

**WASHINGTON DEPARTMENT OF ECOLOGY
MAIL STOP 47600
OLYMPIA, WASHINGTON 98504**

IN THE MATTER OF AIR EMISSIONS FROM:

Packaging Corporation of America)	NOC ORDER No. 17965)
31831 W Highway 12)	
Wallula, WA 99363)	

DESCRIPTION

Packaging Corporation of America (PCA) operates an integrated kraft and neutral sulfite semi chemical (NSSC) mill and box plant in Wallula, Washington. The mill has a pulp production rate of about 1800 oven dried tons per day (ODTPD). The facility is an existing major source under the Prevention of Significant Deterioration (PSD) program and currently operates under Air Operating Permit (AOP) 0003697 issued by the Department of Ecology (Ecology) on April 1, 2018.

This Notice of Construction (NOC) Order approves a project to replace the existing double-lined kraft clippings (DLK) repulping plant with a new recycled fiber plant (RFP) and to modify the headbox and driveline sections of the No.2 Paper Machine (No.2 PM). The DLK plant has a capacity of 250 air-dried tons per day (ADTPD). The new RFP will have a maximum capacity of 1125 ADTPD. The proposed project is anticipated to reduce the amount of pulp produced from the NSSC and kraft digesters on an annual basis. NSSC and kraft pulp will be offset with pulp produced from the RFP. No.2 PM modifications include a new headbox, dilution control header, dilution water supply pulp, dilution screen, new fan pump, new primary screen, and a new electric driveline. The modifications will improve paper quality, reduce sheet breaks, and increase production. The average annual throughput of No.2 PM is about 434 ADTPD. The post-project rate of the No.2 PM will be permitted at 524 ADTPD.

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 Application submitted by PCA and the technical analysis performed by Ecology, Ecology now finds the following:

1. NOC Application Processing Timeline

An initial NOC application dated November 2019 was submitted by PCA for the RFP and No.2 PM Modification project. It was received by Ecology on December 10, 2019. Ecology reviewed the initial application and found it incomplete per WAC 173-400-111 on December 18, 2019. An amended application (postmarked on March 25, 2020) was found to be complete March 31, 2020. A final amended application was postmarked on May 18, 2020.

2. *Regulatory Requirement – Minor New Source Review*

Per WAC 173-400-110, a NOC application and an order of approval (Order) must be issued by the permitting authority prior to the establishment of a new source or modification. Review and approval of a new source or modification to an existing source may be evaluated and permitted under the major new source/modification requirements, also referred to as the Prevention of Significant Deterioration (PSD) requirements, under the minor new source review requirements, also referred to as MNSR, or both. Each set of requirements contain emission thresholds for applicability for each pollutant and the PSD requirements generally only apply to criteria pollutants. A new source or modification may result in emission increases for a number of pollutants and each is evaluated against the applicable thresholds to determine which set of requirements apply to that pollutant.

The first step in the regulatory analysis is to determine which sources associated with the project are new sources of emissions and if there are any existing sources at the facility that will be modified as a result of the project. A “modification” means any physical change in, or change in the method of operation of, a stationary source that increases the amount of any air contaminant emitted by such source or that results in the emissions of any air contaminant not previously emitted. The term modification shall be construed consistent with the definition of modification in Section 7411, Title 42, United States Code, and with the rules implementing that section.

As stated in the application and consistent with Ecology’s review, the RFP and No.2 PM are being respectively constructed and modified by this project and, therefore, are subject to this Order.

PCA currently operates a DLK repulping plant which uses a mechanical pulping process. The DLK plant currently has a capacity of 250 air-dried tons per day (ADTPD). The feedstock for the DLK plant is scraps from PCA’s on-site box plant. The mill also sources DLK from other box plants. The RFP will replace the DLK repulping plant. The RFP also utilizes a mechanical repulping process. The new RFP will continue to process DLK in addition to old corrugated containers (OCC). OCC and DLK bales will be fed to a pulper. Stock from the pulper is fed through high density cleaners, a four-stage coarse screening process, a four-stage fine screening process, a two-stage light weight cleaning system, a thickener, and then to tankage where it is diluted with whitewater. The RFP stock will be blended with kraft and NSSC stock before being fed to the paper machines. Metal, sand, glass, and other non-combustibles will be landfilled. Recycling residuals that are not pulped will be burned in the mill’s hog fuel boiler. The new RFP will have a maximum capacity of 1125 ADTPD. The replacement of the DLK repulping plant with the RFP will result in an increase of volatile organic carbons (VOCs) and regulated toxic air pollutants (TAPs).

The No.2 PM forms and dries pulp into reels of paper. No.2 PM currently processes about 434 ADTPD on an annual average. No.2 PM headbox and driveline sections are being modified to improve paper quality, reduce sheet breaks, and increase production. After modification, No.2 PM will be permitted at a rate of 524 ADTPD on a rolling annual basis. The modification of the No.2 PM will increase emissions of particulate matter (PM), VOCs, and TAPs.

3. *Additional Changes not Considered Modifications*

PCA is installing a ceramic-coated baby dryer on No.3 PM and relocating dryer can No.1 on No.3 PM. This change will help the No.3 PM to accommodate the recycled fiber furnish. There will be no increase in the production rate of No.3 PM or emissions from No.3 PM as a result of this change. Therefore, this project is not modifying No.3 PM.

Additional steam will be produced to support increased production at the No.2 PM. PCA's boilers are not being physically modified nor is the method of operation changing. Therefore, this project is not modifying PCA's boilers.

A new cooling tower will be installed to control whitewater temperature. Emissions from the cooling tower are expected to be less than 0.021 tpy. Emissions from the cooling tower are not included in this evaluation.

4. *Criteria Pollutants, including VOCs – Minor New Source Review Applicability*

The production basis for calculating the incremental increase of criteria pollutants, including VOCs as a surrogate for ozone, is defined in WAC 173-400-110(5). For new emission units, the emissions are based off the new source's potential to emit. Therefore, the emissions should be calculated using the new emissions unit's projected design capacity. For the RFP, the projected design capacity is 1125 ADTPD.

For modified emission units, the incremental increase of criteria pollutants is based on actual emissions. Actual emissions is defined in WAC 173-400-030 as a two-year average emission rate which is representative of normal source operation, and is based on the unit's actual operating hours and production rates during the selected time. The time period selected as the basis for baseline emissions from the No.2 PM is February 2016 to January 2018, in which the No.2 PM operated at an average rate of 434 ADTPD. The No.2 PM will be permitted at 524 ADTPD, and is the No.2 PM's projected rate shown in Table 1 below.

Table 1. Production Basis for Criteria Pollutant Calculations

Emission Unit	Baseline	Projected	Net Increase
Recycled Fiber Plant	N/A	1125 ADTPD	1125 ADTPD
No.2 Paper Machine	434 ADTPD	524 ADTPD	90 ADTPD

The only criteria pollutant expected to be emitted from the RFP is VOCs. As stated in section 3.2.2 of the application, the emission factor used for the calculation is based on National Council for Air and Steam Improvement (NCASI) Technical Bulletin No. 1020, Table 7.2 "VOC Emissions from Recovered Fiber Stock Preparation" (2013). The technical bulletin provides a VOC emission factor in terms of pounds of carbon per air dried ton of pulp (lbs C/ADT). It was converted to lbs of VOC/ADT using speciated TAP data from NCASI Technical Bulletin No 1050, Table 9.1.

The only criteria pollutants expected to be emitted from No.2 PM are VOCs and PM. Emission factors used to estimate the increase in PM emissions from the paper machine are from NCASI Technical Bulletin No. 1020, Table A-17b for Mill D. Mill D is representative of No.2 PM operations because they both produce kraft linerboard. VOC emission factors used for the No.2 PM are from NCASI Technical Bulletin No.1020, Table 10.1 “Summary of Air Toxic Emission from 100% Secondary Fiber Furnish Paper Machines”. The technical bulletin provides a VOC emission factor in terms of lbs C/ADT. It was converted to lbs VOC/ADT using speciated TAP data from NCASI Technical Bulletin No. 1050, Table 9.1. Since there is no increase in virgin pulp production as a result of this project, the increase in production rate is considered to be recycled fiber furnish.

Emission increases from the new RFP and modified No.2 PM project are compared to the NSR exemption levels in Table 2 below. The projected increase in VOC emissions is greater than the exemption level in WAC 173-400-110(5); therefore, the project is subject to new source review permitting. For more details about specific emission factors and emission increases per emission unit, see Appendix A.

Table 2. Increases of Criteria Pollutant Emissions from New and Modified Units Compared to NSR Exemption Levels

Pollutant	New/Modified Units Only (tons/year)	NSR Exemption¹ (tons/year)
PM	0.33	1.25
PM ₁₀	0.33	0.75
PM _{2.5}	0.16	0.5
SO ₂	0	2.0
NO _x	0	2.0
VOC	8.9	2.0
CO	0	5.0
Lead	0	0.0005

1. WAC 173-400-110(5)

5. *Toxic Air Pollutants (TAPs) – Minor New Source Review Applicability*

The permit application provided the TAP review required by chapter 173-460 WAC.

Per WAC 173-400-110(5), the emission basis required to calculate the incremental increase of TAPs for comparison to exemption levels (called de minimis emission rates for TAPs) is the same as that required for criteria pollutants. As discussed in Finding No.4 above, actual emissions are used to evaluate the projected increases in emissions from modified emission units. While the definition of actual emissions specifies the use of a two-year period, the regulatory thresholds for TAPs have specific averaging periods of 1-year, 24-hours, or 1-hour. Given the difference in the averaging periods, it is not possible to apply the precise definition of actual emissions as defined in WAC 173-400-030 to the TAPs review. Instead, it is more appropriate to compare the emissions with respect to the appropriate averaging period.

This project increases emissions of TAPs with 24-hour and 1-year regulatory averaging periods. For the baseline production rate of the No.2 PM with respect to TAPs with a 24-hour averaging period, a production rate of 522 ADTPD is used. This rate was the 24-hour average achieved on the calendar day May 14, 2017. The projected maximum 24-hour average rate is 620 ADTPD. For the baseline production rate of the No.2 PM with respect to TAPs with a 1-year averaging period, the production rate of 444 ADTPD is used. This was the average rate from March 2017 through February 2018. The No.2 PM will be permitted at a maximum 1-year average rate of 524 ADTPD. This rate is the projected rate used for emission calculations.

The RFP is a new emission unit. The unit's potential to emit is calculated based on the RFP's maximum design capacity of 1125 ADTPD.

Table 3. Production Basis for TAPs with 24-hour Averaging Periods

Emission Unit	Baseline	Projected	Net Increase
Recycled Fiber Plant	N/A	1125 ADTPD	1125 ADTPD
No.2 Paper Machine	552 ADTPD	620 ADTPD	68 ADTPD

Table 4. Production Basis for TAPs with 1-year Averaging Periods

Emission Unit	Baseline	Projected	Net Increase
Recycled Fiber Plant	N/A	1125 ADTPD	1125 ADTPD
No.2 Paper Machine	444 ADTPD	524 ADTPD	80 ADTPD

TAP emissions from the RFP were calculated using emission factors from NCASI Technical Bulletin No. 973 (Compilation of "Air Toxic" and Total Hydrocarbon Emissions Data for Pulp and Paper Mill Sources – A Second Update, 2010). The emission factors were developed using emissions from two sources, Mill CC and Mill KK. Mill CC produces linerboard from miscellaneous recovered fiber. Mill KK produces linerboard from OCC, which is the proposed process for this project.

For pollutants where the emission factor for Mill CC is greater than the emission factor for Mill KK, the average emission factor was selected. Because the process at Mill KK is more representative of the operations at PCA (OCC pulper), using the average emission factor in this scenario is conservative. For pollutants where the emission factor for Mill KK is greater than the emission factor for Mill CC, the emission factor for Mill KK was selected.

Naphthalene was not assigned an emission factor for the emissions from the RFP. NCASI Technical Bulletin No. 973 showed no detections in air emissions for naphthalene from either of the sources (Mill CC or Mill KK). Naphthalene was not detected in liquid samples collected from Mill KK further confirming the absence of naphthalene.

TAP emission factors used to estimate the emission increases from the No.2 PM are from NCASI Technical Bulletin No.1050 (Compilation of Air Toxics Emissions Data for Pulp and Paper Mill Sources, 2018). The emission factors were developed from machines processing 100% recovered fiber. Since there is no increase in virgin pulp production, the increase in production rate is considered to be recycled fiber furnish.

Table 5. TAP Emission Increases and De Minimis Levels

Pollutant	Averaging Period	New/Modified Units Emissions Increase (lb/averaging period)	De Minimis¹ (lb/averaging period)
Acetaldehyde	year	863.0	3.0
Carbon Disulfide	24-hr	2.0	3.0
Chloroform	year	90.52	0.35
Cumene	24-hr	0.8	1.5
Formaldehyde	year	85.0	1.4
Methanol	24-hr	9	74
Methyl Ethyl Ketone	24-hr	0.3	19
Methylene Chloride	year	186	490
Naphthalene	year	87.81	0.24
Phenol	24-hr	0.73	0.74
Toluene	24-hr	2	19

1. WAC 173-460-150

The increase in emissions of acetaldehyde, chloroform, formaldehyde, and naphthalene exceed de minimis emission rates, as shown in Table 5 above. These pollutants are subject to new source review. PCA is required to perform an ambient air impact assessment for these pollutants. This analysis is presented in Finding No. 12. For specific details about the emission factors used for each emission unit, see Appendix A.

6. *Prevention of Significant Deterioration (PSD) Permitting*

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).

A PSD permit is required if the project is a “major modification” (i.e. if the net emissions increase resulting from the modification is greater than the PSD Significant Emission Rate (SER) threshold for any regulated pollutant). Long term emission changes in tons per year (TPY) for listed pollutants are calculated and compared to the appropriate SER. PCA included such an analysis in its application that concluded that the project is not a major modification and a PSD Permit is not required for the project. There will be no physical changes to equipment subject to or potentially subject to New Source Performance Standards (NSPS) so the applicability of the NSPS standards will not change with regard to those units.

The PSD applicability analysis that PCA performed is in Table 6 below. Note that for the PSD applicability analysis, the emissions increase caused by the total project is considered. In the minor NSR analysis above, only emissions increases from new or modified emission units are considered.

Table 6. Total Project Emissions Increases for Criteria Pollutants Compared to SER Exemption Levels

Pollutant	Total Project (tons/year)	SER ¹ (tons/year)
PM	1.3	25
PM less than 10 microns (PM ₁₀)	1.3	15
PM less than 2.5 microns (PM _{2.5})	1.1	10
Sulfur Dioxide (SO ₂)	0.1	40
Nitrogen Dioxide (NO ₂)	24.7	40
VOCs (surrogate for ozone)	9.3	40 ²
Carbon monoxide (CO)	10.9	100
Lead	0.0	0.6

1. WAC 173-400-810(27)(a)

2. WAC 173-400-810(27)(a) defines the SER of ozone as 40 tons per year of VOCs

7. *Combustion of Paper Recycling Residuals*

The RFP pulping process includes an initial screening process which separates out non-fibrous materials and culls non-desirable fibers. Non-fibrous materials consist of tape and plastics which are shipped off-site for landfill disposal. Culled fibers are processed on-site as a biomass fuel used in the hogged fuel boiler (HFB).

Culled fibers that will be burned in the HFB by PCA must meet the definition of paper recycling residuals (PRRs) as defined in EPA's Non-Hazardous Secondary Materials regulations (40 CFR Part 241.2) in order to ensure that the facility is not combusting solid waste. 40 CFR Part 241.2 specifies that PRRs cannot contain more than a small amount of non-fiber materials including polystyrene foam, polyethylene film, other plastics, waxes and adhesives, dyes and inks, clays, starches and other coating and fillers.

8. *Review for Compliance with Regulations*

In accordance with WAC 173-400-113, the proposed new source and modification must meet the following criteria:

- a. The proposed new source and modified source must comply with all applicable new source performance standards (NSPS), national emission standards for hazardous air pollutants (NESHAPs), and emission standards adopted under chapter 70.94 RCW.

- b. The proposed new source and modified source will employ best achievable control technology (BACT) for any new pollutants or any criteria pollutant for which emissions will be increased by the project and toxic BACT (tBACT) for increases in TAP emissions above de minimis values,
- c. The proposed new source and modified source will not cause or contribute to a violation of any ambient air quality standards.

Each of these criteria are discussed in detail below.

9. *Applicable NSPS, NESHAP, or Emission Standards*

The proposed project was evaluated to determine the applicability of federal and state air quality rules and regulations implemented by Ecology including: General Regulations for Air Pollution Sources (Chapter 173-400 WAC), Kraft Pulping Mills (Chapter 173-405 WAC), NSPS (40 CFR Part 60), and NESHAPs (40 CFR Parts 61 and 63).

The following identifies the potentially applicable emission standards for the proposed project, which are discussed in Sections 3.3 and 3.4 of the application:

Inapplicable standards:

- a. NSPS requirements apply to certain types of equipment that are newly constructed, modified, or reconstructed after a given applicability date. For this project, a new RFP is being constructed and the No.2 PM is being modified. These sources are not regulated under any NSPS subpart. Therefore, there are no NSPS requirements applicable to this project.
- b. NESHAP requirements are specific to certain emission units and are applicable to a facility if they are considered a major source of HAP Emissions. While the PCA Wallula Mill is subject to Subpart MM and Subpart S, this project does not construct or modify any equipment subject to either of the applicable NESHAPs. Therefore, there are no NESHAP requirements applicable to this project. It is noted that 40 CFR 63.440(a)(3) lists “any process using secondary or non-wood fibers” as a process applicable to Subpart S. However, 63.440(c)(4) and (c)(5) clarifies that the affected source is the total of all HAP emission points in the bleaching system or any additional bleaching line. There is no bleaching system in this process, therefore Subpart S is not applicable to this project.

Applicable standards:

- a. The general emission standards in WAC 173-405-040 are applicable and are included in the facility’s AOP. In accordance with WAC 173-405-040, the specified emissions standards are in addition to the applicable standards in Chapter 173-400.

However, specific emission standards list in WAC 173-405-040 take precedence over the general emission standards of chapter 173-400 WAC. Applicable emission standards from WAC 173-405-040 for the RFP and No.2 PM are as follows:

- i. WAC 173-405-040(5)(c) for particulate matter;
 - ii. WAC 173-405(6)(b) for opacity (visible emissions).
- b. All of the other general emission standards in WAC 173-400 are applicable, as appropriate for the new and modified units, and are included in the facility's AOP.

10. Best Available Control Technology

As required, a Best Available Control Technology (BACT) review has been performed for the new RFP. The EPA's RACT (Reasonably Available Control Technology)/BACT/LAER (Lowest Achievable Emission Rate) Clearinghouse (RBLC) was reviewed for this analysis, as well as recent permits issued in the State of Washington for similar projects. Because VOC controls would also control the TAP emission increases due to the new RFP, the BACT analysis also satisfies the requirement of the tBACT analysis.

Table 7. BACT/tBACT Determinations for RFP Emissions

Project Location	Date	Pollutant	BACT/tBACT Determination
International Paper – Riverdale Alabama	2018	VOC	Good operating practices
Nippon Paper Washington	2015	VOC/TAPs	No control
Weyerhaeuser – Valliant Oklahoma	2008	VOC	Good operating practices

VOC emissions from RFPs are typically low in concentration and would require the treatment of large volumes of air, which generally means that it is technically infeasible or not cost effective to control them with air pollution control devices.

A BACT analysis for control of VOC emissions was also performed for the No.2 PM. Because VOC controls would also control the TAP emission increases due to the modification of the No.2 PM, the BACT analysis also satisfies the requirement of the tBACT analysis. A search of the RBLC was also reviewed for this emission unit. Required control methods for projects with an increase in VOC emissions from paper machines were reviewed using the RBLC clearinghouse search tool.

The majority of the results showed either no controls were feasible or pollution prevention (such as the use of low VOC additives and good operating practices) as the required pollution control method for the project. While the RBLC search yielded several different permitting decisions, only a sample are presented in Table 8 below.

Table 8. BACT/tBACT Determinations for VOC Emissions from Paper Machines

Project Location	Date	Pollutant	BACT Determination
Green Bay Packaging, Inc. Wisconsin	2018	VOC	Use of low VOC containing additives, cleaners, and biocides
St. Francisville Mill Hood Container of Louisiana, LLC Louisiana	2017	VOC	Good operating practices, including the use of low VOC additives
Georgia Pacific Breton LLC Alabama	2014	VOC	None
International Paper Valliant Paper Mill Oklahoma	2008	VOC	Good Operating Practices

Like the RFP, VOC emissions from paper machines are typically low in concentration and would require the treatment of large volumes of air, which generally means that it is technically infeasible or not cost effective to control them using air pollution control devices.

Ecology has determined that BACT and tBACT is the operation of the RFP and No.2 PM in a manner consistent with good air pollution control practices. This includes the use of low-VOC containing chemicals at the No.2 PM and the exclusive use of mill segregated clean condensates for pulp decking and washing upstream of the paper machine.

11. Ambient Impact Analysis Requirement – Criteria Pollutants

As stated in Finding No. 8 above, the proposed new RFP and proposed modifications to the No.2 PM must not cause or contribute to a violation of any ambient air quality standards (AAQS). Ecology has specified AAQS for the following pollutants: particulate matter (PM), lead (Pb), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), and carbon monoxide (CO). This project will not result in emissions increases of PM, Pb, SO₂, NO₂ or CO above new source review exemption levels.

However, this project will result in an emissions increase of VOCs which exceeds the minor new source review exemption level. VOCs are a precursor to O₃ and therefore this project will result in an increase of O₃ levels in the ambient air.

Modeling of VOCs is not currently required by MNSR because there is no AAQS for VOC emissions and there is no cause or contribute threshold value in Table 4a of WAC 173-400-113 for VOCs. However, upon Ecology request, the facility conducted an analysis to estimate increases of O₃ based on VOC emissions from the new and modified units.

To estimate O₃ impacts, the facility followed the methodology specified by EPA's guidance document titled *Guidance of the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program*. The document is available online at the following link: [MERP Guidance](#). The EPA document includes modeling analysis for several hypothetical industrial sources. The document provides an equation that can be used to estimate emissions from an actual emission source using data prepared by the EPA for a similar hypothetical source. The hypothetical source closest in proximity to PCA is located near Boardman, Oregon in Morrow County (WUS Source 18 in MERPs guidance Appendix Table A-1).

EPA's equation for the MERP is presented below.

Equation 1. MERP Equation

$$\text{MERP} = \text{appropriate SIL value} \times \frac{\text{modeled emission rate from hypothetical source}}{\text{modeled air quality impact from hypothetical source}}$$

The EPA defines a SIL as a significant impact level. The value of 1.0 parts per billion (ppb) of O₃ is the appropriate SIL, as proposed by the EPA in the 2018 memorandum with the subject of *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program*. The document is available at the following link: [memorandum](#). For the Boardman, Oregon hypothetical source, the modeled emission rate was 500 TPY of VOCs emitted from a 10 meter stack. The modeled air quality impact was an increase of 0.46 ppb O₃. These values were substituted into the equation below.

Equation 2. MERP Calculation for Boardman, Oregon Hypothetical Source

$$\text{MERP} = 1.0 \text{ ppb O}_3 \times \frac{500 \text{ TPY VOC}}{0.46 \text{ ppb O}_3} = 1,087 \text{ TPY VOC}$$

The calculated MERP is 1,087 TPY of VOCs. This means that in order for ambient O₃ levels to increase by 1.0 ppb, PCA would have to emit 1,087 TPY of VOCs. The new RFP and modified No.2 PM project increases VOC emissions by 8.9 TPY, which is about 0.8% of the MERP. The increase in O₃ caused by the VOCs emitted by this project are estimated at 0.008 ppb. Ecology agrees with this analysis and has determined that this increase would not contribute to an exceedance of the O₃ AAQS.

12. Ambient Impact Analysis Requirement – TAPs

In accordance with WAC 173-460-040, modified TAP sources must meet the requirements of chapter 173-460 WAC, unless they are exempt by WAC 173-400-110(5).

As shown in Table 5 above, NSR is required for the increases in acetaldehyde, chloroform, formaldehyde, and naphthalene emissions from the new RFP and No.2 PM modification. As such, the new RFP and modified No.2 PM project must comply with WAC 173-460-070, which requires an ambient air impact assessment. The facility may demonstrate compliance with the ambient impact requirement by either showing that the emissions increase is less than the small quantity emissions rates (SQER) or through dispersion modeling. Table 9 below shows the estimated emission increases associated with the project and the applicable SQER.

Table 9. TAP Emissions Increases and SQERs

TAP	Averaging Period	Estimated Increase lb/averaging period	SQER lb/averaging period	Modeling Required?
Acetaldehyde	year	863.0	60	Yes
Chloroform	year	90.5	7.1	Yes
Formaldehyde	year	85.0	27	Yes
Naphthalene	year	87.8	4.8	Yes

The estimated increase in emissions of acetaldehyde, chloroform, and formaldehyde exceed their respective SQERs. Modeling is required for these TAPs to satisfy the requirements of Washington's state toxics rule in chapter 173-460 WAC. The modeling must demonstrate that the TAP emission increases as a result of the project will not exceed the Acceptable Source Impact Level (ASIL) screening thresholds. The results of the TAPs modeling analysis are presented in Table 10 below.

Table 10. TAP Modeling Results and ASILs

Pollutant	Averaging Period	Max. Modeled Concentration ($\mu\text{g}/\text{m}^3$)	ASIL ($\mu\text{g}/\text{m}^3$)	% of ASIL
Acetaldehyde	year	0.20	0.37	54%
Chloroform	year	0.024	0.043	56%
Formaldehyde	year	0.024	0.17	14%
Naphthalene	year	0.028	0.029	95%

Table 10 shows that the emission increases of the TAPs for which modeling was required will not result in an exceedance of the associated ASIL. No further analysis is required.

13. State Environmental Policy Act (SEPA)

An environmental checklist was submitted with the NOC Application (postmarked on May 18, 2020) which considered environmental impacts of the project 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 May 28, 2020 and made available for public comment at the same time as the order.

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. PCA must operate No.2 PM in a manner consistent with good air pollution control practices, including minimizing usage rates and VOC contents of additive chemicals. Additives in the paper-making process for No. 2 PM shall be “low-VOC”. PCA shall annually compile a list of VOC-containing additives used in the paper-making process on No.2 PM and identify the VOC content of each (weight percent basis). PCA shall include a certification statement in the annual compliance certification report that affirms the VOC-content requirement has been satisfied.
2. Condensates used for pulp decking and washing upstream of No.2 PM must be segregated clean condensates. PCA shall report any deviations from this requirement in the air monthly report required by their AOP and any corrective actions taken to respond to the deviation. Mill segregated clean condensates do not meet the total HAPs (as methanol) applicability requirements of 40 CFR Part 63 Subpart S under 40 CFR 63.443(a)(1)(iv)(B) and therefore do not require controls.
3. Within one year of startup or within alternative Ecology approved timeline, PCA must conduct a representative source test at the RFP to quantify emissions of acetaldehyde, chloroform, and formaldehyde.

NCASI/Weston Heated SUMMA Canister Method, NCASI Method IM/CAN/WP-99.02, ISS/FP-A105.01, SW-846 Test Method 0031, SW-846 Test Method 0010 (with analysis via 8270E), or other Ecology approved method must be used. A single sampling event is defined as three consecutive 1-hour sample runs. Results must be reported in terms of lb/ADTP and compared to the emission factors used in the NOC application for this project.

PCA must notify Ecology in writing of its intention to conduct the source test and provide a source test plan for approval at least 60 calendar days before the source test is initially scheduled to begin.

Source test report and results must be submitted to Ecology within 90 days of completion of the test. Any analytical results in addition to the specified TAPs must be included in the submitted report.

4. Within one year of startup or within alternative Ecology approved timeline, PCA must conduct a representative source test at the No.2 PM to quantify emissions of naphthalene.

NCASI/Weston Heated SUMMA Canister Method, NCASI Method IM/CAN/WP-99.02, SW-846 Test Method 0010 (with analysis via 8260D), or other Ecology approved method must be used. A single sampling event is defined as three consecutive 1-hour sample runs. Results must be reported in terms of lb/ADTP and compared to the emission factors used in the NOC application for this project.

PCA must notify Ecology in writing of its intention to conduct the source test and provide a source test plan for approval at least 60 calendar days before the source test is initially scheduled to begin.

Source test report and results must be submitted to Ecology within 90 days of completion of the test. Any analytical results in addition to the specified TAPs must be included in the submitted report.

5. The rolling 12-month average production rate for the RFP shall not exceed 1125 ADTPD. Beginning the 12th month after completion of the RFP start-up, the average 12-month production rate for the previous 12 months shall be included in each monthly air report.
6. The rolling 12-month average production rate for the No.2 PM shall not exceed 524 ADTPD (i.e., 507 MDTPD at 7% moisture). Beginning the 12th month after completion of the No.2 PM modification, the average 12-month production rate for the previous 12 months shall be included in each monthly air report.
7. Culled fibers that will be combusted in the HFB by PCA must meet the definition of paper recycling residuals (PRRs) in 40 CFR Part 241.2.
8. The RFP and No.2 PM must be operated and maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. The operation and maintenance procedures for the No.2 PM must be updated to reflect the changes associated with this project within six months from the date of project completion. Operation and maintenance procedures for the RFP must be created within six months from the date of project completion. The operation and maintenance procedures must be followed. A copy of the procedures must be available to Ecology during inspections and upon request.
9. PCA shall notify Ecology in writing within thirty days of beginning construction and within thirty days of the completion of the RFP and No.2 PM Modification project, respectively.

10. Any activity or operation, which is undertaken by PCA or others, in a manner which is inconsistent with the notice of construction application postmarked on May 18, 2020, 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 PCA of its obligations under any state, local, or federal laws or regulations.
11. This approval shall become void if construction is not commenced within eighteen (18) months after receipt of this approval, or if construction of the project is discontinued for a period of eighteen (18) months. In accordance with WAC 173-400-111(7), Ecology may extend the eighteen-month period upon a satisfactory showing by the Permittee that an extension is justified.

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:



Emily Toffol, P.E.
Environmental Engineer
Solid Waste Management Program

7/16/2020

Date

Signature Authority:



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

7/16/2020

Date

APPENDIX A – EMISSIONS CALCULATIONS**Table A1. VOC Emission Factor (EF) and Emission Rate from Recycled Fiber Plant**

Pollutant	EF (lb/ADT)	Emission Rate (TPY)
VOCs	0.0141	2.89

Table A2. Criteria Pollutant EFs and Emission Rates from No.2 Paper Machine

Pollutant	EF (lb/ADT)	Emission Rate (TPY)
VOCs	0.364	5.99
PM and PM ₁₀	0.02	0.33
PM _{2.5}	0.01	0.16

Table A3. TAP EFs and Emission Rates from Recycled Fiber Plant

Pollutant	averaging period	EF (lb/ADT)	Emission Rate (lb/averaging period)
Acetaldehyde	year	1.16E-03	476
Carbon Disulfide	24-hr	1.58E-03	1.78
Chloroform	year	4.98E-05	20
Cumene	24-hr	5.75E-04	0.65
Formaldehyde	year	1.53E-04	63
Methanol	24-hr	2.53E-03	2.85
Methyl Ethyl Ketone	24-hr	2.48E-04	0.28
Methylene Chloride	year	2.33E-04	96
Naphthalene	year	0.00E+00	0
Phenol	24-hr	3.07E-04	0.35
Toluene	24-hr	1.60E-03	1.80

Table A4. TAP EFs and Emission Rates from No.2 Paper Machine

Pollutant	averaging period	EF (lb/ADT)	Emission Rate (lb/averaging period)
Acetaldehyde	year	1.33E-02	387
Carbon Disulfide	24-hr	2.58E-03	0.18
Chloroform	year	2.41E-03	70
Cumene	24-hr	2.21E-03	0.15
Formaldehyde	year	7.62E-04	22
Methanol	24-hr	8.53E-02	5.80
Methyl Ethyl Ketone	24-hr	3.49E-05	0.00237
Methylene Chloride	year	3.09E-03	90
Naphthalene	year	3.02E-03	88
Phenol	24-hr	5.61E-03	0.38
Toluene	24-hr	2.59E-03	0.18

**Washington State Department of Ecology
Response to Public Comment**

**Packaging Corporation of America
31831 W Highway 12
Wallula, WA 99363**

**NOC Order No. 17965 and SEPA DNS
New Recycled Fiber Plant and Modified No.2 Paper Machine**

The comment period for this NOC and SEPA DNS took place from May 28, 2020 through June 29, 2020. Two comments were received. The comments were from the Department of Ecology's Eastern Regional Office. The comments are presented below along with Ecology's response.

Comment (Shannon Adams, Ecology Eastern Regional Office, Water Quality Program):

If this project exceeds one acre of soil disturbance, the applicant must obtain a Construction Stormwater General Permit.

For more information or technical assistance in obtaining a Construction Stormwater General Permit, please contact Shannon Adams at (509) 329-3610 or via email at Shannon.Adams@ecy.wa.gov.

Ecology Response:

Ecology has confirmed with PCA that this project will not exceed one acre of soil disturbance. Although PCA is not required to obtain a Construction Stormwater General Permit, they are required by their NPDES permit (WA0003697) to collect and treat stormwater and implement best management practices.

Comment (Ali Furrall, Ecology Eastern Regional Office, Toxics Cleanup Program):

Construction activities surrounding the commercial office and storage facility lie adjacent to a known contaminated site on Ecology's Confirmed & Suspected Contaminated Sites list (# 2211.) The site received a No Further Action determination from Ecology. If additional contamination is discovered, it must be reported to the Department of Ecology, Eastern Regional Office. Contaminated soils or water may require special handling and/or disposal to protect site workers, visitors, public health or the environment. The applicant must report the discovery of contamination to the Department of Ecology, Eastern Regional Office. Contaminated soils or water may require special handling and/or disposal to protect site workers, visitors, public health, or the environment.

For more information or technical assistance, please contact Ali Furrall at (509) 655-0538 for more information or via email at ali.furrall@ecy.wa.gov.

Ecology Response:

PCA has been made aware of this requirement.