

WASHINGTON DEPARTMENT OF ECOLOGY
MAIL STOP 47600
OLYMPIA, WASHINGTON 98504

IN THE MATTER OF AIR EMISSIONS FROM:

Andrew Cooper
Nippon Dynawave Packaging Company, LLC
P.O. Box 188
Longview, Washington 98632

NOC ORDER No. 16181

DESCRIPTION

Nippon Dynawave Packaging Company, LLC (Nippon Dynawave) owns and operates a Kraft pulp and liquid packaging paperboard mill located in Longview, Washington along the Columbia River. Paperboard is coated with extruded polymer material on both sides and is used for liquid packaging.

The extruder process has been operated at the Longview site since 1963 and has had multiple owners and operators. In 2010 Weyerhaeuser NR Company (Weyerhaeuser) purchased the extruders operation from Pacific Lamination. In 2016 Weyerhaeuser sold the Kraft pulp and paper mill, including the extruders operation, to Nippon Paper Industries, and the facility is now operated under the name Nippon Dynawave Packaging Company, LLC.

The extruder process consists of two extrusion lines, Lines 6 and 7. Each line has a pre-treatment burner which oxidizes the paperboard to promote adhesion of polymers. Following pre-treatment the paperboard is coated through the extrusion process on both sides of the paperboard. Matte coating is applied to the liquid product surface and gloss coating is applied to the exterior printed surface. Following coating, the paperboard is treated to reduce gloss and prepare the outer surface for printing using a Corona Treater.

The Line 6 pre-treatment burner was installed in 1963 and is natural gas-fired. The burner system consists of two burners with a total capacity of 3.06 MMBtu/hr and is exhausted through an 18-inch diameter stack.

The Line 7 pre-treatment burner was installed in 1977, with a complete control upgrade in 2013, and is natural gas-fired. The burner system consists of two burners with a total capacity of 3.06 MMBtu/hr and is exhausted through an 18-inch diameter stack.

Design and operating specifications for each of the extruders is included in Table 1 below. Extruder 6.2 has a coalescing fiber bed mist collection system which was installed in 2008 to reduce visible emissions. The other extruders do not have add-on control technology.

Table 1. Extruder Design and Operating Specifications

Extruder	Installation Year	Surface Coating Type	Coating Material	Maximum Throughput (lbs/hr)	Maximum Exposed Melting Surface (ft ²)
6.1	1963	Matte	Low-density polyethylene (LDPE)	2,750	8.677
6.2	1963	Gloss	LDPE	2,750	8.677
6.3A, B, C	2002	Matte	6.3A: LDPE 6.3B: Nylon 6.3C: Tie Resin or LDPE	6.3A: 2,750 6.3B: 1,300 6.3C: 1,100 Total: 5,150	10.743 (total)
7.1/7.1A	7.1: 1977 7.1A: 1994	Matte	LDPE	7.1: 2,600 7.1A: 1,300 Total: 3,900	11.569
7.2	1977	Gloss	LDPE	2,600	11.569

The Line 6 Corona Treater was installed in 2002, with an additional treater added in 2005. The corona discharge post-treatment unit oxidizes the coated paperboard to allow for printing on the gloss-side. This process results in ozone emissions.

The Line 7 Corona Treater which is currently in use was installed in 2006 and has the same capacity as the unit it replaced.

In addition to the equipment mentioned above, the extruders operation also includes a poly pellet transport system (which includes a poly dust collection system), a vacuum system, and a core cutting room. The pellet transport process moves pellets of polymeric coating from rail cars to storage silos using a pneumatic system. The pellets first travel from railcars to a receiver which exhausts the transport air to atmosphere. They are then transported to an elutriator, which separates poly dust and ‘angel hair’ from the polymeric pellets. The pellets are then sent to the storage silos, while the separated dust and debris are sent to a baghouse to collect the dust for disposal.

The vacuum system is used to collect particulate from the core saw room and for general shop maintenance. Exhaust air flows through a cyclone and a baghouse to remove particulate matter. Rolls of paperboard are cut in the core cutting room to ideal lengths. The vacuum system collects the majority of the particulate matter generated during this; however, a small amount of particulate can escape the vacuum system. An exhaust system was installed in the core cutting room to prevent particulate from escaping the room and potentially migrating onto the product.

Prior to 2010, when the extruders operation was sold to Weyerhaeuser and became part of the Kraft pulp mill, this operation was under the permitting jurisdiction of Southwest Clean Air

Agency (SWCAA). A brief description of the permits issued by SWCAA for this operation is included in Appendix C.

SWCAA 09-2849 requires the facility, now Nippon Dynawave, to conduct stack testing once every five years for a specified extruder. In accordance with SWCAA 09-2849, Nippon Dynawave completed a stack test at Extruder 7.1/7.1A on May 17, 2018. Results of the stack test indicated that the VOC emissions from Extruder 7.1/7.1A were above the permitted limit. In response to a Compliance Order (Docket Number 15893) issued by the Washington State Department of Ecology (Ecology) on August 8, 2018, Nippon Dynawave conducted additional source tests at each of the operating extruders in September 2018. Results of the source testing conducted in May and September 2018 are included in Table 2 below.

Table 2. Source Testing Results from May and September 2018 for Extruders Operation

Test Date	Extruder	PM (lbs/hr)	VOCs (lbs/hr)	Opacity	Polymer Usage (lbs/hr)	Volumetric Flow Rate (dscfm)
September 18, 2018	6.2	0.098	1.0	0%	1,463	4,780
September 19, 2018	6.3A, B, C	0.15	0.4	1%	3,909	3,952
May 17, 2018	7.1/7.1A	0.88	1.4	0%	3,598	7,763
September 20, 2018	7.1/7.1A	0.47	1.3	2%	3,802	7,882
September 21, 2018	7.2	0.36	1.0	3%	2,038	8,201

Based on the results of the testing, Nippon Dynawave and Ecology have determined that emissions from the extruders operation were not estimated accurately during previous permitting actions. As a result, the limits in those Orders are no longer considered to be reasonably achievable. Compliance Order 15893 required Nippon Dynawave to establish new emission factors for each of the extruders based on the source testing completed in May and September 2018. The emission limits for all of the extruders, including the facility-wide emission limits, will be modified based on the new emission factors.

FINDINGS

Pursuant to New Source Review (NSR) regulations in the Washington Administrative Code (WAC) 173-400-110, 173-400-111 and 173-460-040, and based upon the complete NOC Modification Application submitted by Nippon Dynawave and the technical analysis performed by Ecology, Ecology now finds the following:

1. An initial NOC modification application received January 2, 2019 was submitted by Nippon Dynawave for the modification of the Extruders Air Discharge Permit issued by SWCAA. Ecology reviewed the initial application and additional information provided by Nippon Dynawave on February 1, 2019 and found it complete per WAC 173-400-111 on March 5, 2019.

2. Emission estimates for the Extruders Operation for criteria air pollutants are included in Table 3 below.

Table 3. Estimated Emissions of Criteria Air Pollutants from the Extruders Operation

Source	Pollutant	Estimated Emissions (lbs/hr)	Estimated Emissions (tons/yr)
Lines 6 and 7 Pre-Treatment Burners	VOC	0.066	0.29
Lines 6 and 7 Pre-Treatment Burners	NO _x	1.2	5.26
Lines 6 and 7 Pre-Treatment Burners	CO	1.01	4.42
Lines 6 and 7 Pre-Treatment Burners	PM ₁₀	0.09	0.40
Lines 6 and 7 Pre-Treatment Burners	SO ₂	0.017	0.075
Pellet Transport System	PM ₁₀	0.03	0.1185
Poly Dust Collector	PM ₁₀	0.12	0.1795
Vacuum System	PM ₁₀	0.12	0.507
Extruder 6.1	VOC	1.3	4.4
Extruder 6.1	PM ₁₀	1.2	5.1
Extruder 6.2	VOC	2.3	6.8
Extruder 6.2	PM ₁₀	1.2	5.1
Extruder 6.3A, B, C	VOC	2.5	8.3
Extruder 6.3A, B, C	PM ₁₀	1.6	3.5
Extruder 7.1/7.1A	VOC	1.9	6.3
Extruder 7.1/7.1A	PM ₁₀	1.2	4.0
Extruder 7.2	VOC	1.6	5.1
Extruder 7.2	PM ₁₀	2.0	8.7
All Extruders	CO	--	1.35
Lines 6 and 7 Corona Treaters	Ozone	0.042	0.313
Core Cutting Room Exhaust	PM	0.04	0.219
Facility-wide	VOC	--	22.1
Facility-wide	NO _x	--	5.26
Facility-wide	CO	--	5.77
Facility-wide	PM	--	17.5
Facility-wide	PM ₁₀	--	17.5
Facility-wide	PM _{2.5}	--	17.5
Facility-wide	SO ₂	--	0.08
Facility-wide	Ozone	--	0.31

3. Emissions of toxic air pollutants (TAPs), as defined in Chapter 173-460 WAC, have been estimated using emission factors from a source test conducted at a similar facility and from a

source test conducted in 1999 at the extruders operation. Emission estimates for TAPs are included in Table 4 below.

Table 4. Estimated Emissions of TAPs from the Extruders Operation

Pollutant	Averaging Period	Estimated Emissions (lbs/avg. period)
Acetaldehyde	Annual	475
Acrolein	24-hr	0.016
Formaldehyde	Annual	869
Methyl Ethyl Ketone (MEK)	24-hr	1.17
Propylene	24-hr	0.085
Acrylic Acid	24-hr	0.002
Toluene	24-hr	0.996

- In accordance with the application, the emission limits for PM₁₀ and VOC will be modified facility-wide and for the following specific units: Extruder 6.1, Extruder 6.2, Extruder 6.3A, B, and C, Extruder 7.1/7.1A, and Extruder 7.2.

Facility-wide emission limits and emission limits for Extruder 6.1, Extruder 6.2 (hourly limit only), Extruder 6.3A, B, and C, Extruder 7.1/7.1A, and Extruder 7.2 for VOC will increase. Emission limits for Extruder 7.1/7.1A (hourly limit only) and Extruder 6.3A, B, and C for PM₁₀ will increase. The annual VOC limit for Extruder 6.2 will decrease. Specific modifications to the emission limits for each extruder, and facility-wide, are included in Table 5 below.

Table 5. Proposed Modifications to Emission Limits

Extruder	Pollutant	Permit Limit Change (lbs/hr)	Permit Limit Change (tons/yr)
6.1	VOC	0.7	2.0
6.1	PM ₁₀	No change	No change
6.2	VOC	0.7	-0.1
6.2	PM ₁₀	No change	No change
6.3A, B, C	VOC	1.6	5.3
6.3A, B, C	PM ₁₀	0.7	0.5
7.1/7.1A	VOC	0.9	2.3
7.1/7.1A	PM ₁₀	0.2	No change
7.2	VOC	0.6	1.0
7.2	PM ₁₀	No change	No change
Facility-wide	VOC	N/A	9.0
Facility-wide	PM ₁₀	N/A	No change

- The facility has the potential to emit greater than 100 tpy for at least one PSD pollutant. The facility is therefore classified as a major stationary source under the PSD permitting program, and is, therefore, subject to PSD permitting consideration under WAC 173-400-720 and 40 CFR 52.21, in accordance with 40 CFR 52.21(2)(i). Because this permitting action is not a

result of a modification of an existing source or the construction of a new source, PSD permitting is not required for this permit modification.

6. In accordance with WAC 173-400-111(8), in order to approve the request to modify the existing Order, the change in conditions must continue to meet the following criteria:
 - a. The change in conditions will not cause the source to exceed an emissions standard set by regulation or rule.
 - b. The change in conditions will not cause or contribute to a violation of any ambient air quality standards.
 - c. The change will not adversely impact the ability of the permitting authority to determine compliance with an emissions standard.
 - d. The revised order will continue to require best achievable control technology (BACT) for each new source approved by the order.
 - e. The revised order meets the requirements of WAC 173-400-111, 173-400-112, 173-400-113, 173-400-720, 173-400-830, and 173-460-040, as applicable.

Each of these criteria are discussed in detail below.

7. With respect to applicable emission standards, which are discussed on page 5 of the application:
 - a. The extruders operation is subject to 40 CFR Part 63, Subpart JJJJ, National Emission Standards for Hazardous Air Pollutants (NESHAP): Paper and Other Web Coating. Nippon Dynawave will continue to comply with the requirements of 40 CFR Part 63, Subpart JJJJ.
 - b. No other applicable emission standards have been identified for the extruders operation.
8. This modified Order will not result in a violation of any ambient air quality standards. The modification will increase the annual VOC limit by 9.0 tons per year and the hourly VOC limit by 4.5 pounds per hour. No ambient air quality standards have been established for VOC; therefore, the increase in the VOC limits will not cause or contribute to a violation of the ambient air quality standards.

The modified Order increases the hourly PM₁₀ limit by 0.7 pounds per hour at Extruder 6.3A, B, and C and 0.2 pounds per hour at Extruder 7.1/7.1A, resulting in a total increase of 0.9 pounds per hour. The annual PM₁₀ limit for the facility will not change. WAC 173-400-113 includes threshold values to determine if an emissions increase will cause or contribute to a violation of an ambient air quality standard. For PM₁₀ the threshold value for the annual

average impact is $1.0 \mu\text{g}/\text{m}^3$ and for the 24-hour average impact is $5 \mu\text{g}/\text{m}^3$. Because the annual PM_{10} limit for the facility will not change, this permit modification is not expected to cause or contribute to a violation of the ambient air quality standards.

9. The modified Order will not result in any changes to monitoring or reporting requirements. No impacts to compliance determinations for the source are expected due to the permit modification.

10. The revised order will continue to require BACT, as previously established, for the following units: Core Cutting Room Exhaust, Line 7 Corona Treater, Line 6 Corona Treater, Extruder 6.3, Extruder 7.1/7.1A, and the Poly Dust Collector System. Reasonably available control technology (RACT) determinations have previously been made for Extruders 6.1, 6.2, and 7.2. Previous BACT and RACT determinations are described below:
 - a. Core Cutting Room Exhaust – BACT determined to be operating with no add-on controls
 - b. Line 7 Corona Treater – BACT determined to be operating with no add-on controls
 - c. Line 6 Corona Treater – BACT determined to be operating with no add-on controls
 - d. Extruder 6.3A, B, and C – BACT for CO determined to be operating with no add-on controls. BACT for PM_{10} was determined to be the use of a coalescing filter system if emissions of PM_{10} exceed 3.0 tons per year. Rather than requiring the installation of the coalescing filter system, the permitting authority limited the annual PM_{10} emissions for Extruder 6.3 to 3.0 tons per year. Based on this historical BACT determination, the annual PM_{10} emissions at Extruder 6.3A, B, and C will be limited to 3.0 tons per year.
 - e. Extruder 7.1/7.1A – BACT for PM_{10} was determined to be the use of a coalescing filter system if emission of PM_{10} exceed 4.0 tons per year. Rather than requiring the installation of the coalescing filter system, the permitting authority limited the annual PM_{10} emissions for Extruder 7.1/7.1A to 4.0 tons per year.
 - f. Poly Dust Collector – BACT was determined to be the use of a baghouse.
 - g. RACT determinations for Extruder 6.1, Extruder 6.2, and Extruder 7.2 – Limits were established for each of the extruders for VOC, PM_{10} , and opacity based on the limits established for Extruder 7.1/7.1A and Extruder 6.3A, B, and C.
 - h. Extruder 6.2 – RACT was determined to be the use of a coalescing filter system.

11. WAC 173-460-040 applies to new or modified toxic air pollutant sources, as defined in WAC 173-460-020(6). This Order modification will not result in a new or modified toxic air pollutant source.
12. An environmental checklist was submitted with the NOC Modification Application which considered environmental impacts of the increased permit limits as required by chapter 43.21C of the Revised Code of Washington (RCW), also known as the State Environmental Policy Act (SEPA). Ecology reviewed the checklist and made a Determination of Nonsignificance (DNS) which was signed on June 10, 2019 and made available for public comment at the same time as the order.
13. The proposed project meets all applicable federal and state rules and regulations implemented by Ecology including: General Regulations for Air Pollution Sources (Chapter 173-400 WAC), New Source Performance Standards (40 CFR Part 60 and 40 CFR Part 61) and National Emission Standards for Hazardous Air Pollutants (40 CFR Part 63).

THEREFORE, it is ordered that the project, as described in said NOC permit application and other information submitted to the Ecology in reference thereto, is approved subject to the conditions listed below.

CONDITIONS

1. This order supersedes SWCAA 09-2849 in its entirety.
2. Nippon Dynawave must comply with the following limits included in Table 6 for each of the specified emission units:

Table 6. Emission Limits for the Extruders Operation

Emission Unit	Pollutant	Limit
Extruder 6.1	PM ₁₀	1.2 pounds per hour (lbs/hr) 5.1 tons per year (tpy)
Extruder 6.1	VOC	1.3 lbs/hr 4.4 tpy
Extruder 6.2	PM ₁₀	1.2 lbs/hr 5.1 tpy
Extruder 6.2	VOC	2.3 lbs/hr 6.8 tpy
Extruder 6.3A, B, and C (combined)	PM ₁₀	1.6 lbs/hr 3.0 tpy
Extruder 6.3A, B, and C (combined)	VOC	2.5 lbs/hr 8.5 tpy
Extruder 7.1/7.1A (combined)	PM ₁₀	1.2 lbs/hr 4.0 tpy

Emission Unit	Pollutant	Limit
Extruder 7.1/7.1A (combined)	VOC	1.9 lbs/hr 6.3 tpy
Extruder 7.2	PM ₁₀	2.0 lbs/hr 8.7 tpy
Extruder 7.2	VOC	1.6 lbs/hr 5.1 tpy
Line 7 Corona Treater	Ozone	313 pounds per year (lbs/yr)
Poly Dust Collector Baghouse	PM ₁₀	0.005 grains per dry standard cubic foot (gr/dscf) 0.2 lbs/hr 0.2 tpy
Poly Dust Collector Baghouse	Opacity	0% for more than 3 minutes in any 1 hour period, as determined in accordance with Ecology Method 9A
Core Cutting Room Exhaust	PM ₁₀	0.005 gr/dscf 0.2 lbs/hr 0.2 tpy
Core Cutting Room Exhaust	PM _{2.5}	0.005 gr/dscf 0.2 lbs/hr 0.2 tpy
Facility-wide (extruders operation)	PM ₁₀	17.5 tpy
Facility-wide (extruders operation)	VOC	22.1 tpy

3. Annual emissions shall be calculated using the approved emission factors included in Appendix B of this Order unless alternative emission factors are developed and approved by the permitting authority.
4. The following information shall be recorded each calendar month:
 - a. The total quantity of polymeric coating applied by each extruder.
 - b. The total amount of natural gas consumed by the Line 6 and Line 7 pre-treatment burners.
 - c. The total number of hours each corona treater was operated.
 - d. The total number of hours the pellet transport system was operated.
 - e. The total number of hours the vacuum system was operated.
 - f. The total number of hours the Core Cutting Room Exhaust was operated.

- g. Any maintenance activities or upset conditions which resulted in increased emissions.
5. Source testing of one extruder exhaust shall be conducted no later than September every five years, beginning September 2023, unless an alternative schedule is approved by the permitting authority. All source emissions testing shall be conducted in accordance with Appendix A of this Order.

The results of source testing shall be reported to the permitting authority no later than 60 days following completion of the testing.

6. Visual emissions (opacity) monitoring of each extruder exhaust shall be conducted at least once every twelve months in accordance with Appendix A of this Order.

The results of opacity monitoring shall be reported to the permitting authority no later than 60 days following completion of the monitoring.

7. Annual emissions must be reported to the permitting authority by March 15th of each year for the previous calendar year. The following information must be included in the report:
- a. The total quantity of polymeric coating applied by each extruder.
 - b. The total amount of natural gas consumed by the Line 6 and Line 7 pre-treatment burners.
 - c. The total number of hours each corona treater was operated.
 - d. The total number of hours the pellet transport system was operated.
 - e. The total number of hours the vacuum system was operated.
 - f. The total number of hours the Core Cutting Room Exhaust was operated.
 - g. Air emissions of criteria air pollutants, VOCs, TAPs, and HAPs from each emission unit and facility-wide for the Extruders Operation.
8. All records required by this Order shall be maintained and made readily available upon request of the permitting authority for a minimum of five years.
9. Extruder 6.1 is not currently being operated regularly. Prior to returning Extruder 6.1 to regular operation, Nippon Dynawave must notify the permitting authority as soon as possible, but no later than 30 days prior to resuming regular operation of Extruder 6.1.
10. The Extruders Operation and the associated air pollution control equipment and monitoring equipment must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times.

11. Any activity or operation, which is undertaken by Nippon Dynawave or others, in a manner which is inconsistent with the notice of construction modification application received by Ecology on January 2, 2019, other information submitted to Ecology in reference thereto, and this Order, shall be subject to Ecology enforcement under applicable regulation. Nothing in this order shall be construed so as to relieve Nippon Dynawave of its obligations under any state, local, or federal laws or regulations.

YOUR RIGHT TO APPEAL

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do both of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW STE 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

MORE INFORMATION

- **Pollution Control Hearings Board**
www.eho.wa.gov/Boards_PCHB.aspx
- **Chapter 43.21B RCW, Environmental Hearings Office – Pollution Control Hearings Board**
<http://apps.leg.wa.gov/RCW/default.aspx?cite=43.21B>
- **Chapter 371-08 WAC – Practice and Procedure**
<http://apps.leg.wa.gov/WAC/default.aspx?cite=371-08>
- **Chapter 34.05 RCW – Administrative Procedure Act**
<http://apps.leg.wa.gov/RCW/default.aspx?cite=34.05>
- **Chapter 70.94 RCW, Washington Clean Air Act**
<http://apps.leg.wa.gov/RCW/default.aspx?cite=70.94>
- **Air Quality Rules**
<https://ecology.wa.gov/Air-Climate/Air-quality/Business-industry-requirements/Permits-for-burning-industrial>

SIGNATURES

Reviewed by:

Kelsey Holbrook
Environmental Engineer
Solid Waste Management Program

James DeMay, P.E.
Industrial Section Manager
Solid Waste Management Program

Date

Date

Appendix A Emission Testing Requirements

The purpose of this testing is to quantify VOC and PM emissions and the opacity of emissions from the extruders and to demonstrate compliance with the requirements of this Order. If testing indicates that the currently approved emission factors are no longer accurate, new emission factors may be developed based on the results of the testing.

Source testing of one extruder exhaust shall be conducted no later than September every five years, beginning September 2023, unless an alternative schedule is approved by the permitting authority. The extruder exhausts shall be tested on a rotating schedule so that each extruder exhaust is tested at the same frequency. The schedule below shall be utilized unless an alternative schedule is approved by the permitting authority.

Emission Unit	Testing Date
Extruder 7.2	September 2023
Extruder 6.3A, B, C	September 2028
Extruder 6.2	September 2033
Extruder 6.1	September 2038
Extruder 7.1/7.1A	September 2043

A comprehensive testing plan must be submitted to the permitting authority for review and approval at least 30 days prior to the scheduled testing date. Each test shall consist of three sampling runs using the methods and test durations specified below:

Constituent	Test Method or Equivalent ¹	Minimum Test Duration
Stack gas flow rate, Temperature	EPA Methods 1 and 2	N/A
O ₂ , CO ₂ Content	EPA Method 3 or 3A	60 minutes
Stack gas moisture content	EPA Method 4	60 minutes
Filterable particulate matter ¹	EPA Method 5 or 201A	60 minutes
Opacity	Ecology Method 9A	60 minutes
Total VOCs	EPA Method 18/25A	60 minutes
Condensable particulate matter	EPA Method 202	60 minutes

¹ All particulate matter will be assumed to be PM₁₀ unless otherwise demonstrated.

Opacity monitoring shall be conducted for each extruder exhaust stack at least once every 12 calendar months, no later than the end of September. Each stack shall be monitored in accordance with Ecology Method 9A.

A complete record of production related parameters including but not limited to the following shall be kept during emissions testing to correlate operations with emissions, and shall be included with each final test report:

1. Process startups, shutdowns, and upsets

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2. Polymer use rate
3. Polymer type
4. Adjustments to operating conditions

Source operations during the emission test must be representative of the maximum level of normal operation.

A final emission test report shall be prepared and submitting to the permitting authority within 60 calendar days of test completion and, at a minimum, shall contain the following information:

1. Description of the source including manufacturer, model number, and design capacity of the equipment, and the location of the sample ports or test locations.
2. Time and date of the test and identification and qualifications of the personnel involved.
3. Summary of results, reported in units and averaging periods consistent with the applicable emissions standard or unit.
4. Summary of control system or equipment operating conditions.
5. Summary of production related parameters.
6. A description of the test methods or procedures used, including all field data, quality assurance/quality control procedures, and documentation.
7. A description of the analytical procedures used including all laboratory data, quality assurance/quality control procedures, and documentation.
8. Copies of field data and example calculations.
9. Chain of custody information.
10. Calibration documentation.
11. Discussion of any abnormalities associated with the results.
12. A statement signed by the senior management official of the testing firm certifying the validity of the source test report.

Appendix B Approved Emission Factors

Annual emissions shall be calculated using the following approved emission factors unless alternative emission factors are approved by the permitting authority.

Emission Unit(s)	Pollutant	Emission Factor
Extruder 6.1 Extruder 6.3A, B, C Extruder 7.1/7.1A	PM ₁₀	184 lb/MMlb polymeric coating applied
Extruder 6.1 Extruder 6.3A, B, C Extruder 7.1/7.1A	VOC	368 lb/MMlb polymeric coating applied
Extruder 6.2	PM ₁₀	67 lb/MMlb polymeric coating applied
Extruder 6.2	VOC	565 lb/MMlb polymeric coating applied
Extruder 7.2	PM ₁₀	213 lb/MMlb polymeric coating applied
Extruder 7.2	VOC	446 lb/MMlb polymeric coating applied
All Extruders	CO	22 lb/MMlb polymeric coating applied
All Extruders	Acetaldehyde	4.43 lb/MMlb polymeric coating applied
All Extruders	Acrolein	0.07 lb/MMlb polymeric coating applied
All Extruders	Formaldehyde	8.11 lb/MMlb polymeric coating applied
All Extruders	Methyl Ethyl Ketone (MEK)	5.25 lb/MMlb polymeric coating applied
All Extruders	Propylene	0.38 lb/MMlb polymeric coating applied
All Extruders	Acrylic Acid	0.01 lb/MMlb polymeric coating applied
All Extruders	Toluene	4.47 lb/MMlb polymeric coating applied

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Emission Unit(s)	Pollutant	Emission Factor
Line 6 and Line 7 Corona Treaters	Ozone	0.021 lb/hour of operation
Poly Dust Collector	PM ₁₀ PM _{2.5}	0.12 lb/hour of operation
Core Cutting Room Exhaust	PM	0.05 lb/hour of operation
Pellet Transport System	PM ₁₀	0.03 lb/hour of operation
Vacuum System	PM ₁₀	0.12 lb/hour of operation
Line 6 and Line 7 pre-treatment burners	VOCs	5.5 lb/MMscf natural gas consumed
Line 6 and Line 7 pre-treatment burners	NO _x	100 lb/MMscf natural gas consumed
Line 6 and Line 7 pre-treatment burners	CO	84 lb/MMscf natural gas consumed
Line 6 and Line 7 pre-treatment burners	PM ₁₀	7.6 lb/MMscf
Line 6 and Line 7 pre-treatment burners	SO ₂	1.43 lb/MMscf

Appendix C

Permitting History for the Extruders Operation

Prior to 2010, when the extruders operation was sold to Weyerhaeuser and became part of the Kraft pulp mill, this operation was under the permitting jurisdiction of Southwest Clean Air Agency (SWCAA), previously named Southwest Air Pollution Control Agency (SWAPCA). SWCAA issued numerous permits for the operation.

A brief description of the permits issued by SWCAA for this operation is included below:

- SWAPCA 78-294 was issued on January 4, 1978, approving the installation and operation of product sizing, trimming, and conveying of coated paper board.
- SWAPCA 78-302 was issued on January 16, 1978, approving the installation and operation of one polyethylene coating line, consisting of two pre-treatment burners, two extruders, one post-treatment electrostatic device, and ventilation systems for the line.
- SWAPCA 78-315 was issued on February 2, 1978, approving the installation and operation of a pneumatic conveying system and dry filtration system.
- SWAPCA 94-1699 was issued on December 30, 1994, approving modifications to the extrusion coating process, including the addition of Extruder 7.1A. This order established the first emission limits and testing requirements for the operation. Limits were established for VOCs, Ozone, NO_x, CO, TAPs, Opacity, and fine particulates for Extruder 7.1/7.1A.
- SWAPCA 94-1699R1 was issued on July 7, 2000, and approving modifications to equipment configurations and modifying emission limits at Extruder 7.1/7.1A. Source testing at Extruder 7.1/7.1A indicated that the facility was above the permitted limit for fine particulates. The fine particulate emission limit was increased. This permit was a modification to the previously issued permit (SWAPCA 94-1699).
- SWCAA 02-2430 was issued on October 11, 2002, approving the installation of a new extruder machine (Extruder 6.3) and the poly dust collector system. This permit also consolidated all of the previously issued permits into a single permit, effectively superseding SWAPCA 78-294, SWAPCA 78-302, SWAPCA 78-315, and SWAPCA 94-1699R1 in their entirety. Limits were established for Extruders 6.1, 6.2, 6.3, and 7.2 for particulate matter less than 10 micrometers (PM₁₀) and VOCs. Limits for Extruder 7.1/7.1A were modified based on new source testing data. Limits were also established for the poly dust collector baghouse for PM₁₀ and opacity, and facility-wide emission limits were established for PM₁₀ and VOCs.
- SWCAA 02-2430R1 was a modification to the previously issued permit and was issued on December 7, 2005. The modification approved the installation of a new corona treater on Line 6. There were no changes to the previously permitted emission limits in this modification.

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- SWCAA 02-2430R2 was a modification to the previously issued permit and was issued on May 30, 2006. This modification approved the replacement of the Line 7 corona treatment unit and established ozone limits for the new corona treater. There were no changes to the previously permitted emission limits.
- SWCAA 02-2430R3 was a modification to the previously issued permit and was issued on April 11, 2008. This modification approved the installation and operation of the coalescing filter system to the Extruder 6.2 exhaust. The filter system was installed due to a stack test at Extruder 6.2 indicated VOC emissions above the permitted limit and an opacity of 20%. There were no changes to the previously permitted emission limits.
- SWCAA 09-2849 superseded SWCAA 02-2430R3 and was issued on February 5, 2009. The permit increased the VOC limit for Extruder 6.2 based on source testing indicating emissions above the permitted limit. The existing core cutting room exhaust system was added to the permit and limits were established for the exhaust for PM₁₀ and particulate matter less than 2.5 micrometers (PM_{2.5}). The existing facility-wide PM₁₀ emission limit was also modified.