

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date:

Region: Asheville Regional Office
County: Jackson
NC Facility ID: 5000119
Inspector's Name: Michael Koerschner
Date of Last Inspection: 09/07/2022
Compliance Code: 3 / Compliance - inspection

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| <p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): Jackson Paper Manufacturing Company</p> <p>Facility Address: Jackson Paper Manufacturing Company 152 West Main Street Sylva, NC 28779</p> <p>SIC: 2631 / Paperboard Mills NAICS: 32213 / Paperboard Mills</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title</p> | <p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 15A NCAC 02D .0503, 02D .0504, 02D .0516, 02D .0521, 02D .0614, 02D .1111, 02D .1806, 02Q .0711, 02Q .0317 of 02D .0530 and 02D .1111 NSPS: No NESHAP/MACT: GACT 6J PSD: No PSD Avoidance: Yes (SO₂, CO) NC Toxics: Yes 112(r): No Other: Avoidance of major source of HAPs and avoidance of toxic air pollutants (waste oil)</p> |
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| Contact Data | | | Application Data |
|--|--|---|--|
| <p style="text-align: center;">Facility Contact</p> <p>Kiesha Bridges Manager of Safety, Env. and Technical (828) 586-5534 152 West Main Street Sylva, NC 28779</p> | <p style="text-align: center;">Authorized Contact</p> <p>Carr Tyndall President (828) 586-5534 152 West Main Street Sylva, NC 28779</p> | <p style="text-align: center;">Technical Contact</p> <p>Kiesha Bridges Manager of Safety, Env. and Technical (828) 586-5534 152 West Main Street Sylva, NC 28779</p> | <p>Application Number: 5000119.23A Date Received: 07/12/2023 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 04665/T18 Existing Permit Issue Date: 04/26/2022 Existing Permit Expiration Date: 02/28/2024</p> |

Total Actual emissions in TONS/YEAR:

| CY | SO2 | NOX | VOC | CO | PM10 | Total HAP | Largest HAP |
|------|-------|--------|-------|--------|-------|-----------|-------------------------------------|
| 2021 | 11.14 | 106.04 | 39.08 | 126.43 | 33.34 | 14.63 | 4.33 [Methanol (methyl alcohol)] |
| 2020 | 11.26 | 107.12 | 40.24 | 127.73 | 33.68 | 14.18 | 3.89 [Methanol (methyl alcohol)] |
| 2019 | 11.18 | 106.55 | 40.10 | 127.04 | 33.50 | 14.19 | 3.91 [Methanol (methyl alcohol)] |
| 2018 | 11.09 | 105.59 | 37.42 | 166.56 | 52.46 | 14.33 | 3.85 [Methanol (methyl alcohol)] |
| 2017 | 10.55 | 100.53 | 35.05 | 158.56 | 49.94 | 14.52 | 3.81 [Methanol (methyl alcohol)] |

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| <p>Review Engineer: Suraiya Akter</p> <p>Review Engineer's Signature: _____ Date: _____</p> | <p style="text-align: center;">Comments / Recommendations:</p> <p>Issue: 04665/T19 Permit Issue Date: _____ Permit Expiration Date: _____</p> |
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1. Purpose of Application

Jackson Paper Manufacturing Company (Jackson Paper) currently holds Title V Permit No. 04665T18 with an expiration date of February 28, 2024, for a paper manufacturing facility in Sylva, Jackson County, North Carolina. This permit application is for a permit renewal without modification. The renewal application was received on July 12, 2023, or at least six months prior to the expiration date (Feb 28, 2024) and the application was considered complete upon receipt. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

Jackson Paper is requesting that a new welding operation be included in the permit as an insignificant activity, ID No. I-Weld in accordance with 15A NCAC 02Q .0503(8). The facility conducts minor spot welding on various equipment as necessary. The welding operation is considered an insignificant activity because of size or production rate under 15A NCAC 02Q .0503(8).

2. Facility Description

Jackson manufactures roll stock medium grade paper from recycled corrugated cardboard. The roll stock manufactured on site is used by other facilities as the corrugated medium or “flute” inside the wall of a piece of cardboard and/or as the lined sheet (the outside of a piece of corrugated cardboard). The paper manufacturing processes consist of pulp preparation from old corrugated containers (OCC), waste screening, plastic waste recycling. Bales of OCC are received and opened. A conveyor belt empties them into the hydropulper where the cardboard is mechanically pulped in 115 °F water. Plastic and metal cords are removed in the hydropulper by a rag rope and are landfilled. Water and magnesium hydroxide are added. The pulp solution is then conveyed to cyclonic cleaners and screens to remove the “sinkers and floaters”. The pulp is then pumped to the paper machine where it is calendared and dried into paper.

The boiler provides steam for heating the processes and drives the turbine which drives the paper machine. The boiler is fired primarily on wood waste from outside sources but can also burn paper mill sludge, coal, tire-derived fuel (TDF), waste oil, and limited plastic waste. The facility currently has ~110 employees and operates around the clock using 12-hour shifts.

The facility operates an on-site wastewater treatment plant (WWTP). The site also maintains one temporary natural gas-fired boiler with a maximum heat input of 145 MMBtu/hr as a backup source. Steam at the facility is provided by the on-site boiler which can burn wood/coal/tire-derived fuel (TDF), paper mill sludge, plastic waste, and waste oil. The boiler has a 70,000 lb/hr steam capacity, specifically a maximum heat input capacity of 145.1 MMBtu/hr from wood combustion and 99.1 MMBtu/hr from non-wood combustion. The boiler is controlled by a multicyclone (ID CD-1-1) in series with a venturi scrubber (ID CD-1-2).

Outage:

The paper machine is taken down approximately every 6 weeks for preventive maintenance (smaller outage every 3 weeks). During the periodic paper machine outages, the boiler is idled ~30,000 pounds of steam per hour for 8-12 hours. The last cold mill outage (boiler down cold) was in September 2021 (generally every September).

Jackson Paper is a Title V facility because the potential emissions of NOx and CO exceed 100 tons per year. Since the facility maintains facility-wide emissions limits to less than 250 tpy for SO₂, CO, and NOx, hence Jackson Paper Manufacturing Company is a PSD minor source.

3. History/Background/Application Chronology

History/Background

- | | |
|--------------------|---|
| March 26, 2019 | TV permit renewal issued. Air Permit No. 04665T17 was issued on March 26, 2019 with an expiration date of February 28, 2023. |
| April 09, 2019 | An inspection was conducted by Michael Koerschner and was certified that Jackson Paper Mfg. was in compliance with the applicable air quality regulations and Title V Air Permit No. 04665T17. |
| April 11, 2019 | Test protocol for boiler JP-021 was approved. |
| April 04, 2019 | A stack test observation report was prepared by Michael Koerschner based on the site inspection visit on April 23, 2019. |
| October 09, 2019 | DAQ approved the Stack Test Report based on the test performed by Advanced Industrial Air (AIR) on April 23, 2019. |
| March 03, 2020 | An inspection was conducted by Michael Koerschner and was certified that Jackson Paper Mfg. was in compliance with the applicable air quality regulations and Title V Air Permit No. 04665T17. |
| June 14, 2021 | An inspection was conducted by Michael Koerschner and was certified that Jackson Paper Mfg. was in compliance with the applicable air quality regulations and Title V Air Permit No. 04665T17. |
| April 26, 2022 | Air Permit No. 04665T18 was issued for an ownership change. The General Conditions were also updated to specify that a permit application for TV renewal is due no later than six months before permit expiration date 2/28/2024. |
| September 09, 2022 | An inspection was conducted by Michael Koerschner and was certified that Jackson Paper Mfg. was in compliance with the applicable air quality regulations and Title V Air Permit No. 04665T18. |

Application Chronology

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| July 10, 2023 | Received permit application 1600120.19B for renewal. |
| July 13, 2023 | Sent acknowledgment letter indicating that the application for permit renewal was received. |

- September 7, 2023 Permit draft was sent to Booker for review with a question regarding testing requirements for all non TDF and non-coal-firing scenarios as the current permit one reflects issues with testing timeline
- October 4, 2023 Booker reviewed the draft and suggested discussion with Regional office about the testing requirements
- October 6, 2023 Questions regarding all non TDF and non-coal-firing scenarios were sent to Michael Koerschner. After a couple of discussion emails, we finally decided to go for a once in five-year testing requirement for all non TDF and non-coal-firing scenarios.
- November 7, 2023 Updated permit draft was shared with Booker, Samir Parekh and Michael Koerschner for review and received everyone's comments by November 17, 2023
- November 20, 2023 Draft permit and application review was sent to Mark Cuilla for review to go for public notice.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the modifications to the current permit as part of the renewal process.

| Page No. | Section | Description of Changes |
|--------------|---------------------------------|--|
| Cover Letter | | Updated all dates and permit revision numbers |
| All | Headers | Amended permit revision number |
| Page 1-29 | Entire permit, where applicable | Modified to reflect current permit number, issue and effective dates, and associated ownership change information |
| Page 4 | Section 1 | Footnote description for Emission Source Description inside the table moved to the place under the table |
| Page 5 | Section 2.1 A | Description for each of the parameter from the equation for particulate matter limits/standards for wood in combination with other permitted fuels added in the table column |
| Page 6 | 2.1.A.1 | Updated numberings under recording and monitoring activities after separating monitoring and recordkeeping activities under to subheading |
| Page 7 | 2.1.A.1 | Updated numberings of the points under Reporting |
| Page 8 | 2.1.A.3.c | Testing requirement for all non TDF and/or non-coal-firing scenarios has been updated |
| Page 8 | 2.1.A.3.d | Updated numberings of the bullet points |
| Page 9 | 2.1.A.5.c | Testing requirement for all non TDF and/or non-coal-firing scenarios has been updated |
| Page 11 | 2.1.A.6 | Recordkeeping and reporting requirements were combined and updated |
| Page 18 | Section 3 | A new source was added to the insignificant activity list |
| Page 19-26 | Section 4 | Updated General Conditions to Version 7.0 (08/21/2023) |

This permit renewal is without modification; however, the Title V Equipment Editor will be modified to add insignificant activity I-weld.

5. Regulatory Review

Jackson is subject to the following regulations. The facility’s equipment and operations have not changed since the last renewal in 2019. The permit was updated to reflect the most current stipulations for all applicable regulations, where necessary.

- 15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchanger – The temporary boiler (ID No. JP-023) is subject to 02D .0503. The particulate matter (PM) emission limit for the boiler is calculated by the equation $E = 1.090(Q)^{-0.2594}$, where E is the allowable emission limit for PM in pounds per million Btu and Q is maximum heat input in million Btu per hour. Using the maximum heat input of 145 million Btu per hour, the PM limit (allowable emission rate) for this boiler is 0.30 pounds per million Btu. The emission factor for firing natural gas in a boiler is 0.0005 pounds per million Btu as provided in DAQ’s “Natural Gas Combustion Emission Calculator Revision N” (01/05/2017). The emissions of particulate matter are well below the allowable emission rate; thus, no monitoring, recordkeeping, or reporting is required to ensure compliance for this rule.
- 15A NCAC 02D .0504, Particulates from Wood burning Indirect Heat Exchanger – The wood/coal/ TDF/paper mill sludge/plastic waste/waste oil-fired boiler (ID No. JP-021) is subject to 02D .0504. When burning wood only, allowable PM emissions are determined from the equation $E = 1.1698(Q)^{-0.2230}$, where E equals the allowable emission limit for PM in pounds per million Btu and Q equals the maximum heat input in million Btu per hour. With a Q of 145.1 million Btu per hour for wood, the PM emission limit for the wood fired boiler is 0.39 pounds per million Btu.

When burning wood in combination with other permitted fuels, allowable PM emissions are determined from the following equation:

$$E = [(0.39) (Q_w) + (0.33)(Q_o)]/(Q_t)$$

Where: E = allowable emission in pounds per million Btu
 Q_w = actual wood heat input rate in million Btu per hour
 Q_o = actual other fuel heat input rate in million Btu per hour
 Q_t = Q_w + Q_o

Jackson Paper is required to conduct source testing for PM emissions within five years from the previous testing (i.e., approximately once per permit cycle) to ensure compliance with 02D .0504. The most recent source testing was (stack testing) conducted on April 23, 2019 observed by Michael Koerschner. The following table summarizes the PM emission testing conducted on the boiler, while firing on 85% green wood fuel and 15% other fuels (i.e. paper mill sludge, plastic, and dry powder). Compliance with the allowable limit was demonstrated during testing. Additional PM testing will be required by April 23, 2024, which is approximately five years from the previous testing.

| Pollutant | Emission Rate | Emission Limit | Applicable Regulation | Compliance |
|---|----------------|----------------|-----------------------|------------|
| PM | 0.076 lb/mmBtu | 0.381 lb/mmBtu | 15A NCAC 02Q .0504 | Yes |
| Notes: | | | | |
| <ul style="list-style-type: none"> • lb/mmBtu = pound per million Btu • Environmental Specialist Richard Morris reviewed the source test and approved the results in a memorandum dated October 17, 2019. | | | | |

In addition to periodic testing, the facility must conduct inspections of the mutlicyclone and venturi scrubber, as well as maintain pressure drop and flow rate of the venturi scrubber for compliance. Jackson Paper has limits on the amount of TDF and paper mill sludge that can be burned in the boiler to ensure compliance with 02D .0504. Jackson Paper is also required to conduct PM testing within 180 days of re-commencement of firing on coal or TDF.

- 15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources – Sulfur dioxide from the combustion sources shall not exceed 2.3 pounds per million Btu heat input. No monitoring, recordkeeping, or reporting is required when firing wood, paper mill sludge, TDF, plastic waste, waste oil, or natural gas because these fuels are inherently low enough in sulfur to always be in compliance with this rule. The facility must certify the sulfur content of coal when coal is burned in boiler (ID No. JP-021 and JP-023) to ensure compliance.
- 15A NCAC 02D .0521, Control of Visible Emissions – The following equipment was manufactured after July 1, 1971, and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d).
 - Boiler (ID No. JP-021) – The facility must conduct daily visible emission (VE) observations of the boiler to ensure compliance. Jackson Paper is also required to conduct Method 9 visible emission testing within five years from the previous testing (i.e., approximately once per permit renewal cycle) to ensure compliance with 02D .0521. The most recent source testing was conducted on April 23, 2019. The following table summarizes the VE testing conducted on the boiler, while firing on approximately 85% green wood fuel and 15% other fuels (i.e., paper mill sludge, plastic, and dry powder). Compliance with the allowable limit was demonstrated during testing. Additional VE testing will be required by April 23, 2024, which is approximately five years from this most recent testing on April 23, 2019.

| Pollutant | Emission Rate | Emission Limit | Applicable Regulation | Compliance |
|------------|--|----------------|-----------------------|------------|
| VE Opacity | (Maximum 15 sec. reading) 5% Highest 6-min Avg.) 2.50% | 20% | 15A NCAC 02D .0521 | Yes |

Notes:

- Environmental Specialist Richard Morris reviewed the source test and approved the results in a memorandum dated October 17, 2019.

- Temporary boiler (ID No. JP-023) – Visible emissions are typically not expected from natural gas fired boilers, and no monitoring, recordkeeping, and reporting are required for the temporary boiler to ensure compliance for this rule.
- 15A NCAC 02D .0614, Compliance Assurance Monitoring – The venturi scrubber (ID No. CD-1-2) on the boiler (ID No. JP-021) is subject to CAM. More discussion on CAM is provided in Section 6.
- 15A NCAC 02D .1111, Maximum Achievable Control Technology (MACT) – The boiler (ID No. JP-021) is subject to “NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources” 40 CFR 63 Subpart JJJJJ. This rule is commonly referred to as the Generally

Available Control Technology 6J (GACT 6J). More discussion on GACT 6J is contained in Section 6.

15A NCAC 02D .1806, Control and Prohibition of Odorous Emissions – The owner or operator of a facility subject to this Rule shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary. This condition is applicable facility-wide and is state enforceable only.

- 15A NCAC 02Q .0317, Avoidance Conditions – The facility has taken avoidance conditions for the following regulations:
 - 15A NCAC 02D .1111, Maximum Achievable Control Technology and the “NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters,” 40 CFR 63 Subpart DDDDD. More discussion on MACT avoidance is found in Section 6.
 - 15A NCAC 02D .0530, Prevention of Significant Deterioration (PSD), for sulfur dioxide (SO₂) and carbon monoxide (CO). More discussion on PSD avoidance is found in Section 6.
 - 15A NCAC 02Q .0700, Toxic Air Pollutant Procedures. More discussion on avoidance of air toxics is found in Section 7.
- 15A NCAC 02Q .0711, Emission Rates Requiring a Permit - The facility is subject to several toxic air pollutants (TAPs). See Section 7 for further discussion regarding air toxics.
- NCGS 143-215.108 – Control of Sources of Air Pollution: Permits Required – This regulation prohibits the temporary boiler (ID No. JP-023) from being operated simultaneously with the wood/coal/ TDF/paper mill sludge/plastic waste/waste oil-fired boiler (ID No. JP-021). The facility also must notify DAQ and record the dates when the temporary boiler is put into operation.

On November 1, 2016, amendments to 15A NCAC 02D .0902 were finalized to narrow applicability of work practice standards in 15A NCAC 02D .0958 from statewide to the maintenance area for the 1997 8-hour ozone standard. This change is being made primarily because the abundance of biogenic VOC emissions in North Carolina results in ozone formation being limited by the amount of available nitrogen oxides (NO_x) emissions. Provisions of the Clean Air Act require VOC requirements previously implemented in an ozone nonattainment area prior to redesignation remain in place. However, facilities outside the maintenance area counties for the 1997 8-hour ozone standard would no longer be required to comply with the work practice standards in 15A NCAC 02D .0958. Jackson County was never in nonattainment for ozone and 15A NCAC 02D .0958 is no longer applicable to facilities, including Jackson Paper, within the county. The permit condition for 15A NCAC 02D .0958 was removed under this permit renewal.

6. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

NSPS

The facility is not currently subject to any New Source Performance Standards. This permit renewal does not change the facility's NSPS status.

NSPS Subpart CCCC

This Subpart is for the standards of Performance for Commercial and Industrial Solid Waste Incineration Units. According to a previous inspection report,¹ boiler JP-021 at Jackson Paper was manufactured by the Bigelow / Hoffman Combustion Engineering Company in 1982. It is permitted to burn wood, coal, TDF, paper mill sludge, limited plastic waste, and waste oil. This boiler is not subject to this Subpart because the fuels combusted in this boiler are not considered solid waste.

Therefore, boiler JP-021 is not subject to NSPS Subpart CCCC.

NSPS Subparts DDDD

This Subpart is for the Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration (CISWI) Units. NSPS 40 CFR 60 Subpart DDDD establishes emission guidelines (EG) and compliance schedules for the control of emissions from CISWI units constructed prior to November 30, 1999. This subpart does not directly affect CISWI unit owners and operators. Instead, it requires States to develop their own plans to implement the emission guidelines contained in the subpart. The CISWI unit owners and operators must then comply with the State plans.

DAQ rules developed as required by NSPS Subpart DDDD are found in 15A NCAC 02D .1200, "Control of Emissions from Incinerators." Previous versions of this rule exempted "energy recover units," like the boiler at Jackson Paper, from the definition of a CISWI unit. The material burned in boiler JP-021 was not considered commercial and industrial waste at that time because boiler JP-021 has heat recovery.

The EPA originally published revised EG on March 21, 2011, and the final notice of reconsideration of the guidelines was published on June 23, 2016.² Among other changes, the revised EG expands the definition of a CISWI unit to include "energy recovery units," such as the boiler at Jackson Paper. DAQ amended 15A NCAC 02D .1210 to be consistent with EPA's revised EG for CISWI units pursuant to 40 CFR 60 Subpart DDDD, and the amended rule became effective on July 1, 2018.

In anticipation of the change to 15A NCAC 02D .1210, Jackson Paper submitted a letter on August 11, 2017, requesting a determination of whether lubrication oil and recycled plastic material are considered solid wastes when used a fuel in a combustion unit for the purposes of determining applicability of the CISWI rules. The boiler (ID No. JP-021) is currently permitted to burn wood, coal, TDF, paper mill sludge, plastic waste, and waste oil. Under 40 CFR 241.4(a)(1) and (4), TDF and paper mill sludge are not solid wastes when used as a fuel in a combustion unit and, therefore, were not evaluated in the applicability determination.

The request was reviewed by Jeff Twisdale of the Permitting Section in the Raleigh Central Office, and Applicability Determination No. 3100 was issued on September 15, 2017. A copy of the applicability determination is provided in Attachment 2 to this review. The applicability determination concluded the following:

¹ Brendan Davey (January 8, 2003).

² Federal Register Vol. 81, No. 121, Thursday, June 23, 2016, pp 40956-41034.

As described in your letter dated August 11, 2017, summarizing your use of used lubricating oil and the OCC rejects containing plastic waste, the used lubricating oil does meet the definition of traditional fuel provided in 40 CFR 241.2, and the OCC rejects containing small amounts of plastic waste does meet the categorical exemption criteria pursuant to 40 CFR 241.4(a)(6). Therefore, the NC DAQ has determined that used lubricating oil is a traditional fuel when used as fuel in a combustion unit, and OCC rejects containing small amounts of plastic waste are not a solid waste when used as fuel in a solid fuel-fired combustion unit. As a result of this determination, the existing boiler would not be subject to the combustion source emission standards for biomass fuel promulgated pursuant to Section 129 of the Clean Air Act.

Based on the applicability determination, the boiler (ID No. JP-021) at Jackson Paper is not subject to CISWI rules because the fuels burned in the boiler are not considered to be solid waste.

NSPS Subpart Db

The “NSPS for Industrial-Commercial-Institutional Steam Generating Units,” 40 CFR 60 Subpart Db, is applicable to steam generating units that commence construction, modification, or reconstruction after June 19, 1984, and have a heat input capacity of greater than 100 million Btu/hour. As noted previously, boiler JP-021 was constructed prior to this date and, thus, is not subject to NSPS Subpart Db.

Temporary boilers are not subject to NSPS Subpart Db per 40 CFR 60.40b(m). A temporary boiler is defined under NSPS Subpart Db as one that combusts natural gas or oil; that is designed or capable of being moved from one location to another; and that will remain on site for no more than 180 consecutive days. Temporary boiler JP-023 meets all these criteria. The temporary boiler fires on natural gas. It will be trailer mounted and will be onsite for no more than 180 consecutive days. Thus, the temporary boiler JP-023 is not subject to NSPS Subpart Db.

NESHAP/MACT/GACT

Jackson Paper has accepted a facility-wide emission limit for hazardous air pollutants (HAPs). The permit limits emissions of any single HAP to less than 10 tpy and to less than 25 tpy for any combination of HAPs. These limitations establish this facility as a minor facility for HAPs so that Jackson Paper avoids applicability of “NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters,” 40 CFR 63 Subpart DDDDD.

Certain boilers at area sources of HAPs are subject to the “NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources,” 40 CFR 63 Subpart JJJJJ, or GACT 6J. Boilers that are not subject to GACT 6J are listed under 40 CFR 63.11195. In particular, the rule does not cover “any boiler specifically listed as an affected source in another standard(s) established under section 129 of the Clean Air Act.” Section 129 of the CAA, titled “Solid Waste Combustion,” requires the EPA to develop and adopt standards for commercial and industrial solid waste incineration units, and NSPS Subparts CCCC and DDDD were developed as required by Section 129. Thus, boilers that are subject to NSPS Subparts CCCC or DDDD are not subject to GACT 6J, per 40 CFR 63.11195(b). As noted previously, boiler JP-021 is NOT subject to NSPS Subparts CCCC or DDDD and, therefore, is not excluded from GACT 6J for this reason.

As an area or minor source of HAPs not subject to NSPS Subparts CCCC or DDDD, boiler JP-021 becomes subject to GACT 6J. Boiler JP-021 is considered an existing boiler under this rule because it was constructed prior to June 4, 2010. Additionally, the boiler falls in the Biomass subcategory

under GACT 6J, which means any boiler that burns at least 15 percent biomass on an annual heat input basis.³ Further, biomass means “any biomass-based solid fuel that is not a solid waste.”

As specified in 40 CFR 63.11195(e), gas fired boilers are not subject to GACT 6J. Thus, the temporary boiler (ID No. JP-023), which will fire only natural gas, is not subject to GACT 6J.

PSD

Jackson Paper currently operates under two separate PSD avoidance conditions as follows:

- Section 2.1 A.4 of the Title V permit limits the emissions of SO₂ from the boiler (ID No. JP-021) to less than 250 tpy. To ensure compliance, the facility is required to monitor fuel usage and sulfur content.
- Section 2.1 A.5 of the Title V permit limits emissions of CO from the boiler (ID No. JP-021) to less than 250 tpy. To ensure compliance, the facility is required to monitor fuel usage and complete monthly records of the usage and CO emissions. Jackson Paper is also required to conduct source testing for CO emissions within five years from the previous testing (i.e., approximately once per permit cycle). The most recent source testing was conducted on April 23, 2019, and the results for CO emissions are summarized in the table below. Compliance with the avoidance limit was demonstrated during testing. Additional CO testing will be required by April 23, 2024, which is approximately five years from the previous testing.

| Pollutant | Emission Rate | Emission Limit | Applicable Regulation | Compliance |
|---|---|-----------------------|--|-------------------|
| CO | 0.285 lb/mmBtu measured during testing 134 tpy based on conditions during testing 181.1 tpy potential emissions | 250 tpy | 15A NCAC 02Q .0317 for avoidance of 15A NCAC 02D .0530 | Yes |
| Notes: <ul style="list-style-type: none"> • lb/mmBtu = pound per million Btu. • Potential emissions calculated as follows: CO (tpy) = (0.377 lb/mmBtu) * (145.1 mmBtu/hr)*(8,760 hours/yr) * (ton/2000 lbs) = 239.6 tpy • Environmental Specialist Richard Morris reviewed the source test and approved the results in a memorandum dated October 17, 2019. | | | | |

112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the 112(r) thresholds. No change with respect to 112(r) is anticipated under this permit renewal.

CAM

The CAM rule (40 CFR 64; 15A NCAC 02D .0614) applies to each pollutant specific emissions unit (PSEU) at major TV facilities that meets all three following criteria:

- the unit is subject to any (non-exempt: e.g. pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.

³ As defined under 40 CFR 63.11237, the biomass subcategory includes any boiler that burns any biomass and is not in the coal subcategory and the coal subcategory includes any boiler that burns any solid fossil fuel and no more than 15 percent biomass on an annual heat input basis

- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source (i.e., 100 tons per year for criteria pollutants or 10/25 tons per year for HAPs).

Jackson currently employs a multicyclone (ID No. CD-1-1) in series with venturi scrubber (ID No. CD-1-2) to control the particulate emissions from boiler (ID No. JP-021). CAM requirements were updated and approved under prior permit renewal No. 04665T17. Jackson is not requesting changes to any of its existing CAM plan requirements; hence this permit renewal does not change the facility's current CAM status.

7. Facility Wide Air Toxics

Facility-wide affected sources are subject to the toxic permitting emission rate (TPER) as listed in 15A NCAC 02Q .0711 for the TAPs in permit condition 2.2 A.2. Jackson Paper has demonstrated that the emissions of these TAPs do not exceed their TPER. A permit to emit any of these pollutants in quantities above the TPER rates requires the submittal of a permit application. No changes to the conditions are needed under this permit renewal.

Waste Oil

To avoid applicability to NC Air Toxics, Jackson Paper has accepted a limit to combust no more than 10 tons per year of on-site generated waste oil. Previously, the facility had a limit to combust no more than 5 lbs/hour of waste oil for avoidance of NC Air Toxics. The limit was modified under Air Permit 04665T14 issued on April 25, 2013. A detailed discussion on the modification of the waste oil limit is provided in the review associated with that permit.⁴ The facility also must ensure the waste oil meets the criteria cited in the permit by testing the waste oil annually. No changes to the condition are needed under this permit renewal.

Paper Mill Sludge

Jackson Paper is permitted to burn no more than 5,256,000 dry pounds of paper mill sludge on an annual basis, which is equivalent to 600 dry pounds burned continuously throughout the year. In Air Permit No. 04665T16 issued on November 17, 2015, the hourly limit was increased to 800 dry pounds of sludge per hour to allow for the natural variability in the fuel. A detailed discussion on the modification of the limit on paper mill sludge is provided in the review associated with that permit.⁵ No changes to the condition are needed under this permit renewal.

Director's Call

On April 27, 2009, DAQ issued a letter to Jackson Paper notifying the facility it was subject to a Director's Call pursuant to 15A NCAC 02Q .0712, "Calls by the Director." Under the Director's Call, Jackson Paper was required to submit a permit application demonstrating emissions of TAPs from the facility (including combustion sources) would not cause an acceptable ambient level (AAL) listed in 15A NCAC 02D .1104 to be exceeded beyond the property boundary. In response to the Director's Call, the facility submitted a permit application on February 2, 2010, requesting the

⁴ Betty Gatano (April 25, 2013).

⁵ Betty Gatano (November 17, 2015).

current emission controls at the facility be considered MFCT under 15A NCAC 02Q .0709, “Demonstrations.”

Since the submittal of the permit application for MFCT, the AAL for arsenic has been reviewed by the NC Scientific Advisory Board, and a revised value has been proposed. On November 14, 2013, the Environmental Management Commission approved the revised AAL for arsenic, and the revised AAL became effective on July 7, 2014.

Once the AAL was effective, DAQ re-evaluated the MFCT permit application and determined air modeling for the revised arsenic AAL was needed to determine compliance with NC Air Toxics. Tom Anderson of the Air Quality Analysis Branch conducted air modeling with the most current version of AERSCREEN (at that time) and the emission source parameters for the boiler (ID No. JP-021) as provided in the 2010 air modeling submitted in support of the MFCT application. The revised modeling was conducted using a unit emission rate of 1 lb/hour. The results were then scaled using the highest actual emissions of arsenic during years 2010 through 2013,⁶ as reported in DAQ’s emission inventory. The results are provided in the table below.

| Pollutant | Modeled Concentration based on Unit Emission Rate | | Modeled Concentrations based on Actual Emissions | | | |
|---------------------|---|--|--|--|----------------------------------|----------|
| | Emission Rate (lb/hr) | Modeled Concentration (mg/m ³) | Emission Rate (lb/hr) | Modeled Concentration (mg/m ³) | Revised AAL (mg/m ³) | % of AAL |
| Arsenic & compounds | 1.0 | 3.29E-3 | 4.8E-4 | 1.61E-6 | 2.1E-6 | 76.7% |

As shown above, the scaled air modeling was compared with the revised AAL for arsenic, and the resulting maximum concentration was 76.7% of the revised AAL. The revised air modeling for arsenic demonstrated compliance with the AALs for arsenic. The MFCT permit application was withdrawn on October 7, 2014.⁷

8. Facility Emissions Review

The facility-wide potential emissions do not change under this TV permit renewal. Actual emissions for criteria pollutants and HAPs for the years 2017 through 2021 are provided in the header of this permit review.

9. Other Regulatory Requirements

EPA has promulgated a rule (88 FR 47029, July 21, 2023), with an effective date of August 21, 2023, removing the emergency affirmative defense provisions in operating permits programs, codified in both 40 CFR 70.6(g) and 71.6(g). EPA has concluded that these provisions are inconsistent with the EPA’s current interpretation of the enforcement structure of the CAA, in light of prior court decisions⁸. Moreover, per EPA, the removal of these provisions is also consistent with other recent

⁶ Emission data prior to 2009 was not used because Jackson Paper conducted source testing in 2009 to establish emission factors for arsenic. Emission inventories prior to 2010 were not based on the site-specific emission factors and were not considered as representative of actual emissions at the facility.

⁷ Betty Gatano (October 7, 2014).

⁸ NRDC v. EPA, 749 F.3d 1055 (D.C. Cir. 2014).

EPA actions involving affirmative defenses⁹ and will harmonize the EPA's treatment of affirmative defenses across different CAA programs.

As a consequence of this EPA action to remove these provisions from 40 CFR 70.6(g), it will be necessary for states and local agencies that have adopted similar affirmative defense provisions in their Part 70 operating permit programs to revise their Part 70 programs (regulations) to remove these provisions. In addition, individual operating permits that contain Title V affirmative defenses based on 40 CFR 70.6(g) or similar state regulations will need to be revised.

Regarding NCDAQ, it has not adopted these discretionary affirmative defense provisions in its Title V regulations (15A NCAC 02Q .0500). Instead, DAQ has chosen to include them directly in individual Title V permits as General Condition (GC) J.

Per EPA, DAQ is required to promptly remove such impermissible provisions, as stated above, from individual Title V permits, after August 21, 2023, through normal course of permit issuance.

10. Compliance Status

DAQ has reviewed the compliance status of Jackson Paper Manufacturing Company. During the most recent inspection, conducted on September 7, 2022, by Michael Koerschner of ARO, the facility appeared to be in compliance with all applicable requirements. Further, the facility has had no air quality violations within the last five years. The facility's Annual Compliance Certification was received on February 15, 2023, and indicated compliance with all applicable requirements in 2022.

11. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. South Carolina, Tennessee, and the Western North Carolina Regional Air Quality Agency are affected areas within 50 miles of this facility and will be notified accordingly.

⁹ In newly issued and revised New Source Performance Standards (NSPS), emission guidelines for existing sources, and NESHAP regulations, the EPA has either omitted new affirmative defense provisions or removed existing affirmative defense provisions. See, e.g., National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule, 80 FR 44771 (July 27, 2015); National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; Final Rule, 80 FR 72789 (November 20, 2015); Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Commercial and Industrial Solid Waste Incineration Units; Final Rule, 81 FR 40956 (June 23, 2016).

12. Other Regulatory Considerations

- A P.E. seal is NOT required for this renewal application.
- A zoning consistency determination is NOT required for this renewal application.
- A permit fee is NOT required for this renewal application.

13. Recommendations

The permit renewal application for Jackson Paper Manufacturing Company located in Sylva County, Jackson, North Carolina has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. DAQ recommends the issuance of Air Permit No. 04665T19.