

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of Energy and Environment

CHAPTER 2 TECHNICAL MEMORANDUM

TO: Stephen S. Ours, P.E.
Chief, Permitting Branch

FROM: Wyatt Bohmann
Environmental Engineer

SUBJECT: **Permit No. 7327 to Install and Operate One Temporary Boiler at Various Locations in Soapstone Valley Park, Washington DC**

DATE: August 31, 2022

BACKGROUND INFORMATION

On May 27, 2022 the Air Quality Division (AQD) of the Department of Energy and Environment (DOEE) received a Chapter 2 permit application from IPR Northeast, LLC to install and operate one (1) temporary Rush-Overland diesel-fired boiler truck model No. 17041 with a maximum heat input of 6.57 million British thermal units per hour (MMBTU/hr). IPR Northeast, LLC was requesting the temporary use of this boiler to assist in the Soapstone Valley Park Sewer Rehabilitation Project to repair defective sewer piping utilizing hot water-cure Cured-in-Place-Pipe (CIPP) technology. The address of the park is 2900 Audubon Terrace NW, Washington DC.

Upon further investigation by AQD, it was realized that this proposed boiler did not have any manufacturer guarantees to confirm the emission rates of the burner. The manufacturer suggested that a flue gas analyzer be used with the boiler to determine these emission rates, but AQD expressed concerns due to this not conforming to EPA testing methods as outlined in 40 CFR 60, Appendix A. As a result, IPR Northeast instead decided to replace the equipment with a Rush-Overland MFG. – Lift Truck – RLU9391 with mounted propane-fired boiler. This truck-mounted boiler is equipped with a Power Flame Burner – NVC8-G-30 which comes with a manufacturer guarantee for NO_x and CO emissions.

As such, on August 1, 2022, the applicant resubmitted their application to include the Lift Truck – RLU9391 mounted boiler as a replacement for the originally proposed 63328NE Boiler Truck. This equipment’s burner emission rates are guaranteed by the manufacturer, Power Flame Incorporated, to not exceed 12 parts per million (ppm), for oxides of nitrogen (NO_x) and not exceed 50 ppm for CO, both corrected to 3% oxygen. The application additionally indicates that the boiler will meet the definition of a “temporary boiler” under both the federal New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants for Boilers.

The applicant has not requested that any aspects of the application be held confidential.

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EMISSIONS INFORMATION

The applicant provided calculations of the potential to emit air pollutants from the boiler, assuming continuous operation of the boiler at maximum capacity (8,760 hours per year). These estimates of potential to emit are as follows:

| Pollutant | Emissions Burning Propane (lb/hr) | Emissions Burning Propane (tons/yr) |
|--|-----------------------------------|-------------------------------------|
| Oxides of Nitrogen (NO _x) | 0.21 | 0.94 |
| Carbon Monoxide (CO) | 0.54 | 2.38 |
| Sulfur Dioxide (SO ₂) | 0.12 | 0.54 |
| Volatile Organic Compounds (VOC) | 0.16 | 0.70 |
| Total Particulate Matter [PM Total] [†] | 0.11 | 0.49 |
| Total Hazardous Air Pollutants (HAPs) | 0.03 | 0.12 |

[†] PM Total includes both filterable and condensable fractions.

REGULATORY REVIEW

Both federal and District of Columbia regulations and applicable requirements apply to this project. Applicability or non-applicability of key regulations is discussed below.

20 DCMR 200 – General Permit Requirements

The boiler is stationary and has the potential to emit air pollutants. The boiler has a heat input rating greater than 5 MMBTU/hr, therefore it is subject to the requirement to obtain a Chapter 2 permit pursuant to this regulation.

20 DCMR 209 – Permit Requirements for Non-Major Stationary Sources (Minor New Source Review)

Minor New Source Review, which became effective January 1, 2014, is applicable to any source subject to 20 DCMR 200, if such source uses a stationary unit or air pollution control device that, individually, would have the potential to emit equal to or greater than 5 tons per year (tpy) per unit of any criteria pollutant (excluding CO, ozone, and lead) or aggregate of hazardous air pollutants (HAPs). The boiler does not meet these thresholds, therefore this section does not apply to the equipment.

20 DCMR Chapter 3 – Operating Permits and Acid Rain Programs

The facility location at which the temporary boiler is to be located is a major source of any air pollutant, therefore 20 DCMR Chapter 3 is not applicable to the facility.

20 DCMR Chapter 5, Section 500: Source Monitoring and Testing Requirements

Appropriate monitoring and testing requirements have been included in Condition III of the permit with associated record keeping and reporting requirements in Condition IV of the permits to ensure that compliance with the conditions of the permit can be evaluated.

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20 DCMR Chapter 6, Section 600: Fuel Burning Particulate Emission

Total suspended particulate emission from the temporary boiler shall not exceed the limit as calculated by the equation in 20 DCMR 600.1. This requirement is contained in Condition II(d) of the temporary boiler permit.

20 DCMR Chapter 6, Section 606: Visible Emissions

The visible emissions limitations of 20 DCMR 606.1 are applicable to the temporary boiler. Visible emissions shall not be emitted into the outdoor atmosphere from the operation of the temporary boiler; provided, that discharges not exceeding forty percent (40%) opacity (unaveraged) shall be permitted for two minutes in any sixty (60) minute period and for an aggregate of twelve (12) minutes in any twenty-four hour (24 hr.) period during start-up, or malfunction of equipment. This requirement is contained in Condition II(b) of the permit. Specific testing requirements related to this regulation are also included in the permit.

Note that language has been included in the permit notifying the facility that there is an outstanding call for a State Implementation Plan (SIP) revision from EPA that may result in revisions to the applicable regulation. As such, if the regulation is changed, the new regulatory requirements will supersede those expressed in the permit specifically.

20 DCMR Chapter 8, Section 804: Nitrogen Oxides Emissions

The temporary boiler authorized under this permit is a fossil-fuel-fired steam-generating unit with a heat input rating of 14.7 MMBTU/hr. This regulation applies to such units only if the heat input rating exceeds 100 MMBTU/hr. Therefore, this regulation does not apply and was not addressed in the permit.

20 DCMR Chapter 8, Section 805: Reasonably Available Control Technology for Major Stationary Sources of the Oxides of Nitrogen

The requirements of this section do not apply to the boiler as no worksite at which this boiler will be deployed is a major stationary source of NO_x. The boiler itself has the potential to emit 0.94 tons per year of NO_x, well below the major source threshold of 25 tons per year.

20 DCMR Chapter 9, Section 903: Odorous or Other Nuisance Air Pollutants

“An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life or property is prohibited [20 DCMR 903.1]” is applicable to all sources. This requirement is contained in Condition II(d) of the permit.

20 DCMR Chapter 14, Section 1410: Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers

20 DCMR 1401.1 adopts 40 CFR 63, Subpart JJJJJ by reference. Due to the boiler being classified as a temporary boiler as referenced in 40 CFR 63.11195(h) and defined in 40 CFR

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63.11237, this subpart is not applicable. Condition III(b) of the permit has been written to ensure that the boiler is operated to meet the temporary boiler definition.

40 CFR 60, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

The requirements of 40 CFR 60, Subpart Db do not apply to the proposed boiler as it has a heat input rating less than 100 MMBTU/hr.

40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Subpart Dc of 40 CFR Part 60 sets forth the standards of performance for small Industrial-Commercial-Institutional steam generating units (ICI boilers) with maximum design heat input capacity less than 100 MMBTU/hr and greater than or equal to 10 MMBTU/hr. This subpart includes steam generating units for which construction, modification, or reconstruction commenced after June 9, 1989. IPR Northeast, LLC's boiler is considered a temporary boiler under the definition set forth in 40 CFR 60.41c and as such, pursuant to 40 CFR 60.40c(i), Subpart Dc is not applicable to this boiler. Condition III(b) of the permit has been written to ensure that the boiler is operated to meet the temporary boiler definition.

40 CFR 63, Subpart JJJJJ - National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources

As discussed above (see the discussion of 20 DCMR Chapter 14, Section 1410), this regulation does not apply as the unit is considered a temporary boiler, which is exempt from this regulation.

CONCLUSIONS

The proposed project (as it relates to the temporary boiler addressed in this action) and attached permit comply with all applicable federal and District air pollution control laws and regulations.

Public comments for the permit action will be solicited from September 9, 2022 through October 11, 2022. A public hearing will be held on October 11, 2022. AQD will address any comments received before taking final action on the application. If no comments are received, I recommend that permit No.7327 be issued in accordance with 20 DCMR 200.1 and 200.2, promptly following the end of the public comment period.

WEB