PERMIT REVIEW SUMMARY

Permit Writer: Ivelina Pilgrim Date: January 11, 2022

Company Name: Singing River Hospital System

Facility Location: 2809 Denny Avenue

Pascagoula, Mississippi

Source Number: 1280-00126

County: Jackson

FACILITY DESCRIPTION

Singing River Hospital System (“Singing River”) is an existing licensed 435-bed hospital. The hospital operates several air emission sources such as boilers (both natural gas-fired and dual fuel-fired), diesel-fired emergency back-up generator engines, diesel-fired non-emergency generator engines, one (1) ethylene oxide sterilizer system, liquid fuel storage tanks, and other ancillary support equipment (cooling towers, woodworking shop, paint booth, etc.).

PROJECT/PERMIT ACTION DESCRIPTION

On October 1, 2020, Singing River submitted an application for the renewal of its Synthetic Minor Operating Permit (SMOP) without any proposed changes to the existing equipment on-site.

For Emission Points AA-009 and AA-010 [two (2) non-emergency compression-ignition (CI) generator engines each equipped with an oxidation catalyst], the facility was required to demonstrate compliance with established emission limitations for nitrogen oxides (NOX) by stack-testing once in the life of the existing SMOP. The facility’s last stack test, which was performed on September 6, 2017, showed that the hourly NOX emissions from each unit was less than 60% of the emission limit established for each engine. Since the engines have demonstrated a significant margin of compliance with the NOX emission limitations, the stack-testing requirements were removed from the proposed permit.

Upon further review of the existing NOX and SO2 emission limitations established for Emission Points AA-009 and AA-010, it was determined that the respective values were based on applicable emission factors from AP-42 – Compilation of Air Pollutant Emissions Factors (for short-term) and operating for no more than 700 hours per year (for long-term). Considering how the common usage of AP-42 emissions data, the EPD does not believe that short-term limits are necessary. Moreover, given that the long-term limits are strictly based on the operational limit of 700 hours per year, the EPD believes that establishing long-term emission limits are redundant and also not necessary. Therefore, the noted emission limitations were removed from the proposed permit.

EMISSION SUMMARY

Table 1: Facility-Wide Emissions

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PM** | **PM10** | **PM2.5** | **SO2** | **NOX** | **CO** | **VOCs** | **Lead** | **Ind. HAP** | **Total HAPs** |
| Maximum Uncontrolled Emissions (tpy) | 28.9 | 25.7 | 25.3 | 3.9 | 861.3 | 230.7 | 31.6 | 0 | - | 0.6 |
| Emission Limitations (tpy) |  |  |  |  | **87.0**1 | **28.0**1 |  |  |  |  |

1 Title V Major Source Avoidance Limit

Based on the maximum uncontrolled operation of all emission sources, the facility has the potential to emit nitrogen oxides (NOX) and carbon monoxide (CO) in excess of the Title V major source threshold of 100 tons per year (tpy). However, the facility will remain a synthetic minor source by limiting the NOX and CO emissions from the largest emitting sources (i.e. Emission Points AA-009 and AA-010) through operational restrictions. The other emission sources that have the potential to emit large amounts of NOX and CO are engines to be used in emergency situations only (i.e. Emission Points AA-011, AA-012, AA-013, AA-015 and AA-048). Thus, these units are expected to emit a small fraction of their potential emissions and will not contribute significantly to the facility-wide total of NOX and CO emissions.

APPLICABLE/PROPOSED PERMIT LIMITATIONS

For Emission Points AA-009 and AA-010, each unit will comply with the following limitations:

* No more than1000.0 hours of operation per year (rolling 12-month total) for each engine. The total NOX and CO emission limits, in tons per year, are based on 1000.0 hours of operation per year for each engine. The facility must record the hours of operation for each engine daily.
* Carbon Monoxide (CO) – 23 ppmvd at 15% oxygen or reduce CO by 70% or more – the facility stack-tests for CO every 8760 hours of operation or every 3 years, as required by 40 CFR Part 63, Subpart ZZZZ, and monitors the temperature and pressure of the engines’ oxidation catalysts.

For Emission Points AA-007, AA-008, AA-038 through AA-047, the facility will comply with the following limitations:

* Sulfur Dioxide (SO2) – 4.8 lbs. / MMBtu
* Particulate Matter (PM) – 0.6 lbs. / MMBtu
* Opacity - 40%

The facility uses low-sulfur fuel (natural gas) to comply with these limitations.

NSPS APPLICABILITY

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

This subpart is applicable to “steam generating units” with maximum heat input capacity of 100 MMBTU/ hour but greater than 10 MMBTU/ hour that were constructed after June 9, 1989. Emission Points AA-007a, AA-007b, AA-038, AA-039, AA-045, AA-046 and AA-047 are boilers and water heaters, constructed after the applicability date, which classify as steam generating units. However, each unit has a rated capacity less than 10 MMBTU/ hour; therefore, this subpart is not applicable.

40 CFR 60, Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Emission Points AA-015 and AA-048 are certified National Fire Protection Association (NFPA) fire pump engines that were manufactured after July 1, 2006. Emission Points AA-011 and AA-012 are emergency compression-ignition (CI) generator engines that were manufactured after April 1, 2006. Therefore, these units are subject to the requirements of this subpart and the applicable requirements are included in the permit.

MACT APPLICABILITY

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE)

Emission Points AA-011, AA-012, AA-015, and AA-048 are “new” stationary RICE (i.e. constructed after June 12, 2006) that are located at an area source of HAPs. As such, these units are required to comply with the New Source Performance Standards Subpart IIII to demonstrate compliance with Subpart ZZZZ. No other requirements under Subpart ZZZZ are applicable for these engines.

Emission Point AA-013 is an existing institutional emergency stationary RICE located at an area source of HAPs ; therefore, this engine is not subject to the requirements within this subpart [per 40 CFRR 63.6590(f)(3)] contingent upon maintaining its status as an “emergency engine”.

Emission Points AA-009 and AA-010 are subject to the requirements of this subpart for existing non-emergency engines.

40 CFR 63, Subpart JJJJJJ – National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers at Area Sources

This subpart is applicable to boilers (including some water heaters) located at an area source of HAPs. Emission Points AA-007a, AA-007b, AA-038, AA-039, AA-045, AA-046 and AA-047 are boilers, as defined in this subpart. However, since these units only burn natural gas, they are exempt from the requirements of this subpart per 40 CFR 63.11195(e). Thus, Subpart JJJJJJ is not applicable.

# 40 CFR Part 63, Subpart WWWWW – National Emission Standards for Hospital Ethylene Oxide Sterilizers

For Emission Point AA-031, the facility is subject to the requirements of this subpart and it is required to sterilize full loads of items having a common aeration time, except under medically necessary circumstances.

40 CFR Part 63, Subpart CCCCCC – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities

For Emission Points AA-027 and AA-033, the facility shall comply with the requirements for facilities with a gasoline throughput of less than 10,000 gallons per month. The facility must maintain records on the monthly gasoline throughput and malfunctions.

**PUBLIC PARTICIPATION**

The 30-day public notice period began on January 14, 2022, with the publication of a notice in the Sun Herald and ends February 14, 2022.

**RECOMMENDATION**

The staff has preliminarily decided to recommend issuance of the permit to the Mississippi Environmental Quality Permit Board as shown in the draft permit. However, the staff recommendation to the Board will be made only after a thorough consideration of all public comments.