019

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**BACKGROUND INFORMATION**

Joint Base Anacostia-Bolling (JBAB) is currently authorized to operate three boilers at the Building 18 heat plant (CU-18-1, CU-18-2 and CU-18-3) by Permit Nos. 6745, 6746 and 6747 issued on October 21, 2014. As required by that set of permits, emissions testing was performed in February 2016 on Boiler Nos. 1 and 2. JBAB failed to meet the oxides of nitrogen (NO<sub>x</sub>) emission standards while burning natural gas. Boiler No. 3 was down for repairs at the time, so it was not tested. However, in January 2017, testing was performed on Boiler No. 3. It passed the testing, though emissions were only slightly below the limit established for NO<sub>x</sub> while burning natural gas.

JBAB investigated why they had failed the stack testing for NO<sub>x</sub> and determined that an erroneous set of manufacturer's specifications had been submitted to the Air Quality Division (AQD) at the time of initial permitting.

In an application dated May 9, 2018, JBAB submitted an application requesting an increase in the NO<sub>x</sub> emission limits for natural gas and fuel oil and a small reduction in the carbon monoxide (CO) emission limit while burning fuel oil to adjust the limits to match the corrected manufacturer's specifications. They also requested a decreased oxides of sulfur (SO<sub>x</sub>) limit to adjust for tightened fuel sulfur content limits in 20 DCMR 801.

Following a meeting between JBAB and AQD's Permitting Branch on March 21, 2019, JBAB submitted a revised application, with cover letter dated May 16, 2019 (received June 12, 2019), revising their request. In this application, they removed their request to increase the NO<sub>x</sub> emission limit while burning fuel oil because they had previously been able to show compliance with that standard through stack testing. Additionally, they reduced their requested NO<sub>x</sub> limit increase for natural gas to 10% above their highest stack test run result, a level substantially

## **TECHNICAL SUPPORT MEMORANDUM**

**U.S. Department of the Navy, Joint Base Anacostia-Bolling**

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below the newly identified manufacturer's guarantee. They also slightly increased their requested CO limit while burning fuel oil, while keeping it below the previously permitted value.

AQD agrees with the revised requested values and is proposing to adopt them in the revised and renewed permits as follows:

<b>Boiler Emission Limits</b>			
<b>Pollutant</b>	<b>Each Boiler Individually</b>		<b>Total Combined Annual Emissions Limit From the Three Boilers (ton/yr)</b>
	<b>Short-Term Limit (Natural Gas) (lb/hr)</b>	<b>Short-Term Limit (#2 Fuel Oil) (lb/hr)</b>	
Carbon Monoxide (CO)	1.119	1.066	7.755
Oxides of Nitrogen (NO <sub>x</sub> )	1.210	3.458	23.967
Total Particulate Matter (PM Total)*	0.145	0.412	2.856
Volatile Organic Compounds (VOC)	0.091	1.095	7.589
Oxides of Sulfur (SO <sub>x</sub> )	0.015	0.045	0.315

\*PM Total includes both filterable and condensable fractions.

*Note: The total annual emissions limitation was determined by selecting the maximum of the natural gas and fuel oil emissions for each pollutant.*

In addition to making the above changes, AQD is proposing to renew the permit for the equipment and to update certain other permit language to be more consistent with current permit language. Of significant note, AQD has added a reporting condition (Condition V(m)) to require that the requirements of this permit be incorporated into all relevant reports required by the facility's Title V permits, including semi-annual reports and annual compliance certifications.

The Joint Base Anacostia-Bolling has not requested that any of the materials submitted with this application be held confidential.

### **RECOMMENDATIONS**

The proposed project and attached permits comply with all applicable federal and District air pollution control laws and regulations.

The proposed permit action will be published in the DC Register and on the Department's website on September 13, 2019. Public comments for the permit action will be solicited through October 15, 2019. AQD will address any comments received before taking any final action on the permit applications. If no adverse comments are received, I recommend that permit Nos.

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6745-R1, 6746-R1, and 6747-R1 be issued in accordance with 20 DCMR 200.2 promptly upon completion of the public review period.

SSO/ATH

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