TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit 25-3695
Air Discharge Permit Application CL-3235

Issued: March 24, 2025

Northwest Paper Box Manufacturing

SWCAA ID – 2779

Prepared By: Vannessa McClelland
Air Quality Engineer
Southwest Clean Air Agency

TABLE OF CONTENTS

ABBREVIATIONS

List of Acronyms

ADP.....Air Discharge Permit

AP-42 .....Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA

ASIL.....Acceptable Source Impact Level

BACT.....Best available control technology

BART .....Best Available Retrofit Technology

CAM .....Compliance Assurance Monitoring

CAS#.....Chemical Abstracts Service registry number

CFR.....Code of Federal Regulations

EPA.....U.S. Environmental Protection Agency

EU .....Emission Unit

LAER.....Lowest achievable emission rate

MACT.....Maximum Achievable Control Technologies

mfr.....Manufacturer

NESHAP.....National Emission Standards for Hazardous Air Pollutants

NOV.....Notice of Violation/

NSPS.....New Source Performance Standard

PSD .....Prevention of Significant Deterioration

RACT.....Reasonably Available Control Technology

RCW .....Revised Code of Washington

SCC.....Source Classification Code

SDS .....Safety Data Sheet

SQER .....Small Quantity Emission Rate listed in WAC 173-460

Standard .....Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)

SWCAA .....Southwest Clean Air Agency

T-BACT .....Best Available Control Technology for toxic air pollutants

WAC .....Washington Administrative Code

List of Units and Measures

µg/m³.....Micrograms per cubic meter

µm .....Micrometer (10^{-6} meter)

acfm.....Actual cubic foot per minute

bhp.....Brake horsepower

dscfm.....Dry Standard cubic foot per minute

g/dscm.....Grams per dry Standard cubic meter

gpm .....Gallon per minute

gr/dscf .....Grain per dry standard cubic foot

hp.....Horsepower

hp-hr.....Horsepower-hour

kW.....Kilowatt

lb/yr.....pounds per year

MMBtu.....Million British thermal unit

MMcf .....Million cubic feet

oz/yrd^2 .....ounce per square yard

ppm .....Parts per million

ppmv .....Parts per million by volume

ppmvd .....Parts per million by volume, dry

ppmw.....Parts per million by weight

psig.....Pounds per square inch, gauge

rpm .....Revolution per minute

scfm.....Standard cubic foot per minute

tph .....Ton per hour

tpy .....Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C_3H_8 .....Propane
CH_4.....Methane
CO .....Carbon monoxide
CO_2.....Carbon dioxide
CO_2e.....Carbon dioxide equivalent
H_2S .....Hydrogen sulfide
HAP.....Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
HCl.....Hydrochloric acid
Hg.....Mercury
N_2O .....Nitrous oxide
NH_3 .....Ammonia
NO_2 .....Nitrogen dioxide
NO_x .....Nitrogen oxides
O_2 .....Oxygen
O_3 .....Ozone
PM.....Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10} .....PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$ .....PM with an aerodynamic diameter 2.5 µm or less
SO_2 .....Sulfur dioxide
SO_x .....Sulfur oxides
TAP .....Toxic air pollutant pursuant to Chapter 173-460 WAC
TGOC.....Total Gaseous Organic Carbon
TOC.....Total Organic Carbon
TSP.....Total Suspended Particulate
VOC .....Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Northwest Paper Box Manufacturing
Applicant Address:	4275 NW Pacific Rim Blvd Camas, WA 98607
Facility Name:	Northwest Paper Box Manufacturing
Facility Address:	4275 NW Pacific Rim Blvd Camas, WA 98607
SWCAA Identification:	2779
Contact Person:	Tony Phillips – Maintenance Manager
Primary Process:	Manufactures custom set-up boxes and corrugated packaging
SIC/NAICS Code:	2657: Folding Paperboard Boxes, Including Sanitary 322212: Folding Paperboard Box Manufacturing
Facility Latitude and Longitude:	45° 36' 3.798" N 122° 27' 9.4674" W
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

Northwest Paper Box Manufacturing operates a facility that manufactures custom corrugated and paper boxes and cartons that can be folded into shape.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number CL-3235 dated May 10, 2023. Northwest Paper Box Manufacturing submitted ADP application CL-3235 requesting the following:

- Approval for an existing paper and corrugated box manufacturing facility.

This is the initial permitting action for this facility.

4. PROCESS DESCRIPTION

Precut and raw paperboard is received by truck in the warehouse area and stored in predetermined areas to await production. An automated conveyor line transports pre- and post-production goods around the facility, which terminates in a combined Unitizer 4-way strapping system.

The raw material is transported along several lines of equipment depending on the final product. Flexographic folder gluers, flexographic die cutter machines, die cutter machines, and folder gluers are the main process machines that convert the paper stock into finished products.

Setup Land is a specific area where set-up machinery joins precut board stock with precut label stock to produce a rigid set-up box. Natural animal glue with no VOCs or TAPs and heat stay tape are used to configure these boxes.

The trim removal system uses vacuum fans, twin cyclone system, and a baghouse unit to deliver wastepaper from die cutters and other equipment to the Harris Automatic bailer which converts it into 1,600-pound tied bales that are sent back to the pulp recyclers.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Press Lines. The press lines consist of the equipment listed below. They convert paper stock into finished products. The press machines use flexographic ink for printing and the folder gluer uses white glue that contains no VOCs or TAPs.

Flexographic folder gluer

Make:	EDF Europe - DFEU
Model:	Casemaker 618
Serial Number:	14.552
Size:	23.6" X 70"
Colors:	4-color
Throughput Rating	22,000 sheets per hour
Ventilation:	Paper cutting emissions ventilated to Bailer System Baghouse. All other emissions vent to building.
Dryers:	None

Flexographic rotary die cutter

Make:	Apstar
Model:	HG1632
Serial Number:	23919
Size:	66" X 136"
Colors:	5-color
Throughput Rating	10,000 sheets per hour
Ventilation:	Paper cutting emissions ventilated to Bailer System Baghouse. All other emissions vent to building.
Dryers:	None

Flexographic folder gluer

Make:	Langstrom Saturn II
Model:	FFG

Serial Number:	967794
Size:	50" X 113"
Colors:	3-color
Throughput Rating	15,000 sheets per hour
Ventilation:	Paper cutting emissions ventilated to Bailer System Baghouse. All other emissions vent to building.
Dryers:	None

Printer slotter

Make:	S&S
Model:	74SZP
Serial Number:	1104
Size:	74" X 167"
Colors:	1-color
Throughput Rating	400 sheets per hour
Ventilation:	All emissions vent to building.
Dryers:	None

5.b. Die Cut Lines. The die cut lines consist of the equipment listed below. They convert paper stock into finished products. The die cutters do not use any glue or ink. The Eterna is the only die cutter that cuts corrugated and, therefore, is the only one on the Bailer System Baghouse.

Die Cut Line – automatic platen

Make:	Eterna
Model:	PE 1620SA
Serial Number:	EL06068
Size:	66" X 68"
Throughput Rating	6,000 sheets per hour
Ventilation:	Paper cutting emissions ventilated to Bailer System Baghouse. All other emissions vent to building.

Die Cut Line – automatic platen

Make:	Ijimma
Model:	JF1270
Serial Number:	7012
Size:	66" X 65"
Throughput Rating	3,500 sheets per hour
Ventilation:	All emissions vent to building.

Die Cut Line – manual platen

Make:	Thompson
Model:	6DM

Serial Number:	14358
Size:	36" X 36"
Throughput Rating	2,100 sheets per hour
Ventilation:	All emissions vent to building.

5.c. Bailer System Baghouse. The trim removal system uses vacuum fans on many pieces of equipment and a twin cyclone system in series that vents emissions to a baghouse unit to deliver wastepaper to the Harris Automatic bailer which converts it into 1600-pound tied bales that are sent back to the pulp recyclers. The bailer system only recycles corrugated paper and not chipboard. All of the pertinent plant delivery points are connected to Cyclone #1 for solids separation. Exhaust exits out the top of Cyclone #1 to a shared Y pipe that is connected to the baghouse. At the bottom of Cyclone #1 is a vacuum fan that pulls the solid waste into Cyclone #2. Exhaust exits out the top of Cyclone #2 to the same shared Y pipe that is connected to the baghouse. The solid waste falls out of the bottom of Cyclone #2 and directly into the bailer. The cyclones were manufactured inhouse. Cyclone #1 measures 160" tall x 120" in diameter. Cyclone #2 measures 100" tall x 80" in diameter.

Make:	Cam Corp Cam Airo
Model:	CA36V
Serial Number:	N/A
Number of Bags:	36
Bag Size:	15" X 52"
Filter Type:	cellulose/synthetic cartridges
Filtration Area:	11,000 ft^2
Design Air Flow:	25,000 CFM @ 8" water column
Stack Dimensions:	135" by 139" rectangular stack
Stack Height:	25 ft
Cleaning Method:	Pulse jet
Latitude / Longitude:	~ 45° 36' 5.364" N 122° 27' 5.544" W

5.d. Emergency Diesel Engine Generator. This engine driven generator is used to provide emergency power.

Engine Make:	Kohler
Engine Model:	4024HF285B
Engine Serial Number:	CD0439D333813
Engine Output Rating:	54 bhp
Manufacture Date:	assumed 2012
Certification:	EPA Tier 4 Interim
Fuel Consumption:	Diesel: ~3 gal/hr
Generator Make:	Kohler
Generator Model:	40R0ZJ71
Generator Serial Number:	391191
Generator Rating:	40 kW

Latitude / Longitude: ~ 45° 36' 2.703" N
122° 27' 4.885"

5.e. Insignificant Emission Units. The following pieces of facility equipment have been determined to have insignificant emissions and are not registered as emission units:

Space Heaters. Four Modine space heaters, #PD 300AA0111, mounted on the ceiling of the manufacturing and storage bay. They are rated at 0.24 MMBtu/hr, each.

Office rooftop HVAC: One 1.0 MMBtu/hr Intellipack natural gas heat and electric AC cooling for the office. Its model is #SFHGC904HK86CE807001AGKLP7, serial #J97J72807.

Gluer Lines. The gluer lines consist of three pieces of equipment that glue only or fold and glue only. The glues contain no VOCs or TAPs.

One Bobst 4.0 four-meter width specialty folder gluer using white glue 4835. An automated feeder and belt transport system feeds blanks in one at a time. A laser scanner detects the blank and applies glue to the target areas. Twisted folding belts fold the blank and join the glue tab. A drying belt keeps the joint sealed until the glue dries, and the blank exits the machine as a finished box.

One Gluer train 2 belt hot melt gluer using the hot glue 34-250A. An operator folds and feeds the blanks one at a time. A laser scanner detects the blank and applies glue to the target areas. The blanks exit the machine as finished boxes.

One General Gluer 2 belt hot melt gluer using the hot glue 34-250A. An operator folds and feeds the blanks one at a time. A laser scanner detects the blank and applies glue to the target areas. The blanks exit the machine as finished boxes.

Setup Land. The setup machinery joins precut board stock with precut label stock to produce a rigid setup box. This is primarily accomplished with natural animal glue and a heat stay tape. Equipment associated with the Setup Land consists of:

Emmeci 2016 digital automated line
Emmeci 2004 mechatronics automated line
Emmeci 92 automated line
Emmeci 94-1 automated line
Emmeci 94-2 automated line
C&S B semi-automated line
C&S H semi-automated line
C&S H semi-automated line
C&S H semi-automated line
C&S D semi-automated line
EQ 1 standalone Quad
EQ 2 standalone Quad

EQ 3 standalone Quad

Setup Land Post Production.
Unit 1 Seal a Tron L bar sealer and connected shrink tunnel
Unit 2 Seal a Tron L bar sealer and connected shrink tunnel
Unit 3 Seal a Tron automated L bar sealer and connected shrink tunnel
LanTech semi-automated stretch wrapper
WolfTech semi-automated stretch wrapper

5.g. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Four Press Lines	Low Emission Inks and Glues, Bailer System Baghouse (baghouse not used for printer slotter)
2	Three Die Cut Lines	Bailer System Baghouse for Eterna Die Cut line
3	Emergency Generator Engine	Ultralow Sulfur (≤15 ppm) Liquid Fuel

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:
(a) Continuous emissions monitoring system (CEMS) data;
(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

6.a. Printing and Gluing Operations. VOC, TAP, and HAP emissions from printing and gluing operations are calculated using Safety Data Sheet (SDS) information for individual inks and glues, estimated material consumption, and a material balance methodology. It was assumed that 100 percent of the volatile material from the ink, glues, and printing products is emitted to the ambient air. Wherever SDS information indicated a range of potential pollutant concentrations for a material, the average concentration was used to calculate annual emissions. Emissions of particulate matter are assumed to be zero because there are no spraying activities.

The glues currently used include no VOCs or HAPs.

Pollutant	Emissions
VOC	1.10 tpy
TAP	0.15 tpy
HAP	0.05 tpy

6.b. Bailer System Baghouse. PM emissions from the material collection baghouse are calculated from a rated discharge of 25,000 cfm, an emission concentration of 0.005 gr/dscf, and 8,760 hr/yr of operation. All PM emissions are assumed to be PM_{10}. $PM_{2.5}$ emissions are assumed to be 53% of PM_{10} emissions (EPA PM Calculator Ver 2.0 / SCC-30703099).

Baghouse			
Airflow (dscfm)	25000	Concentraion (gr/dscf)	0.005
Hours	8760		

Emissions	lb/hr	tpy
PM/PM_{10}	1.071	4.69
$PM_{2.5}$ (53% PM_{10})	0.568	2.49

6.c. Emergency Generator Set Engine. Potential emissions from the combustion of road-grade #2 diesel (0.0015% or less sulfur by weight) in the emergency generator engine were estimated assuming that the generator is operated 200 hours per year at full load.

Emergency Generator Engine

Hours of Operation =	200	hours
Power Output =	54	horsepower
Fuel Type =		Ultra-low Sulfur Diesel
Diesel Density =	7.206	pounds per gallon
Fuel Sulfur Content =	0.0015	% by weight
Fuel Consumption Rate =	2.74	gallons per hour (estimate)
Fuel Heat Content =	0.138	MMBtu/gal (for use with GHG factors from 40 CFR 98)
Annual Fuel Consumption =	548	gallons

Pollutant	Emission Factor lb/hp-hr	Emission Factor lb/hr	Emissions tpy	Emission Factor Source
NO_X	0.0077	0.42	0.042	EPA Tier IV Int
CO	0.0082	0.44	0.044	EPA Tier IV Int
VOC	0.00031	0.02	0.00167	EPA Tier IV Int
SO_X as SO_2	0.000011	0.0006	0.000059	Mass Balance
PM	0.00049	0.03	0.0026	EPA Tier IV Int
PM_{10}	0.00049	0.03	0.0026	EPA Tier IV Int
$PM_{2.5}$	0.00049	0.03	0.0026	EPA Tier IV Int

Greenhouse Gases	kg/MMBtu	GWP	CO_2e lb/MMBtu	CO_2e lb/gallon	tpy, CO_2e	
CO_2	73.96	1	163.054	22.501	6.163	40 CFR 98
CH_4	0.003	25	0.165	0.023	0.006	40 CFR 98
N_2O	0.0006	298	0.394	0.054	0.015	40 CFR 98
Total GHG - CO_2e			163.613	22.579	6.185	

Annual emissions must be determined by the total number of hours of operation multiplied by the emission factors above, unless otherwise specified by SWCAA.

6.d. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO_x	0.04	0.04
CO	0.04	0.04
VOC	1.07	1.07
SO_2	0.0001	0.0001
PM	4.70	4.70
PM_{10}	4.70	4.70
$PM_{2.5}$	2.49	2.49

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
CO_2/CO_2e	6	6
TAPs	0.40	0.40
HAPs	0.0002	0.0002

TAP/HAP	Facilitywide Anticipated Emissions (lb/yr)
Ammonia [7664-41-7]	80
2-aminoethanol [141-43-5]	63
Copper [7440-50-8]	21
Diethylene Glycol Monomethyl Ether [111-77-3]	0.40
Ethanol [64-17-5]	63
Isopropyl Alcohol [67-63-0]	7

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this ADP consistent with implementation of Best Available Control Technology (BACT):

7.a. 40 Code of Federal Regulations (CFR) 60 Subpart IIII [§60.4200 *et seq*] "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005, and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005.

The Kohler (emergency generator) engine is a CI ICE configuration and was manufactured after April 1, 2006; therefore, this regulation is applicable to the (emergency generator) engine.

7.b. 40 CFR 63 Subpart KK [§63.820 *et seq*] "National Emission Standards for the Printing and Publishing Industry" applies to facilities that use publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses and are HAP major or have taken a limit to be an area source of HAP. This facility is not a HAP major nor has it taken a HAP limit opt out, so this regulation does not apply.

7.c. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement, and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.

7.d. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules, and regulations when issuing an ADP for installation and establishment of an air contaminant source. This law applies to the facility.

7.e. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.

The facility emits TAPs; therefore, this regulation applies to the facility.

7.f. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, SO_2, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM_{10}, $PM_{2.5}$, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.

7.g. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO_2, concealment and masking, and fugitive dust. This regulation applies to the facility.

7.h SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.

7.i. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.

7.j. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.

7.k. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.

7.l. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person is allowed to emit a gas containing in excess of 1,000 ppmd of SO_2, corrected to 7% O_2 or 12% CO_2 as required by the applicable emission standard for combustion sources.

The facility emits SO_2; therefore, this regulation applies to the facility.

7.m. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.

7.n. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met, and that no person is allowed to cause or permit the emission of PM from any combustion or incineration unit in excess of 0.23 g/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas at standard conditions.

The facility has combustion units; therefore, this regulation applies to the facility.

7.o. SWCAA 400-060 "Emission Standards for General Process Units" requires that all new and existing general process units do not emit PM in excess of 0.23 g/Nm^3_{dry} (0.1 gr/dscf) of exhaust gas. The facility has general process units; therefore, this regulation applies to the facility.

7.p. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.

7.q. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.

7.r. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
(3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in an attainment area; therefore, this regulation applies to the facility.

7.s. SWCAA 490 "Emission Standards and Controls for Sources Emitting Volatile Organic Compounds" establishes emission standards and control requirements for sources of VOC located in ozone nonattainment or maintenance plan areas. SWCAA 490-204 "Graphic Arts Systems" applies to printing systems including flexographic printing systems that use more than 100 tons per year of VOCs as a component of ink, for the thinning of ink, cleaning of presses, press components, and equipment. The permittee does not use more than 100 tons per year of VOCs, therefore, the standards in this section do not apply to the permittee.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

BACT Determination(s)

8.a. BACT Determination – Flexographic Printing. Flexographic printing emits a relatively minor amount of VOC and TAP emissions. At the facility's level of emissions, the use of inks containing less than 1 pound per gallon VOC meets the requirements of BACT.

8.b. BACT Determination – Folder Gluer Lines. These lines currently produce no VOC or TAP emissions. The use of glues containing less than 1 pound per gallon VOC meets the requirements of BACT for future glues.

8.c. BACT Determination – Baghouse. The use of process enclosure (process building) and high efficiency particulate filtration (baghouse) has been determined to meet the requirements of BACT for the facility.

8.d. BACT Determination – Space Heaters. The use of natural gas in space heaters and the MAU of this size was determined to meet the requirements of BACT at the time of permitting.

8.e. BACT Determination – Emergency Engine. The use of modern diesel-fired engine design meeting EPA Tier Emission Standards, the use of ultra-low sulfur diesel fuel

(≤15 ppmw), limitation of visible emissions to 5% opacity or less, and limitation of engine operation to less than 100 hr/yr for maintenance checks and readiness testing has been determined to meet the requirements of BACT for the types and quantities of air contaminants emitted from this engine.

8.f. Prevention of Significant Deterioration (PSD) Applicability Determination. This permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

8.g. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 (Title V) permit.

9. AMBIENT IMPACT ANALYSIS

9.a. Criteria Air Pollutant Review. Emissions of NO_x, CO, PM, VOC (as a precursor to O_3), and SO_2 are emitted at levels where no adverse ambient air quality impact is anticipated.

9.b. Toxic Air Pollutant Review. The TAP emissions associated with this facility are quantified in Section 6 of this TSD. All incremental increases in individual TAP emissions are less than the applicable small quantity emission rate (SQER) identified in WAC 173-460.

9.c. Emergency Generator: The emergency generator will operate no more than 100 hr/yr for testing, maintenance, and as necessary to supply power during an emergency, therefore, the ambient impact of this source is not likely to be significant.

Conclusions

9.d. Operation of the box manufacturing facility, as proposed in ADP application CL-3235, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.e. Operation of the box manufacturing facility, as proposed in ADP application CL-3235, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.f. The box manufacturing facility as proposed in ADP application CL-3235, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 25-3695 in response to ADP application CL-3235. ADP 25-3695 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

This is the initial permitting action for the facility.

10.a. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP application CL-3135. Unless otherwise requested by the applicant, emission limits for approved equipment are based on the potential emission calculations in Section 6 of this TSD. BACT is implemented as proposed for each emission unit.

10.b. Emission Limits. TAPs are limited via a blanket limitation that does not allow emissions of individual toxic air pollutants to exceed their respective small quantity emission rates established in WAC 173-460. Such a blanket limitation is more appropriate for this facility because material formulations have changed and are expected to continue changing in the future.

Visible emission limits for the emergency generator have been established consistent with proper operation of the diesel engine. Due to the technical limitations of the engine, the opacity limit is 20% during periods of start-up and shutdown.

10.c. Operating Limits and Requirements. Because this type of operation has the potential to produce nuisance odors, the requirement to minimize odor impacts on neighboring property owners from SWCAA 400-040 was incorporated directly into the ADP. The requirement to store materials containing volatile organic compounds in enclosed containers to minimize evaporation was included as implementation of good air pollution control practice (presumptive BACT).

Approval conditions for the emergency generator are based on limited service for maintenance checks and readiness testing (100 hr/yr) and for actual power interruptions. Compliance with these requirements will be demonstrated based on annual operation as recorded and reported by the source. BACT requirements for this unit include the use of low sulfur diesel (sulfur content not to exceed 0.0015% by weight).

10.d. Monitoring and Recordkeeping. Sufficient monitoring and recordkeeping requirements were established to document compliance with the emission limits and provide for general requirements.

10.e Reporting. SWCAA is required to be notified before a new material is used that will result in emissions of a HAP or TAP. This requirement allows SWCAA and the permittee to assess whether a process or material change will have an adverse effect on air quality or require New Source Review without formal submittal of an ADP application. Significant changes must still undergo New Source Review. The ADP requires reporting of the annual air emissions inventory and reporting of the data

necessary to develop the inventory. Excess emissions must be reported immediately in order to qualify for relief from monetary penalty in accordance with SWCAA 400-107.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology-based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

Emergency Generator. Upon start-up, the diesel engines may exhibit visual emissions in excess of the opacity limit that applies to normal operation even when in good repair and operated properly. Accordingly, the visual emissions limit listed in the permit for this unit is not applicable during the start-up period defined in the permit. The general opacity standard from SWCAA 400-040 of 20% continues to apply during start-up and shutdown.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.

11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the approval conditions.

12. EMISSION MONITORING AND TESTING

There are no emission monitoring or testing requirements established as part of this permitting action.

13. FACILITY HISTORY

13.a. General History. The facility has not been permitted in the past.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application CL-3235. Public notice for ADP application CL-3235 was published on the SWCAA website for a minimum of fifteen (15) days beginning on July 11, 2023.

14.b. Public/Applicant Comment for ADP Application CL-3235. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CL-3235. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act. After review of the SEPA Checklist for this project, SWCAA has determined that the project does not have a probable significant impact on the environment and has issued Determination of Non-Significance 24-011. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c).