



**ENVIRONMENTAL PROTECTION DIVISION**

**Richard E. Dunn, Director**

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**Air Protection Branch**

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**NARRATIVE**

TO: Hamid Yavari  
FROM: Jada Levers  
DATE: April 22, 2022

Facility Name: **US Center for Disease Control and Prevention**  
AIRS No.: 089-00028  
Location: Chamblee, GA (DeKalb County)  
Application #: 28375  
Date of Application: April 18, 2022

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**Background Information**

The Center for Disease Control and Prevention (CDC) – Chamblee Facility in Atlanta, Georgia operates as a Synthetic Minor Source in accordance with Permit No. 9431-089-0028-S-04-0, issued on January 17, 2007. The CDC Chamblee serves as a medical health research Facility and has requested this application be processed under the expedited permit review program. Emissions from the Facility consist of combustion emissions generated by the Facility boilers and emergency generators and the Facility will remain in compliance with the Georgia Air Toxics Program. The Facility is located in DeKalb county which is classified as a non-attainment area for Ozone and an attainment/unclassifiable area for all other criteria pollutants.

**Purpose of Application**

Application No. 28375 was dated and received April 18, 2022 requesting the construction and operation of a new gaseous and liquid fuel boiler rated at 47.513 million British thermal units per hours (MMBtu/hr), firing natural gas with fuel oil as a backup. The Facility is requesting the new boiler (Boiler ID: B11) to replace two (2) existing 24.49 MMBtu/hr boilers at the location (Boiler IDs: B7 and B8).

The following emission units have also been removed from the Facility this year: Boilers B5 and B6; Generators G20, G103A, G103B, G105, G109 and GP01; and fire pump FP01.

The Facility will need to install flow meters to measure the amount of gas and the amount of fuel oil fired into the new boiler.

Public Advisory expired on May 27, 2022.

**Updated Equipment List****Fuel Burning Equipment**

Source Code	Input Heat Capacity (MMBtu/hr)	Description	Installation Date
B9	49.0	Natural Gas fired boiler with Fuel Oil as back-up	2004
B10	49.0	Natural Gas fired boiler with Fuel Oil as back-up	2004
<b>B11</b>	<b>47.5</b>	<b>Natural Gas fired boiler with Fuel Oil as back-up</b>	<b>2022</b>

**Engine Generators**

Source Code	Design Capacity (hp)	Description	Installation Date
GC01	2935	Central Utility Plant Generator	2004
GC02	2935	Central Utility Plant Generator	2004
GC03	2935	Central Utility Plant Generator	2004
GC04	2935	Central Utility Plant Generator	2004
GC05	2935	Central Utility Plant Generator	2004
GC06	2935	Central Utility Plant Generator	2004

**Emissions Summary**

The Facility provided manufacturer specifications for new boiler B11 including the NO<sub>x</sub> emission factor in attachment B of this application. The natural gas emission factors and fuel oil emission factors for CO, VOC, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> were also provided in the attachments deriving from AP-42 1.4 Natural Gas Combustion (Tables 1.4-1, 1.4-2, 1.4-3) and AP-42 1.3 Fuel Oil Combustion for distillate oil fired industrial boilers provided the fuel sulfur content is 0.5 wt% sulfur (Tables 1.3-1, 1.3-3, and 1.3-6). The emission factors were converted to lb/MMBtu using the manufacturer's higher heating value and fuel heat content for conversion. The potential operating rate was also provided by the facility as 8,560 hr/yr for natural gas combustion and 200 hr/yr for fuel oil combustion.

The potential emission from older boilers B9 and B10 are based on the prior application's specifications (Application No. 16570) where the potential operating rate was provided previously as 8,400 hr/yr for natural gas and 360 hr/yr for fuel oil. The NO<sub>x</sub> and CO emission factors for boilers B9 and B10 were provided by the manufacturer's specifications included in attachments of Application No. 16570. The natural gas emission factors and fuel oil emission factors for VOC, PM, and SO<sub>2</sub> were also derived from AP-42 tables above.

Assuming all generator engines are identical, the NO<sub>x</sub> emission rate is 36.88 lb/MMBtu for each generator as declared in previous Permit 9431-089-0028-S-04-0 with a potential operating rate of 200 hr/yr. The CO,

VOC, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> emission factors derive from AP-42 3.4 Large Stationary Diesel and All Stationary Dual-fuel Engines (Tables 3.4-1 and 3.4-2). This permit will be updated to include all new emission factors.

### Facility-Wide Emissions

(in tons per year)

Pollutant	Potential Emissions
PM	4.72
PM <sub>10</sub>	5.12
PM <sub>2.5</sub>	5.02
NO <sub>x</sub>	<25*
SO <sub>2</sub>	18.24
CO	57.09
VOC	4.72

\*25 tpy NO<sub>x</sub> limit

### Regulatory Applicability

#### 40 CFR 60 Subpart Dc

This Facility is subject to this regulation as the boilers were constructed after June 9, 1989 and each have a design capacity greater than 10 MMBtu/hr but less than 100 MMBtu/hr. Since these boilers have the potential to combust fuel oil, the SO<sub>2</sub> emission standards of this regulation apply.

#### Georgia Rule 391-3-1-.02(2)(d)

This state regulation limits the visible emissions opacity of any fuel-burning equipment to 20% except for one six-minute period per hour of not more than 27% opacity.

#### Georgia Rule 391-3-1-.02(2)(g)

This state regulation limits all fuel burning equipment below 100 MMBtu/hr to burn no more than 2.5% fuel sulfur, by weight.

#### Georgia Rule 391-3-1-.02(2)(lll)

This state regulation limits the allowable NO<sub>x</sub> emissions from any fuel-burning equipment to not exceed 30 ppm at 3% Oxygen on a dry basis.

### Permit Conditions

Condition 2.2 requires the Permittee to comply with 40 CFR 60 Subpart Dc and Subpart A, and has been modified to include new boiler B11 and remove boilers B7 and B8.

Condition 2.7 requires the Permittee to limit the NO<sub>x</sub> emissions into the atmosphere to not exceed 30 parts per million at 3% oxygen on a dry basis per Georgia Rule 391-3-1-.02(2)(III) and has been modified to include new boiler B11 and remove boilers B7 and B8.

Condition 5.4 requires the Permittee to monitor NO<sub>x</sub> emissions and perform tune-ups no earlier than March 1 and no later than May 1 of each calendar year to demonstrate the boilers are in compliance with condition 2.7. This condition has been modified to include new boiler B11 and remove boilers B7 and B8.

Condition 7.2 requires the Permittee to maintain monthly usage records of all distillate oil and natural gas for each boiler, as well as a combined 12-month rolling total for natural gas and fuel oil for each calendar month. This condition has been modified to include new boiler B11 and remove boilers B7 and B8.

Condition 7.6 establishes the equation used to calculate monthly NO<sub>x</sub> emissions from each engine. Table 3 has been modified to remove FP01, G20, G103A, G103B, G105, G109, and GP01.

Condition 7.7 establishes the equation to calculate monthly NO<sub>x</sub> emissions from all fuel-burning equipment and has been modified to remove Boilers B5-B8 as well as include new boiler B11.

Condition 7.11 requires the Permittee to notify the Division in writing if the Facility exceeds 30 ppm @ 3% O<sub>2</sub> (dry basis) from the boiler stacks during the months of May, June, July, August, or September. This condition has been modified to include new boiler B11 and remove boilers B7 and B8.

### **Toxic Impact Assessment**

EPD regulates the emissions of toxic air pollutants (TAPs) under the provisions of GRAQC Rule 391-3-1-.02(2)(a)3(ii) using EPD's Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions. According to the Guideline, dispersion modeling is required to be completed for each potential TAP having quantifiable facility-wide emission increases above the Minimum Emission Rate (MER) established in Appendix A. This Facility does not expect an increase in changes to the potential emissions of any TAPs and will continue to comply with the Georgia Air Toxics Program.

### **Summary & Recommendations**

Based upon the above considerations, I recommend issuing proposed Air Quality Permit 9431-089-0028-S-04-1 for the removal of boilers B5-B8, generators G20, G103A, G103B, G105, G109 and GP01, fire pump FP01, and the addition of boiler B11 to be issued to the US Center for Disease Control and Prevention. Public Advisory expired on May 27, 2022 and no comments were received. The Facility remains a synthetic minor source located in Chamblee, GA in Dekalb County and the Mountain District – Atlanta Office will continue to handle compliance duties for the Facility.