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

June 25, 2021

Mr. Adam Miklos
Mill Manager
International Paper – New Bern Mill
1785 Weyerhaeuser Road
Vanceboro, North Carolina 28586

Dear Mr. Miklos:

This is in response to your letter, dated October 30, 2020, to the U.S. Environmental Protection Agency (EPA), which proposed alternative monitoring procedures (AMPs) for the Kraft pulping system located at the International Paper New Bern Mill (Mill) in Vanceboro, North Carolina. The Mill is subject to Title 40, Code of Federal Regulations (CFR), Part 63, Subpart S-National Emission Standards for Hazardous Air Pollutants (HAPs) from the Pulp and Paper Industry (Subpart S). We requested additional information from you on April 28, 2021, and received the information on May 4, 2021. Based on the information you provided, your proposed AMP(s) are conditionally approved. Details regarding the AMPs and the basis for our determination are provided in the remainder of this letter.

The Mill, which includes a bleach plant and an oxygen delignification system, produces softwood pulp in a single fiber production line using one continuous operation digester. In addition to the production of fiber, turpentine, black liquor, and white liquor are also produced. Subpart S is applicable to the Mill because the Mill is a major source as defined in §63.2 and uses the Kraft process to produce pulp. The Mill meets the pulping process condensates mass collection requirement of 11.1 lbs HAP(s) per oven-dried ton of pulp (ODTP), as required by §63.446(c)(3), by collecting pulping process condensate streams resulting from condensation of vapors evolving from the multieffect evaporators, digester, hot-well, and turpentine decanter/storage underflow. The condensate streams are collected, integrated, and transported in a closed collection system to two steam stripper feed tanks. The pulping process condensate from the stripper feed tanks is routed to a steam stripper, which serves to strip methanol (MeOH) from the condensate. The steam stripper overhead vapors containing MeOH are either incinerated in the Recovery or #2 Power Boiler. The steam stripper's liquid effluent is recycled back to the stripper feed tanks or is processed to an alkaline sewer.

Monitoring of Stripper Influent MeOH Concentration

Currently, verification of compliance status with §63.446(c)(3) utilizes weekly composite averages of daily stripper influent MeOH concentration analyses to determine the 30-day average of lbs HAP(s)/ODTP. Based on a historical analysis of nine years (2011-2020) of daily concentration determinations and weekly averages, after initial performance testing required by §63.457(a), you observed that a moderate compliance margin exists when correlating the actual HAP(s) collection results with the minimum required collection requirement of §63.446(c)(3). Historical data indicates that the

Mill typically achieves an observed HAP(s) collection quantity of between 14 and 16 lbs HAP(s)/ODTP, or between 26 percent (%) and 45% overcollection above the minimum requirement (11.1 lbs HAPs/ODTP). You proposed to utilize a constant steam stripper influent concentration factor of 5,647 milligrams MeOH per liter (mg MeOH/L), the average of nine years of measured MeOH concentrations, in lieu of conducting daily stripper influent MeOH concentration sampling to determine weekly averages. You also proposed to conduct MeOH concentration determinations for the stripper influent on a quarterly basis to periodically verify the concentration factor using a method similar to the t-test statistical method of analysis contained in the publication "Supplementary information on the cluster rule, Part A: MACT Issues, NCASI Technical Document, Version 7.0, 2001".

Monitoring Conducted to Indicate Stripper Effluent MeOH Treatment/Concentration

Based on the additional information you provided on May 4, 2021, you have installed, calibrated, operated and maintained a continuous measurement system (CMS) required by §63.453(g) to measure the: 1) process wastewater feed rate, 2) steam feed rate and 3) process wastewater column feed temperature. Additionally, you continuously monitored the stripper bottom's effluent temperature using the CMS. The process wastewater feed rate data from the CMS, along with the proposed steam stripper MeOH influent concentration factor, will be used for calculating the lbs of MeOH collected per ODTP.

EPA Review of Applicable Standards

Closed collection systems are required to meet the design and operation standards specified in §63.446(d)(1-2). Under §63.457(g), for purposes of complying with the Kraft pulping condensate requirements in §63.446, the owner or operator shall measure the total HAP concentration as methanol. Under §63.446(c)(3), the pulping process condensates from specified equipment systems listed in §63.446(b)(1-5) that in total contains a total mass of 11.1 lbs MeOH/ODTP, for mills that perform bleaching, shall be treated in accordance with §63.446(e)(5) to remove at a minimum of 10.2 lbs MeOH/ODTP.

Under §63.453(a), each owner or operator subject to the standards specified in §63.443(c) and (d), and §63.446(c), (d), and (e), shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS, as defined in §63.2 of this part) as specified in §63.453(g), except as allowed in §63.453(m). The CMS shall include a continuous recorder. Under §63.2, continuous monitoring system (CMS) means "a comprehensive term that may include, but is not limited to, continuous emission monitoring systems, continuous opacity monitoring systems, continuous parameter monitoring systems, or other *manual* or automatic monitoring that is used for demonstrating compliance with an applicable regulation on a continuous basis as defined by the regulation."

Under §63.453(m), each owner or operator using a control device, technique or an alternative parameter other than those specified in §63.453(g), shall install a CMS and establish appropriate operating parameters to be monitored that demonstrate, to the Administrator's satisfaction, continuous compliance with the applicable control requirements. Under §63.453(n), to establish or reestablish the value for each operating parameter required to be monitored under paragraphs §63.453(g) and (m), each owner or operator shall continuously monitor and record the operating parameter during the initial performance test required in §63.457(a), or any subsequent performance test, and base the determinations on the control performance and parameter data monitored during the tesing. The determinations may be supplemented, if necessary, by engineering assessments and the manufacturer's recommendations. The

owner or operator shall provide for the Administrator's approval of the rationale for selection of the monitoring parameters necessary to comply with §63.453(m) and the associated values, and monitoring frequencies, and averaging times. Additionally, the rationale shall include all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.

EPA's Determination

Your request for approval of the AMPs was submitted under the provisions of §63.453(n) which allows you to establish, or reestablish, a value for each operating parameter required to be monitored under paragraphs §63.453(m). Your proposal of stripper influent MeOH concentration monitoring is based on monitoring provisions allowed by §63.457(c).

Your proposal is supplemented by an engineering assessment and a statistical analysis of historically demonstrated results of compliance and is submitted for the EPA's approval. You have included the rationale for selection of the monitoring parameters necessary to comply with §63.453(m) and presented the associated values, monitoring frequencies, and averaging times. Additionally, you have included the rationale and all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard. However, the EPA is requiring the use of the lower-tailed t-test instead of the proposed upper-tailed t-test. Therefore, the following AMP [a composition of seventeen (17) specific conditions (Conditions)], and based on your site-specific circumstance, is acceptable to the EPA:

1. Stripper pulping-process liquid-condensate influent flow (Influent Flow) and its associated temperature (Temperature) shall be monitored and recorded no less than once every 15 minutes.
2. Hourly averages of Influent Flow and Temperature shall be determined using the readings obtained in (Condition 1).
3. Daily averages of the Influent Flow and Temperature shall be determined using the hourly averages obtained in (Condition 2).
4. For purposes of demonstrating compliance with the Influent Flow lbs MeOH/OTDP determinations related to compliance demonstrations required by §63.446(c)(3), the Mill may use, in addition to the measured Influent Flow, a constant stripper Influent Flow concentration of 5,647 milligrams MeOH per liter (mg MeOH/L).
5. The 30-day block-average of MeOH (lbs) collected shall be calculated using the sum of Influent Flow rates for the preceding 30 days and the default concentration listed in Condition 4. Specifically, the following equation shall be used to determine the quantity (lbs) of MeOH collected during the preceding 30 days:

$$\text{lbs MeOH}_{\text{Collected}_{30\text{ Days}}} = \frac{\{\sum_{i=1}^{30}[\text{Daily Influent Flow (gal)}]_i\}[5{,}647\ (\frac{\text{mg MeOH}}{\text{L}})](3.8\ \frac{\text{L}}{\text{gal}})}{(1000\ \frac{\text{mg}}{\text{g}})(453.6\ \frac{\text{g}}{\text{lb}})}$$

6. The 30-day block-average lbs MeOH/ODTP shall be determined each day by dividing that quantity determined in Condition 5 by the total tons of ODP summed over the preceding 30 days. Specifically, the following equation shall be used to determine the lbs MeOH/ODTP collected during the preceding 30 days:

$$\frac{\text{lbs MeOH}}{\text{ODTP}}_{\text{30 Day Average}} = \frac{\text{lbs MeOH}_{\text{Collected}_{30\text{ Days}}}}{\{\sum_{i=1}^{30}[\text{Oven Dried Pulp (tons)}]_i\}}$$

7. The 30-day rolling average of Temperature shall be determined using the daily averages obtained in Condition 3.
8. Once a quarter, no less than three grab samples of Influent Flow, one grab sample per day for three consecutive days, shall be collected and analyzed for MeOH concentration by NCASI Method DI/MEOH 94.03, Methanol in Process Liquids by GC/FID. The three MeOH concentration results shall be averaged to determine a quarterly composite average.
9. For the purposes of MeOH concentration data acceptance, a one tailed t-score (lower-tail) shall be used to evaluate the credibility of the quarterly Influent Flow composite average MeOH concentration result.
10. If the two-sample t-score (i.e., comparing Condition 4 MeOH concentration to the Condition 8 quarterly composite average) is not less than the critical value in the t-tables, for the degrees of freedom and a significance level of 0.05 for a one-tailed test (lower-tailed-test), the quarterly composite average is assumed to not be significantly different than the constant methanol concentration factor of Condition 4 and no further action is necessary for the quarter.
11. If the two-sample t-score is less than the critical value in the t-tables, for the degrees of freedom and a significance level of 0.05 for one-tailed test (lower-tail), then an investigation shall be conducted to evaluate the credibility of the observed concentration determined by Condition 8.
12. If a credible argument cannot be established to invalidate the observed concentration determined in Condition 8, as established by the criteria of Condition 11, the quarterly composite average concentration shall be considered valid. A determination, using the observed quarterly composite average of Condition 8, shall be conducted to determine the compliance status of the Mill with the minimum collection requirement of 11.1 lbs HAPs /ODTP (30-day average) for every day of the quarter.
13. If a credible argument does exist, which would invalidate the observed concentration determined by Condition 8, by the criteria of Condition 11, a retest shall be conducted to determine the quarterly composite average concentration before the end of the quarter. The retest shall consist of three daily samples taken at 4-hour intervals for a period of five consecutive days.
14. If the retest fails the two-sample t-score, when comparing the constant concentration factor of Condition 4 to the quarterly composite average of Condition 13, for the degrees of freedom and a significance level of 0.05 for the one-tailed test (lower-tail), the Mill shall conduct a performance test. Also, a determination, using the quarterly composite average of Condition 13, shall be conducted to determine the compliance status of the Mill with the minimum collection requirement of 11.1 lbs HAPs /ODTP (30-day average) for every day of the quarter. If the retest successfully demonstrates the observed quarterly composite average concentration is within the acceptance criteria, no further action is necessary for the quarter.
15. A record of quarterly composite averaged concentrations used to demonstrate compliance with this AMP shall be maintained and made readily available for inspection.
16. The expiration date of this AMP is five years from the date of this letter.
17. If desired, the Mill may submit a new request for an AMP based on the information available at that time. The request must be submitted in ample time (e.g. six months) before the expiration date of this AMP if the Mill wishes to continually use an AMP to demonstrate compliance with the minimum collection requirement of 11.1 lbs HAPs/ODTP.

Our conditional approval of the AMPs for your stripper influent stream is based upon the following factors:

A. Your proposal is based on monitoring allowed by §63.457(c) and is supplemented by an engineering assessment and a statistical analysis of historically demonstrated results of compliance.
B. The method of statistical analysis used for the proposed MeOH concentration factor is considered a credible approach to determine a predictive and representative concentration.
C. You have included the rationale for selection of the monitoring parameters necessary to comply with §63.453(m) and the associated values, and monitoring frequencies, and averaging times.
D. You have described the rationale and all data and calculations used to develop the value and a description of why the value, monitoring frequency, and averaging time demonstrate continuous compliance with the applicable emission standard.
E. An ample compliance margin exists for historically demonstrated compliance, namely 26% to 45% overcollection when assessed against the minimum collection requirement of 11.1 lbs MeOH/ODTP.
F. The rule contains no specified monitoring frequency or averaging period for the stripper influent MeOH concentration.
G. A CMS is installed, calibrated, operated, and maintained as required by §63.453(g), which requires continuous monitoring of the Influent Flow and Influent Flow Temperature.

This AMP was coordinated with the EPA's Office of Enforcement and Compliance Assurance and the EPA's Office of Air Quality Planning and Standards. Please note that our approval does not alter the Mill's obligations to meet all other applicable NESHAP, including, but not limited to, the following NESHAP General Provisions:

- The requirement to maintain and operate affected facilities and associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions, per §63.453(q) and
- The prohibition against concealing emissions which would otherwise constitute a violation of an applicable standard, including the use of gaseous diluents to achieve compliance with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere, per §63.4.

If you have any questions concerning this response, please contact Tracy Watson of my staff at (404) 562-8998 or watson.marion@epa.gov.

Sincerely,

Freeman, Caroline

Digitally signed by Freeman, Caroline
Date: 2021.06.25 15:05:15 -04'00'

Caroline Y. Freeman
Director
Air and Radiation Division

cc: Sara Ayres, EPA OECA
Steve Hall, NCDENR
Robin Schroeder, New Bern Mill
Kelley Spence, EPA OAQPS