



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

March 5, 2021

Mr. Thomas Hartye  
General Manager  
Metropolitan Sewerage District of Buncombe County  
2028 Riverside Drive  
Asheville, North Carolina 28804

Dear Mr. Hartye:

On March 23, 2016, the Metropolitan Sewerage District of Buncombe County (MSD) submitted a petition (see Enclosure A) to the U.S. Environmental Protection Agency (EPA) describing an alternative monitoring procedure entitled – Site Specific Monitoring Plan for Mercury Emission Limit Compliance under provisions of §62.15965 in order to comply with the emission standards at 40 CFR Part 60 Subpart M – Emissions Guidelines (EG) and Compliance Times for Existing Sewage Sludge Incineration (SSI) Units. MSD implemented air pollution control upgrades to the fluidized bed incinerator (incinerator) at the French Broad River Water Reclamation Facility (Facility Air Quality ID 11-772) which included the installation of a Sorbent Polymer Composite (SPC) technology from W.L. Gore Technologies / EnviroCare International. SPC modules are fluoro-polymer filters manufactured primarily for the control of mercury emissions. As required by §62.15965, the five items listed in paragraphs §62.15965(b)(2)(i-v) were described in the original MSD petition. A revised annual compliance report (see Enclosure B) was provided to EPA Region 4, as well as a piping and instrumentation diagram (see Enclosure C) during the EPA’s review.

EPA Region 4 delegated authority of the Federal SSI plan for existing SSI units to Western North Carolina Regional Air Quality Agency (WNCRAQA) on May 2, 2018 (83FR 19184); however, approval of major alternatives to monitoring were not delegated to the state agencies under the provisions of §60.5050. Based on our review of the information provided, the Region approves the petition. Details regarding our review and the basis for our approval are provided in the remainder of this letter.

**Description of SSI and SPC System**

The MSD utilizes an incinerator for sewage sludge incineration. The incinerator is rated at a maximum sewage sludge processing capacity of 40 dry tons per day. Emissions from the incinerator are controlled by a multi-venturi scrubber, a flue gas conditioning system consisting of a spray quencher and in-line heater (compressed air injection), and a SPC adsorbent bed. The SPC adsorbent bed primarily controls emissions of mercury. The SPC system has four layers, each with four modules,

with additional space available for a fifth layer. Testing ports are located between each layer. Each module has a cross section area that is approximately two feet by two feet and is 14 inches deep in the direction of the gas flow.

### **SSI Regulatory Requirements**

Under provisions of §62.15965, and for facilities which use a pollution control device other than activated carbon injection to comply with the emissions limit of mercury, owners and operators must petition the EPA for approval of the use of an alternative control device; additionally, the petition must include the items listed in 62.15965(b)(2)(i-v). More specifically, the information in the petition must include:

- i) An identification of site-specific parameters to be monitored;
- ii) A discussion of the relationship between these parameters and emissions of regulated pollutants;
- iii) A discussion of establishing upper and lower values for these parameters;
- iv) A discussion identifying methods used to measure and instruments used to monitor these parameters as well as the relative accuracy and precision of these methods and instruments; and
- v) A discussion identifying the frequency and methods for recalibrating the instruments used for monitoring these parameters.

### **MSD's Proposed Alternative Monitoring Procedure (AMP) for the SPC Modules**

As presented in the petition, the MSD proposes to monitor the mercury concentration in the flue gas stream after each successive layer of the SPC modules to demonstrate that the mercury emission limit (0.037 mg/dscm@7% O<sub>2</sub>) is being achieved. The MSD will obtain carbon trap samples at the inlet to the SPC unit (Port A) and at the outlet of the first two layers of modules (Ports B and C), every three months utilizing a carbon trap sampling system manufactured by APEX Instruments. The carbon traps will be analyzed by a laboratory in accordance with USEPA Reference Method 30B.

In July of 2020, a discussion between the EPA, MSD, and WNCRAQA, resulted in an agreement for an acceptable monitoring methodology.

### **EPA Region 4 Determination**

Based upon our review, the EPA approves of the proposed monitoring procedures. Therefore, the following AMPs, based upon your proposal and similar AMP approvals, are acceptable to the EPA:

1. During compliance performance testing (hereinafter “testing”) required in §62.15980 and §62.16000, as applicable, demonstrating compliance with the mercury standard promulgated in §62.15955, and under provisions of §62.16015(a)(11), “... you must operate your sewage sludge incinerator at a minimum of 85-percent of your maximum permitted capacity during each test run.”
2. Testing shall be conducted for a minimum of four hours (in total, not per run), even if this means collecting more than the minimum sample volume.<sup>1</sup>

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<sup>1</sup> Federal Plan Requirements for Sewage Sludge Incineration Units Constructed on or Before October 14, 2010; Final Rule, 81 Fed. Reg. 26049 (April 29, 2016).

3. During testing, the SPC modules flue gas inlet percent relative humidity (% RH), at a post scrubber flue gas heated air injection condition, shall be measured and recorded at a minimum of once every 15 minutes.
4. During testing, the SPC modules hourly average inlet % RH shall be determined using the 15-minute readings required by 3.
5. The lowest four-hour average SPC modules inlet % RH shall be determined by using the lowest hourly average SPC modules inlet % RH hourly averages required by 4.
6. During non-performance testing periods (hereinafter “monitoring”), the 12-hour block average SPC modules inlet % RH shall be maintained at, or below, the lowest four-hour average SPC modules inlet % RH as determined by 5.
7. Differential pressure drop (dP) through the SPC modules shall be collected at a minimum of once every 15 minutes.
8. The SPC modules hourly average dP shall be determined by computing using the 15-minute readings.
9. For monitoring purposes, the SPC modules dP shall not exceed 4.0 inches of water based on a 12-hour block average.
10. The SPC modules shall be spray-washed for a minimum of five minutes once every twelve hours.
11. Quarterly mercury concentration monitoring events shall use one run of USEPA Reference Method 30B. When two consecutive quarterly concentration monitoring events indicate that the mercury concentration in the flue gas is greater than or equal to 0.037 mg/dscm and the removal efficiency (SPC system overall) is less than 70%:
  - a. Layer 1 modules shall be removed; and
  - b. Layers 4, 3 and 2 shall be moved to become layers, 3, 2 and 1, respectively; and
  - c. Layer 4 modules shall be replaced with new modules; and
  - d. Module replacement events shall be documented by MSD and a logbook shall be maintained readily available for inspection; additionally, the logbook shall document the accumulative amount of sewage sludge (tons) processed to the incinerator since the last replacement.

This alternative monitoring procedure approval was coordinated with the EPA’s Office of Enforcement and Compliance Assurance and Office of Air Quality Planning and Standards. If you have any questions regarding this approval, please contact Mark Bloeth of my staff at [bloeth.mark@epa.gov](mailto:bloeth.mark@epa.gov) or (404) 562-9013.

Sincerely,

KENNETH MITCHELL  
Digitally signed by  
KENNETH MITCHELL  
Date: 2021.03.05  
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For Caroline Y. Freeman  
Director  
Air and Radiation Division

Enclosure A – MSD Site Specific Monitoring Plan (March 23, 2016)  
Enclosure B – MSD Revised Annual Compliance Report (March 30, 2017)  
Enclosure C – MSD Process & Instrument Diagram

cc: Ashley Featherstone, WNCRAQA