TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit ADP 17-3243
ADP Application L-688

Hardel Mutual Plywood
SWCAA ID - 2026

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Prepared By: Wess Safford
Air Quality Engineer
Southwest Clean Air Agency

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Abbreviations

acfm	actual cubic feet per minute
ADP	Air Discharge Permit
AP-42	Compilation of Emission Factors, AP-42, Fifth Edition, Volume 1, Stationary Point and Area Sources – published by the US Environmental Protection Agency
BACT	Best available control technology
Btu	British thermal unit
Btu/gal	Heat content expressed in British thermal units per gallon
CPM	Condensable particulate matter
CFR	Code of Federal Regulations
CO	Carbon monoxide
EFB	Electrified filter bed
EPA	U.S. Environmental Protection Agency
ESP	Electrostatic precipitator
gr/dscf	Grains per dry standard cubic foot (68 °F, 1 atmosphere)
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
LAER	Lowest achievable emission rate
lb/MMBtu	Pound per million British thermal units
$lb/10^6$ scf	Pounds per million standard cubic feet
MMBtu/hr	Millions of British thermal units per hour
Msf-3/8	Thousand square feet of 3/8” panel equivalent
MMsf-3/8	Million square feet of 3/8" panel equivalent
MSDS	Material Safety Data Sheet
Msf	Thousand square feet
MMsf	Million square feet
NO_x	Nitrogen oxides
NOV	Notice of Violation
PM	Total particulate matter (includes both filterable particulate matter measured by EPA Method 5 and condensable particulate matter measured by EPA Method 202)
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (includes both filterable particulate matter measured by EPA Method 201 or 201A and condensable particulate matter measured by EPA Method 202)
ppm	Parts per million
ppmv	Parts per million by volume
ppmvd	Parts per million by volume, dry
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
RTO	Regenerative thermal oxidizer
SQER	Small Quantity Emission Rate listed in WAC 173-460
SO_2	Sulfur dioxide
SWCAA	Southwest Clean Air Agency
TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
T-BACT	Best Available Control Technology for toxic air pollutants
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

1. FACILITY IDENTIFICATION

Applicant Name:	Hardel Mutual Plywood Corporation
Applicant Address:	PO Box 540, Chehalis, WA 98532
Facility Name:	Hardel Mutual Plywood Corporation
Facility Address:	143 Maurin Road, Chehalis, WA 98532
Contact person:	Craig Gronka, Safety & Environmental Director
SWCAA Identification:	2026
Primary Process:	Plywood Manufacturing
SIC/NAICS Code:	2436 / 321212
Facility Classification:	Synthetic Minor

2. FACILITY DESCRIPTION

Hardel Mutual Plywood Corporation (Hardel) operates a plywood manufacturing plant in Chehalis, Washington. The facility operates hot presses and veneer dryers, but does not include a veneer mill. All veneer used at the site is supplied by offsite mills.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit application number L-688 (ADP Application L-688) dated March 2, 2017. Hardel submitted ADP Application L-688 requesting approval for:

- Installation of a new film press for application of overlay paper to finished plywood panels.

The current permitting action provides approval for the new equipment proposed in ADP Application L-688. Emission limits and approval conditions for existing operations at the facility will be carried forward unchanged. ADP 13-3043R1 will be superseded in its entirety by this permitting action.

4. PROCESS DESCRIPTION

4.a Veneer Receipt and Storage (*existing*). Veneer used in the plywood manufacturing process is delivered to the plywood plant via truck. Handling is performed with forklifts and other power equipment. There are no veneer peeling or milling operations at the facility. The Chehalis facility receives both green and dried veneer. The wood species mix is typically 50% Douglas fir, 45% western hemlock, 3% spruce, 1% western red alder, and 1% lodgepole pine.

4.b Veneer Drying (*existing*). Green veneer is unbundled and inspected prior to use. After damaged sections are trimmed off, the green veneer is dried in the veneer dryers. The veneer dryers use hot, high velocity air to drive inherent moisture out of the veneer sheets. The drying cycle lasts from 8-15 minutes with temperatures ranging from 340°F to 420°F. Drying conditions are adjusted based on the wood species, veneer thickness, and beginning moisture content. Final specified moisture content in the veneer ranges from 3-5%. Subsequent to drying, veneer sheets are either sent to the lay-up lines for panel assembly or moved to storage.

4.c Plywood Lay-up (*existing*). Dried veneer is assembled into raw plywood panels using either a manual or automated lay-up process. The glue used in both lay-up processes is a phenol-formaldehyde resin system manufactured by Borden Chemical (Cascophen LM318G and LM318H). The typical make up of the 'as applied' glue is 72% Cascophen resin, 3% soda ash, 4% Modal, 6% flour, 3% caustic, and 12% water.

In the manual lay-up process, plywood panels are assembled by hand at a single work station. Resin is applied to both sides of small veneer pieces using a "glue spreader" with a series of grooved, rubber application rolls. The small veneer pieces are then manually placed between whole sheets of veneer until the desired number of plies is assembled. Finished panels are manually stacked in preparation for hot pressing.

In the automated lay-up process, plywood panels are assembled using a combination of seven basic mechanical modules. The automated lay-up line produces panels with a nominal width of 4' and nominal lengths of 8', 9' or 10'. A main conveyor chain transports veneer through the production modules as it is layered to make plywood panels. The lay-up process starts with a tail module which places a whole veneer sheet on the conveyor chain. The tail module includes a pneumatic take-up assembly, sheet positioning chains, and a sheet laying station. Glue is then applied to the veneer using a glue spray booth which sprays a curtain of glue onto the veneer as it passes through. Glue is supplied to the spray booth by a central glue pump. After the tail module and glue spray booth, veneer is carried to a core module where half-length strips oriented at 90 degrees to the first veneer sheet are added to the assembly. The core module includes a belt driven feed assembly and a decline conveyor. Upon leaving the core module, the assembly goes through a second glue spray booth. Lay-up continues through a combination of sheet modules, core modules, and glue spray booths until the desired assembly configuration is attained. Sheet modules function in similar fashion to the tail module with whole veneer sheets being added to the assembly as it passes by. The head module is located at the end of the lay-up line where the final sheet of veneer is added to the assembly. After the head module, the assembled panel is sized to a nominal length (8', 9' or 10') with a flying cut-off saw. Cut-off panels are sent to a carrousel stacker, and transferred to a package hoist. Upon completion, veneer packages are sent to either transfer chains or a forklift pedestal in preparation for hot pressing.

4.d Plywood Hot Pressing (*existing*). Assembled plywood panels are consolidated and cured in the hot press operation. A single panel is loaded into each press opening prior to initiating a preprogrammed press cycle. Panels are pressed at temperatures ranging from 270° to 330°F with cycle times of 2-7 minutes. The exact temperature and length of a press cycle depends on the wood species, the number of plies in the panels, and the press design. Panels are sent to other areas of the facility to be trimmed and surface treated subsequent to hot pressing. Maximum practical operation of any single hot press is approximately 20 hr/dy, 6 dy/wk. The actual operation of individual hot presses varies widely depending on product demand. All of the hot presses are configured with a draft curtain (primarily for fire control) and a roof vent located above the unit.

4.e Overlay Paper Application (*new*). Sheets of prefabricated, resin saturated overlay paper are bonded to plywood panels in a film press. A sheet of overlay paper is placed on top of a finished plywood panel, and both pieces are loaded into a press opening prior to initiating a preprogrammed press cycle. Press cycles are approximately 10 minutes long. Maximum practical operation of the 24 opening film press is approximately 120-132 sheets per hour.

ADP Application L-688. Applicant proposes to install a single film press to apply medium density overlay paper to the exterior of plywood panels produced at the facility. Maximum throughput for the proposed overlay operation is much lower than facilitywide plywood production (28,000,000 sf vs 300,000,000 sf).

4.f Fluid Heaters (*existing*). All process heat at the plywood plant is provided by a thermal fluid loop, which is heated by one of two fluid heaters. The thermal fluid is heated to a temperature of 550°F in combination radiant/convective heat exchangers. Hot thermal fluid is pumped from the heaters to individual pieces of process equipment. Cool thermal fluid (~450°F) is pumped from the process equipment back to the fluid heaters for reheating. The facility does not operate both fluid heaters simultaneously. Currently, the Wellons fluid heater is used in regular service, and fires wood waste from the production process. The American Heating fluid heater is used as a backup to the Wellons unit, and fires on natural gas.

Wood waste created by the plywood production process at the facility is relatively dry with a moisture content of approximately 5%. This moisture level is significantly below the preferred moisture content of approximately

30% so water is added to the material stream prior to combustion to raise fuel moisture content to the desired level. A higher moisture content is preferred as it reduces NO_x emissions and extends refractory life in the fluid heater. Wood waste generated at the facility does not contain any significant amount of dirt, debris, or bark. Laboratory analysis of the wood waste stream indicates that the material is low in nitrogen, sulfur, and ash content in comparison to other types of wood waste. All offsite wood waste must meet fuel specifications that match or exceed those of the facility generated wood waste. Typical analysis results are as follows:

Component	Weight Fraction
Total solids	93%
Total sulfur	Non-detect
Ash	0.61%
Total nitrogen	0.12%
Total carbon	0.54%

4.g Wood Waste Handling and Storage (*existing*). Woodworking operations at the facility generate wood waste consisting of sawdust, sander dust, and wood chip (veneer waste, trim pieces, scrap, etc.). Wood waste from production equipment is collected via centralized vacuum systems powered by a collection of baghouses. Material catch from the baghouses is pneumatically conveyed to one of two storage bins for use as fuel in the facility's wood fired fluid heater. Each storage bin is equipped with vent filtration. Although wood waste from plant operations is generally consumed onsite by the heater, a truck loading bin is installed for shipment of wood waste offsite in the event that an excess of wood waste occurs. The plant is also equipped with a truck dump to receive offsite material if the facility experiences a shortage of fuel.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a Wood Fired Fluid Heater (*existing*). One Wellons model RC2C7.0 wood fired fluid heater with a maximum rated heat input of 79.4 MMBtu/hr. Maximum fuel consumption at rated capacity is specified as 13,040 lbs/hr. Maximum heat output of the working fluid loop is 60 MMBtu/hr. The Wellons unit has a dual cell configuration incorporating staged air and combustion controls. Exhaust gases from the unit are exhausted at approximately 625°F and 44,400 acfm to a combustion air preheater where the temperature decreases from 625°F to approximately 355°F. The wood waste fluid heater is equipped with O_2 sensors and an opacity meter (COM). Plant personnel monitor fluid heater fuel consumption on a daily basis. NO_X and CO emissions from the fluid heater are controlled via combustion controls. PM emissions from the fluid heater are controlled with both primary and secondary control equipment. Primary control equipment consists of a Wellons multiclone with 8" diameter tubes. Secondary control equipment consists of an electrostatic precipitator (ESP) manufactured by PCC Industries, Inc. The ESP was installed as a replacement for an electrified filter bed (EFB) in September, 2004.

Fluid Heater ESP. One PCC Industries model 11R-1228-2712S modular precipitator with a total collection area of 12,577 square feet (ft^2). Exhaust air from the ESP is discharged through a 46" diameter stack at a height of 75' above ground level. The ESP is designed for a maximum flowrate of 42,000 acfm and inlet particulate loading of 0.2 gr/dscf. Typical inlet loading while in operation is approximately 0.01 gr/dscf. The manufacturer guarantees that the ESP will limit final particulate emissions to a maximum of 0.025 lb/MMBtu at inlet loading rates of 0.2 gr/dscf or less, and achieve a minimum control efficiency of 96% at inlet loading rates greater than 0.2 gr/dscf. Visible emissions are guaranteed not to exceed 5% opacity (six minute rolling average).

5.b Natural Gas Fired Fluid Heater (*existing*). One American Heating Company (American Heating) model AHE-1200 natural gas fired fluid heater with a rated heat input of 14.7 MMBtu/hr. The American Heating fluid heater was manufactured in 1992. The unit serves as a backup for the Wellons wood fired fluid heater. The unit is equipped with a low NO_X burner (Power Flame model LNF-HPD7.5), staged combustion and flue gas recirculation (FGR). Exhaust gases from the unit discharge through a 24" diameter stack at ~52' above ground level (~5,985 cfm, 450°F).

5.c Veneer Dryers #2 & #3 / Oxidizer #1 (*existing*). Two Coe Manufacturing "jet type" veneer dryers configured with four product decks measuring three sheets in width. The veneer dryers direct hot, high velocity air at the surface of veneer sheets to drive out inherent moisture. The interior of each dryer is divided into a drying section and a cooling section. Exhaust gases from the drying section are discharged at a combined total rate of 40,000 acfm (20,300 scfm), 25% moisture and 320°F via 6 exhaust stacks, 24" in diameter. Exhaust gases from the cooling section of the dryer are discharged uncontrolled at a combined rate of 33,000 cfm at about 15°F above ambient temperature via 5 exhaust stacks, 48" in diameter. The cooling sections are not a significant source of emissions.

Exhaust streams from the drying sections of both units are vented to a Geoenergy GeoThermTM model 27-2-KT regenerative catalytic oxidizer (RCO #1). The oxidizer has a two chamber configuration that uses pneumatically actuated poppet valves to switch gas flow from one chamber to the other. VOC laden exhaust gas is heated in the presence of catalyst to its oxidation temperature (over 800°F) converting VOCs to CO_2 and water. The oxidizer uses forced draft and controlled fuel injection to reduce combustion emissions. Exhaust gases from the oxidizer are discharged via a 48" diameter stack at 37' above ground level. Retention time is identified as 0.5 seconds or greater based on inlet design conditions (42,000 acfm, 320°F, 25% moisture).

5.d Veneer Dryer #1 / Oxidizer #2 (*existing*). One Coe Manufacturing model 72/95 "Vert-A-Jet" veneer dryer equipped with four product decks measuring three sheets in width. The interior of the dryer is configured with 3 cooling sections and 16 drying sections. Exhaust gases from the drying sections are discharged at a combined total rate of 17,600 acfm via 3 exhaust stacks, 24" in diameter (25% moisture, ~305°F). Exhaust gases from the cooling section of the dryer are discharged at a rate of approximately 33,000 cfm via 3 exhaust stacks, 48" in diameter.

Exhaust streams from the drying sections are vented to a Western Pneumatics model 7X13R regenerative catalytic oxidizer (RCO #2). The RCO has a two chamber configuration that uses actuated poppet valves to switch gas flow from one chamber to the other. VOC laden exhaust gas is heated in the presence of catalyst to its oxidation temperature (over 800°F) converting VOCs to CO_2 and water. The oxidizer uses forced draft and controlled fuel injection to reduce combustion emissions. Exhaust gases from the oxidizer are discharged via a 36" diameter stack at 40' above ground level. Retention time is identified as 0.5 seconds or greater based on inlet design conditions (17,600 acfm, 305°F, 25% moisture).

5.e Hot Press #1 (*existing*). One Spar Tek 4' x 8' x 40 opening hot press. Hot press emissions are exhausted through a 55" diameter stack approximately 43.6' above ground level at a flow rate of 30,000 cfm and a temperature of approximately 183°F.

5.f Hot Press #2 (*existing*). One Coe Manufacturing Company 4' x 10' x 40 opening hot press. Hot press emissions will be exhausted through a 55" diameter stack 41' above ground level at a flow rate of 30,000 cfm and a temperature of approximately 183°F.

5.g Hot Press #3 (*existing*). One Williams White 5' x 10' x 30 opening hot press, refurbished by Globe Machine Manufacturing Company. Hot press emissions are exhausted through a 55" diameter stack approximately 46.5' above ground level at a flow rate of 30,000 cfm flow rate and a temperature of approximately 183°F.

5.h Hot Press #4 (*existing*). One Williams White 5' x 10' x 30 opening hot press, modified by Spar Tek. Hot press emissions are exhausted through a 55" diameter stack approximately 40.6' above ground level at a flow rate of 30,000 cfm and a temperature of 183°F.

5.i Baghouse #1 – Back-up Baghouse / Saw Line #1 Material Collection System (*existing*). One Torit Products model 324 RFW-10 baghouse with a rated airflow of 35,920 cfm. The baghouse is equipped with 324 filter bags measuring 6" x 3" (oval) x 10 feet in length. The baghouse employs a 7 psig reverse pulse cleaning system with a 3-minute cycle. The specified filter media is 16 oz/yd^2 polyester felt. The manufacturer guarantees 99.99% efficiency. This baghouse serves as a back-up unit for Baghouse #2, and does not operate regularly.

5.j Baghouse #2 – Primary Baghouse / Saw Line #1 Material Collection System (*existing*). One Carothers & Son model 330TR12HEI baghouse (s/n 3278-3) with a rated airflow of 50,000 cfm. The baghouse is equipped with 330 filter bags measuring 6" dia x 144" long. The specified filter media is 16 oz/yd^2 singed polyester. The baghouse employs a reverse pulse-jet cleaning system. This baghouse will serve the material collection systems for saw line #1 and the specialty saw. The exhaust stack has a diameter of 4' and discharges at a height of approximately 43' 10".

5.k Baghouse #3 – Primary Baghouse / Saw Line #2 Material Collection System (*existing*). One Carothers & Son model 330TR12HEI baghouse (s/n 3278-2) with a rated airflow of 50,000 cfm. The baghouse is equipped with 330 filter bags measuring 6" dia x 144" long. The specified filter media is 16 oz/yd^2 singed polyester. The baghouse employs a reverse pulse-jet cleaning system. This baghouse will serve the material collection systems for the trim hog, clean hog, main hog, and saw line #2. The exhaust stack has a diameter of 4' and discharges at a height of approximately 43' 10".

5.l Baghouse #4 – Back-up Baghouse / Saw Line #2 Material Collection System (*existing*). One Torit Products model 232 RFW-10 baghouse with a rated airflow of 20,000 cfm. The baghouse is equipped with 232 filter bags measuring 6" x 3" (oval) x 10' in length. The baghouse employs a 7 psig reverse pulse cleaning system with a 3-minute cycle. The specified filter media is 16 oz/yd^2 polyester felt. The filter media manufacturer guarantees 99.99% collection efficiency. This baghouse serves as a back-up unit for Baghouse #3, and does not operate regularly.

5.m Baghouse #5 – Sander Material Collection System (*existing*). One Carothers & Son model 450TR12HEI baghouse with a rated airflow of 70,000 cfm. The baghouse is equipped with 450 filter bags measuring 6" in diameter by 144" in length. The baghouse employs a continuous reverse pulse cleaning system to clean the filter bags while in use. The specified filter media is 16 oz/yd^2 polyester fabric. The filter media manufacturer guarantees 99.99% collection efficiency down to a particle size of 1 micron. This baghouse will serve the material collection systems for the production sanders. The exhaust stack measures 4' x 7' 3" and discharges at a height of approximately 11' 6".

5.n Baghouse #6 – Fuel Bin and Yard Hog Material Collection System (*existing*). One Torit Products model 324 RFW-10 baghouse with a rated airflow of 24,000 cfm. The baghouse is equipped with 324 filter bags measuring 6" x 3" (oval) x 10 feet in length. The baghouse employs a 7 psig reverse pulse cleaning system with a 3-minute cycle. The specified filter media is 16 oz/yd^2 polyester felt. This baghouse previously served the "bottom sander" material collection system. As described in ADP Application L-569, the baghouse will now serve to control emissions from the Wellons fuel bin and yard hammer hog, as well as providing negative air to a general clean-up vacuum system in the vicinity of the fuel and sander dust bins. The exhaust stack has a diameter of 2' 6" and discharges at a height of approximately 28' 2".

5.o Baghouse #7 – Northside Saws and Hog Material Collection System (*existing*). One Torit Donaldson model 324 RFW-10 baghouse with a rated airflow of 24,000 cfm. The baghouse is equipped with 324 filter bags providing a total filtration area of 4,212 ft^2. The specified filter media is 16 oz/yd^2 polyester. The baghouse employs a reverse airjet cleaning system. This baghouse will serve the material collection system for a double end saw, a core saw, a cutback saw, and a veneer hog. The exhaust stack has a diameter of 30" and discharges at a height of approximately 32'.

5.p Truck Load-out Bin Vent Filter (*existing*). One Carothers & Son model CSL 16-8 vent filter with a rated airflow of 1,670 cfm. The vent filter is equipped with 200 ft^2 of 16 oz/yd^2 polyester filter media. This vent filter is installed on the truck load-out storage bin.

5.q Film Press #1 (*new*). One Raute 4' x 10' x 24 opening overlay film press. Film press emissions are exhausted through a ~55" diameter stack approximately 43.6' above ground level at a flow rate of 30,000 cfm and a temperature of 183°F.

ADP Application L-688. The proposed film press will be used to apply medium density overlay paper to finished plywood panels manufactured at the facility. Applicant has not proposed any changes to existing hot presses or other production operations.

Obsolete Equipment/Activities. The following equipment is present onsite, but has been permanently removed from service:

5.r Sander Dust Bin Vent Filter. One Carothers & Son model 16BR8RC-BV vent filter with a rated airflow of 1,350 cfm. The vent filter is equipped with 201 ft^2 of 16.0 oz/yd^2 polyester filter media. The vent filter is installed on the sander dust storage bin that feeds the wood waste fired fluid heater. The sander dust bin was installed in 2001.

5.s Equipment/Activity Summary.

ID No.	Generating Equipment/Activity	# of Units	Control Measure/Equipment	# of Units
1	Wood Fired Fluid Heater (Wellons / RC2C7.0)	1	Electrostatic Precipitator (PPC Industries / 11R-1228-2712S)	1
2	Natural Gas Fired Fluid Heater (American Heating Co. / AHE-1200)	1	Low NO_x Burner (Ponder / LNVG-147)	1
3	Veneer Dryers 2 & 3 (Coe Manufacturing)	2	Regenerative Catalytic Oxidizer 1 (Geoenergy / 27-2-KT)	1
4	Veneer Dryer 1 (Coe Manufacturing)	1	Regenerative Catalytic Oxidizer 2 (Western Pneumatics / 7X13R)	1
5	Hot Press #1 (Spar Tek / 4' x 8' x 40)	1	Draft Curtain	1
6	Hot Press #2 (Coe Manufacturing Company / 4' x 10' x 40)	1	Draft Curtain	1
7	Hot Press #3 (Williams White / 5' x 10' x 30)	1	Draft Curtain	1
8	Hot Press #4 (Williams White / 5' x 10' x 30)	1	Draft Curtain	1
9	Saw Line #1 Material Collection System	1	Baghouse #1 (Torit / 324 RFW-10)	1
10	Saw Line #1 Material Collection System	1	Baghouse #2 (Carothers & Son / 330TR12HEI)	1
11	Saw Line #2 Material Collection System	1	Baghouse #3 (Carothers & Son / 330TR12HEI)	1
12	Saw Line #2 Material Collection System	1	Baghouse #4 (Torit / 232 RFW-10)	1
13	Sander Material Collection System	1	Baghouse #5 (Carothers & Son / 450TR12HEI)	1
14	Fuel Bin and Yard Hog Material Collection System	1	Baghouse #6 (Torit / 324 RFW-10)	1
15	Northside Saws and Hog Material Collection System	1	Baghouse #7 (Torit-Donaldson / 324 RFW-10)	1
16	Truck Load-out Bin	1	Vent Filter (Carothers & Son / CSL 16-8)	1

ID No.	Generating Equipment/Activity	# of Units	Control Measure/Equipment	# of Units
17	Film Press #1 (Raute / 4' x 10' x 24)	1	Low Emission Resin Formulation	1

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from plywood manufacturing operations proposed in ADP Application L-688 consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM) sulfur dioxide (SO_2), toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).

6.a Dust Collection System Baghouses (*existing*). The primary point of emissions from the dust collection systems is the exhaust of each system's baghouse. PM emissions from each baghouse are calculated from the rated discharge of each unit, a maximum emission concentration of 0.005 gr/dscf, and allowable operating hours (see below). 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).

Emission Unit	Pollutant	Discharge Rate (cfm)	Emission Concentration (gr/dscf)	Operation (hrs)	Emissions (lb/hr)	Emissions (tpy)
Baghouse #1	PM/PM_{10}	35,920	0.005	60	1.54	0.05
	$PM_{2.5}$		53% PM			0.02
Baghouse #2	PM/PM_{10}	50,000	0.005	8,760	2.14	9.39
	$PM_{2.5}$		53% PM			4.97
Baghouse #3	PM/PM_{10}	50,000	0.005	8,760	2.14	9.39
	$PM_{2.5}$		53% PM			4.97
Baghouse #4	PM/PM_{10}	20,000	0.005	60	0.86	0.03
	$PM_{2.5}$		53% PM			0.01
Baghouse #5	PM/PM_{10}	70,000	0.005	6,000	3.0	9.00
	$PM_{2.5}$		53% PM			4.77
Baghouse #6	PM/PM_{10}	24,000	0.005	8,760	1.03	4.51
	$PM_{2.5}$		53% PM			2.39
Baghouse #7	PM/PM_{10}	24,000	0.005	8,760	1.03	4.51
	$PM_{2.5}$		53% PM			2.39
Truck Load-out Vent Filter	PM/PM_{10}	1,670	0.005	8,760	0.07	0.31
	$PM_{2.5}$		53% PM			0.17

6.b Wellons Fluid Heater/EFB (*existing*). Criteria pollutant emissions from the Wellons fluid heater are calculated based on manufacturer guaranteed emission factors, emission factors derived via EPA Method 19, emission factors from EPA AP-42, Table 1.6-1 (9/03), a rated heat input of 79.4 MMBtu/hr, 8,760 hr/yr of operation, 13,040 lb/hr of wood combustion and an exhaust flowrate of 22,550 dscfm. Potential HAP and TAP emissions are calculated using EPA AP-42 HAP and TAP emission factors for the combustion of wood adjusted for 30% fuel moisture. All filterable PM emissions are assumed to be PM_{10}. Filterable PM_{10} emissions are assumed to be 75% $PM_{2.5}$ by weight based on information from EPA AP-42, Table 1.6-1.

Pollutant	Concentration Limit	Emission Factor	Factor Source	Emissions (tpy)
NO_x	148 ppmvd @ 7% O_2	0.23 lb/MMBtu	Hardel/Mtd 19	79.99
CO	202 ppmvd @ 7% O_2	0.19 lb/MMBtu	Hardel/Mtd 19	66.08
PM/PM_{10} (filterable)	0.012 gr/dscf @ 7% O_2		Mfg data	10.16
$PM_{2.5}$ (filterable)		75% of PM_{10}	AP-42, Table 1.6-1	7.62
$PM/PM_{10}/PM_{2.5}$ (condensable)		0.017 lb/MMBtu	AP-42, Table 1.6-1	5.91
PM/PM_{10} (total)				16.07
$PM_{2.5}$ (total)				13.53
NMHC*		0.1 lb/MMBtu	Mfg data	34.78
SO_2	18 ppmvd @ 7% O_2	0.039 lb/MMBtu	Hardel/Mtd 19	13.56

* Reported as carbon

Pollutant	Emission Factor	Factor Source	Emissions (lb/yr)
Acetaldehyde	4.20 x 10-3 lb/ton	AP-42	239.9
Acrolein	5.60 x 10-6 lb/ton	AP-42	0.3
Arsenic	1.23 x 10-4 lb/ton	AP-42	7.0
Benzene	5.04 x 10-3 lb/ton	AP-42	287.8
Benzo(a)pyrene	2.66 x 10-7 lb/ton	AP-42	0.02
Cadmium	2.38 x 10-5 lb/ton	AP-42	1.4
Chromium	1.82 x 10-4 lb/ton	AP-42	10.4
Formaldehyde	9.30 x 10-3 lb/ton	AP-42	531.1
Manganese	1.25 x 10-2 lb/ton	AP-42	713.9
Mercury	9.10 x 10-6 lb/ton	AP-42	0.5
Naphthalene	3.22 x 10-3 lb/ton	AP-42	183.8
Nickel	7.80 x 10-4 lb/ton	AP-42	44.5
Phenol	5.40 x 10-4 lb/ton	AP-42	30.8
Selenium	2.50 x 10-5 lb/ton	AP-42	1.4

6.c American Heating Fluid Heater (*existing*). The American Heating fluid heater is approved for unrestricted operation, but is currently used as a back-up to the primary fluid heater. Potential emissions from the American Heating fluid heater are calculated based on 8,760 hr/yr of operation, emission factors derived from manufacturer's performance guarantees and EPA AP-42, Section 1.4 (7/98), a rated heat input of 14.7 MMBtu/hr, and a natural gas heat content of 1,020 Btu/ft^3. TAP and HAP emissions are calculated using emission factors from EPA AP-42, Section 1.4 (7/98).

Pollutant	Emission Concentration	Emission Factor	Factor Source	Emissions (tpy)
NO_x	30 ppmvd @ 3% O_2	0.0364 lb/MMBtu	Mfg/Mtd 19	2.34
CO	65 ppmvd @ 3% O_2	0.0480 lb/MMBtu	Mfg/Mtd 19	3.09
$PM/PM_{10}/PM_{2.5}$ (total)	N/A	0.0075 lb/MMBtu	AP-42 (7/98)	0.48
VOC	N/A	0.0054 lb/MMBtu	AP-42 (7/98)	0.35
SO_2	N/A	0.0006 lb/MMBtu	AP-42 (7/98)	0.04

Pollutant	Emission Factor	Factor Source	Emissions (lb/yr)
Arsenic	2.30×10^{-4} lb/10^6 ft^3	AP-42	0.03
Barium	2.40×10^{-3} lb/10^6 ft^3	AP-42	0.3
Chromium	1.10×10^{-3} lb/10^6 ft^3	AP-42	0.1
Cobalt	1.20×10^{-4} lb/10^6 ft^3	AP-42	0.02
Copper	2.51×10^{-4} lb/10^6 ft^3	AP-42	0.03
Formaldehyde	1.55×10^{-1} lb/10^6 ft^3	AP-42	19.6
Lead compounds	2.71×10^{-4} lb/10^6 ft^3	AP-42	0.03
Manganese	3.81×10^{-4} lb/10^6 ft^3	AP-42	0.05
Molybdenum	5.81×10^{-4} lb/10^6 ft^3	AP-42	0.07
Naphthalene	2.40×10^{-4} lb/10^6 ft^3	AP-42	0.03
Nickel	3.61×10^{-3} lb/10^6 ft^3	AP-42	0.5
Vanadium	3.21×10^{-3} lb/10^6 ft^3	AP-42	0.4

6.d Veneer Dryers #2 & #3 / RCO #1 (*existing*). Criteria pollutant emissions from veneer drying are calculated based on performance guarantees for the oxidizer, proposed exhaust gas conditions (320°F, 25% moisture, 40,000 acfm – 20,308 dscfm) and 8,760 hr/yr of operation. HAP and TAP emissions from veneer drying are calculated based on annual throughput of 185 MMsf-3/8, emission factors from the document entitled "Investigation of Emissions from Plywood Veneer Dryers" Plywood Research Foundation, March 1971 (worst-case emissions from dryers drying Douglas fir), and an oxidizer control efficiency of 95% by weight. All PM emissions are assumed to be PM_{10}. PM_{10} emissions are assumed to be 50% $PM_{2.5}$ by weight.

Pollutant	Performance Guarantee
NO_x	Below 3 ppmv
CO	Below 30 ppmv
PM	0.02 gr/dscf (filterable & condensable)
VOC	Below 9 ppmv (as propane)
SO_2	Negligible ("nondetect" result in testing)

Pollutant	Emission Rate	Potential Emissions
NO_x	0.45 lb/hr	1.97 tpy
CO	2.66 lb/hr	11.65 tpy
$PM/PM_{10\ (total)}$	3.5 lb/hr	15.33 tpy
$PM_{2.5\ (total)}$	1.75 lb/hr	7.67 tpy
VOC	1.3 lb/hr	5.69 tpy
Phenol	0.006 lb/Msf-3/8	55.5 lb/yr
Turpentines	0.7 lb/Msf-3/8	6,475 lb/yr

6.e Veneer Dryer #1 / RCO #2 (*existing*). Criteria pollutant emissions from veneer drying are calculated based on performance guarantees for the oxidizer, proposed exhaust gas conditions (325°F, 25% moisture, 17,600 acfm – 9,110 dscfm) and 8,760 hr/yr of operation. HAP and TAP emissions from veneer drying are calculated based on annual throughput of 86.4 MMsf-3/8, uncontrolled emission factors from a document entitled "Investigation of Emissions from Plywood Veneer Dryers" Plywood Research Foundation, March 1971 (worst-case emissions from dryers drying Douglas fir), and an oxidizer control efficiency of 95% by weight. All PM emissions are assumed to be PM_{10}. PM_{10} emissions are assumed to be 50% $PM_{2.5}$ by weight.

Pollutant	Performance Guarantee
NO_x	Below 3 ppmv
CO	Below 30 ppmv
PM	0.02 gr/dscf (filterable & condensable)
VOC	Below 10 ppmv (as propane)
SO_2	Negligible ("nondetect" result in testing)

Pollutant	Emission Rate	Potential Emissions
NO_x	0.20 lb/hr	0.88 tpy
CO	1.19 lb/hr	5.21 tpy
$PM/PM_{10\ (total)}$	1.56 lb/hr	6.83 tpy
$PM_{2.5\ (total)}$	0.78 lb/hr	3.42 tpy
VOC	0.63 lb/hr	2.76 tpy
Phenol	0.006 lb/Msf-3/8	25.9 lb/yr
Turpentines	0.7 lb/Msf-3/8	3,024 lb/yr

6.f Hot Presses (*existing*). Emission calculations for hot press operations are based on a maximum annual press throughput of 300,000 Msf-3/8 and applicable emission factors. This level of production corresponds to an annual resin consumption of approximately 20,100,000 pounds based on current production data and a resin to glue mix ratio of 72% by weight.

PM emissions are calculated based on emission factors from EPA AP-42 Section 10.5 "Plywood Manufacturing", Table 10.5-4 (1/02) and maximum annual press throughput. The Section 10.5 emission factor for CPM was modified because its supporting data was derived from southern pine, which emits significantly higher levels of CPM than Douglas fir/hemlock. Consistent with previous permitting actions, the CPM emission factor was reduced to 1/3 of its cited value based on related test data from the facility's hot presses. There is no directly applicable VOC emission factor cited in Section 10.5 so a VOC emission factor equal to the sum of individual HAP emissions has been used.

HAP and TAP emissions from hot press operation are calculated based on emission data from the resin manufacture (Borden), updated resin formulation data for Cascophen LM318G, and material balance methodology. The formaldehyde emission factor is taken from lab testing conducted by Borden (March 27,1997 report entitled "Potential Formaldehyde Emissions from Cascophen 318G During Pressing of Douglas Fir Veneer"). Test results attributed 62% of the tested formaldehyde emissions to the glue (quantified as 0.0053 g formaldehyde/lb glue), and 38% of total formaldehyde emissions to the veneer itself. The methanol emission factor is taken from caul plate testing conducted by Borden (October 31, 1997 report entitled “Potential Volatile Organic Compound Emissions from Borden Cascophen 318G”). The phenol emission factor is calculated from specified material content and manufacturer’s technical information indicating that 50% of phenol present in the resin is emitted during hot pressing. Filterable PM emissions are assumed to be 100% PM_{10}. All condensable PM emissions are assumed to be $PM_{2.5}$.

Pollutant	Resin Content
VOC	0.23% by wt
Formaldehyde	0.05% by wt
Methanol	0.10% by wt
Phenol	0.08% by wt

Pollutant	Emission Factor	Factor Source	Emissions
$PM/PM_{10\ (filterable)}$	0.12 lb/Msf-3/8	AP-42	18.00 tpy
$PM/PM_{10}/PM_{2.5\ (condensable)}$	0.03 lb/ Msf-3/8	AP-42	4.50 tpy
$PM/PM_{10\ (total)}$			22.50 tpy
$PM_{2.5\ (total)}$			4.50 tpy
VOC	0.00126 lb/resin	Borden Chemical	12.66 tpy

Pollutant	Emission Factor	Factor Source	Emissions
Formaldehyde	0.0000181 lb/lb resin	Borden Chemical	363.8 lb/yr
Methanol	0.000839 lb/lb resin	Borden Chemical	16,863.9 lb/yr
Phenol	0.0004 lb/lb resin	Borden Chemical	8,040.0 lb/yr

6.g Film Press (*new*). Emission calculations for film press operation are based on a maximum annual overlay paper consumption of 1,965,275 lb/yr, manufacturer's product data, and material balance methodology. Available process data indicates that PM emissions from overlay application are negligible. The emission factor for VOC is equal to the sum of individual HAP emissions. HAP/TAP emission factors are taken from emissions information provided by the paper manufacturer (Paneltech).

Pollutant	Resin Content	Emissions
VOC	0.0192% by wt	0.19 tpy
Formaldehyde	0.001% by wt	19.7 lb/yr
Methanol	0.018% by wt	353.8 lb/yr
Phenol	0.0002% by wt	3.9 lb/yr

ADP Application L-688. Two different types of overlay paper are cited in the application (Paneltech 407C and 454C). Both paper types use the same resin and have the same emission profile. Emission calculations are based on the total weight of overlay paper proposed for application. The actual quantity of either paper type used at the facility will vary depending on market demand.

6.h Emissions Summary/Facilitywide Potential to Emit.

Pollutant	Potential Emissions	Project Increase
NO_x	85.18 tpy	0.00 tpy
CO	86.03 tpy	0.00 tpy
PM	98.38 tpy	0.00 tpy
PM_{10}	98.38 tpy	0.00 tpy
$PM_{2.5}$	49.29 tpy	0.00 tpy
VOC	56.43 tpy	0.19 tpy
SO_2	13.60 tpy	0.00 tpy
TAP	18.65 tpy	0.19 tpy
HAP	13.90 tpy	0.19 tpy

Pollutant	CAS Number	Category	Facilitywide Emissions (lb/yr)	Project Increase (lb/yr)	WAC 173-460 SQER (lb/yr)
Acetaldehyde	75-07-0	HAP/TAP A	239.8	0.0	50
Acrolein	107-02-8	HAP/TAP B	0.3	0.0	175
Arsenic	C7440-38-2	HAP/TAP A	7.0	0.0	0
Barium	C7440-39-3	TAP B	0.3	0.0	175
Benzene	71-43-2	HAP/TAP A	287.8	0.0	20
Benzo(a)pyrene	50-32-8	TAP A	0.02	0.0	0.5
Cadmium	7440-43-9	HAP/TAP A	1.4	0.0	0
Chromium	C7440-47-3	HAP/TAP A	10.4	0.0	0
Cobalt	7440-48-4	HAP/TAP B	0.02	0.0	175
Copper	7440-50-8	TAP B	0.03	0.0	175
Formaldehyde	50-00-0	HAP/TAP A	934.1	19.7	20
Lead compounds	N/A	HAP/TAP A	0.03	0.0	50
Manganese	C7439-96-5	HAP/TAP B	713.8	0.0	175
Mercury	C7439-98-7	HAP-TAP B	0.5	0.0	175

Pollutant	CAS Number	Category	Facilitywide Emissions (lb/yr)	Project Increase (lb/yr)	WAC 173-460 SQER (lb/yr)
Methanol	67-56-1	HAP/TAP B	16,863.9	353.7	43,748
Molybdenum	C7439-98-7	TAP B	0.07	0.0	1,750
Naphthalene	91-20-3	HAP/TAP B	183.9	0.0	22,750
Nickel	C7440-02-0	HAP/TAP A	45.0	0.0	0.5
Phenols	108-95-2	HAP/TAP B	8,152.2	4.0	10,500
Selenium	C7782-49-2	HAP/TAP B	1.4	0.0	175
Turpentines	8006-64-2	TAP B	9,499	0.0	43,748
Vanadium	1314-62-1	TAP B	0.4	0.0	175

7. REGULATIONS AND EMISSION STANDARDS

Regulations 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 regulations, codes, or requirements listed below.

7.a 40 CFR 60 Subpart Dc "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" applies to each steam generating unit constructed after June 9, 1989 and that has a maximum design capacity of between 10 million Btu/hr and 100 million Btu/hr. This regulation is applicable to both fluid heaters at the Chehalis facility.

7.b 40 CFR 63 Subpart DDDD "National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products applies to each Plywood and Composite Wood Products manufacturing facility that is located at a major source of HAP emissions. Hardel is not subject to this regulation because the facility in Chehalis is not a major source of HAP emissions.

ADP Application L-688. The proposed project will not change the status of the facility. Subsequent to installation of the new film press, the facility will continue to be an area source of HAP emissions.

7.c 40 CFR 63 Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters" applies to any Industrial, Commercial, and Institutional Boiler and Process Heater located at a major source of hazardous air pollutants that meets the applicability criteria and commences construction or reconstruction after January 13, 2003. Hardel is not subject to this regulation because the facility in Chehalis is not a major source of HAP emissions.

7.d 40 CFR 63 Subpart JJJJJJ "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources" establishes performance standards and requirements for industrial, commercial and institutional boilers operating at an area source of hazardous air pollutants. The American Heating Company fluid heater is classified as a "gas-fired boiler" and not subject to Subpart JJJJJJ. This regulation is applicable to the Wellons fluid heater. Hardel is aware of the applicable requirements.

7.e Revised Code of Washington (RCW) 70.94.141 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 70.94] 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.

7.f RCW 70.94.152 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 Order of Approval for installation and establishment of an air contaminant source.

7.g Washington Administrative Code (WAC) 173-401-300(7) "Federally Enforceable Limits" provides that any source with the potential to emit exceeding the tonnage thresholds defined in WAC 173-401-200(18) can be exempted from the requirement to obtain an Operating Permit when federally enforceable conditions are established which limit that source's potential to emit to levels below the relevant tonnage thresholds. The Permittee has requested voluntary emission limits at this facility in order to avoid applicability of the Air Operating Permit program.

7.h WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety. SWCAA implements WAC 173-460 as in effect on August 21, 1998.

7.i WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which shall not be exceeded.

7.j 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, sulfur dioxide, concealment and masking, and fugitive dust.

7.k SWCAA 400-040(1) "Visible Emissions" requires that no emission of an air contaminant from any emissions unit shall 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.

7.l SWCAA 400-040(2) "Fallout" requires that no emission of particulate matter from any source shall 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.

7.m SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions shall be taken to prevent the fugitive release of air contaminants to the atmosphere.

7.n SWCAA 400-040(4) "Odors" requires that any person who shall cause or allow the generation of any odor from any source, which may unreasonably interfere with any other property owner's use and enjoyment of their property must use recognized good practices and procedures to reduce these odors to a reasonable minimum.

7.o SWCAA 400-040(6) “Sulfur Dioxide” requires that no person shall emit a gas containing in excess of one thousand ppm of sulfur dioxide on a dry basis, corrected to 7% O_2 or 12% CO_2 as required by the applicable emission standard for combustion sources.

7.p SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne, and minimize emissions.

7.q SWCAA 400-050 “Emission Standards for Combustion and Incineration Units” requires that all provisions of SWCAA 400-040 be met and that no person shall cause or permit the emission of particulate material from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.

7.r SWCAA 400-060 "Emission Standards for General Process Units" requires that all new and existing sources not emit particulate matter in excess of 0.1 grains per dry standard cubic foot of exhaust gas.

7.s SWCAA 400-070(2) "Hog fuel boilers" allows hog fuel boilers to emit visible emissions in excess of twenty percent opacity for up to fifteen consecutive minutes once in any eight hour period for the purposes of soot blowing and/or grate cleaning. All hog fuel boilers are also required to utilize RACT and be operated and maintained to minimize emissions.

7.t SWCAA 400-110 "New Source Review" requires that a Notice of Construction application be filed with SWCAA prior to the establishment of any new source or emission unit or modification and that an Order of Approval be issued prior to establishment of the new source or emission unit or modification.

7.u SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source shall 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) Best Available Control Technology 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.

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

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

8.a BACT Determination – Film Press. The proposed use of low VOC/HAP resin formulations and vertical atmospheric dispersion of exhaust streams has been determined to meet the requirements of BACT for film presses at this facility.

Other Determinations

8.b Prevention of Significant Deterioration (PSD) Applicability Determination: The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, 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.c 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 permit.

9. AMBIENT IMPACT ANALYSIS

9.a TAP Small Quantity Review. The incremental increases in TAP emissions associated with this permitting action are quantified in Section 6.d of this Technical Support Document. All incremental increases in individual TAP emissions are less than the applicable small quantity emission rate (SQER) identified in WAC 173-460 (effective 8/21/98).

Conclusions

9.b Installation of a new film press, as proposed in ADP Application L-688, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.c Installation of a new film press, as proposed in ADP Application L-688, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" (as in effect 8/21/98) or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.d Installation of a new film press, as proposed in ADP Application L-688, will not cause a violation of 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 17-3243 in response to ADP Application L-688. ADP 17-3243 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a Supersession of Previous Permits. ADP 17-3243 supersedes ADP 13-3043R1 in its entirety.

10.b General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP Application L-688. Installation of a new film press is the only modification proposed in the application. All other operations will continue unchanged. Operational requirements are intended to be consistent with good work practice and reasonable minimization of emissions. Unit specific emission limits generally correspond to unlimited operation of the affected equipment. Selected material handling units (baghouses) are subject to voluntary operational limitations as requested by the Permittee.

10.c Monitoring and Recordkeeping Requirements. ADP 17-3243 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific requirements are established for unit fuel consumption, material throughput, hours of equipment operation, and emission testing results.

10.d Reporting Requirements. ADP 17-3243 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for unit fuel consumption, material throughput, and hours of equipment operation. Routine reports are to be submitted on a quarterly basis.

10.e Requirements for Material Collection Systems. PM emission concentrations from system baghouses are limited to a maximum concentration of 0.005 gr/dscf. Visible emissions from any external portion of the material collection systems are limited to 0% opacity. Hours of operation and differential pressure will be monitored and recorded for each baghouse. The Permittee has requested a voluntary operational limit on selected units to avoid Title V program applicability at the facility. Actual operation of the material collection systems has historically been significantly less than the allowed maximum.

10.f Requirements for Unmodified Emission Units. Permit requirements for existing emission units not affected by ADP Application L-688 are carried forward unchanged from ADP 13-3043R1.

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 shall 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 shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

Wellons Fluid Heater / Soot Blowing and Grate Cleaning. In accordance with SWCAA 400-070(2), visible emissions from the Wellons fluid heater may exceed the operational opacity limit of 5% and the general standard of 20% during periods of soot blowing and/or grate cleaning. These periods are limited to not more than 15 consecutive minutes once in any 8 hour period.

Wellons Fluid Heater / Start-up Periods. Visible emissions from the exhaust stack of the Wellons fluid heater/ESP are limited to 5% opacity or less during normal operation. However, the ESP is not capable of reliably limiting visible emissions to less than 5% opacity until an operating temperature of 300°F is achieved. Therefore, the opacity limit established in the approval conditions does not apply to the ESP exhaust during start-up periods.

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 permit requirements.

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 permit requirements.

12. EMISSION MONITORING AND TESTING

12.a Emission Testing – Baghouses #2, #3, #5, #7. Emission testing of Baghouses #2, #3, #5, and #7 is required on a continuing 10 year cycle. All emission testing shall be conducted in accordance with ADP 17-3243, Appendix E.

12.b Emission Testing – Wellons Fluid Heater/ESP. Emission testing of the Wellons fluid heater/ESP is required on a continuing 5 year cycle. All emission testing shall be conducted in accordance with ADP 17-3243, Appendix A.

12.c Emission Testing – American Heating Company Fluid Heater. Emission testing of the American Heating Company fluid heater is required on a continuing 5 year cycle. All emission testing shall be conducted in accordance with ADP 17-3243, Appendix B.

12.d Emission Monitoring – American Heating Company Fluid Heater. Emission monitoring of the American Heating fluid heater is required on a continuing 12 month cycle. All emission monitoring shall be conducted in accordance with ADP 17-3243, Appendix G.

12.e Emission Testing – Veneer Dryer Oxidizers. Emission testing of the veneer dryer oxidizers is required on a continuing 5 year cycle. All emission testing shall be conducted in accordance with ADP 17-3243, Appendix C.

12.f Emission Monitoring – Veneer Dryer Oxidizers. Emission monitoring of the veneer dryer oxidizers is required on a continuing 12 month cycle. All emission monitoring shall be conducted in accordance with ADP 17-3243, Appendix D.

13. FACILITY HISTORY

13.a Previous Permitting Actions. SWCAA has previously issued the following Permits for Hardel's facility in Chehalis:

Date	Application Number	Permit Number	Purpose
10/2/14	L-673	13-3043R1	Modification of cold start up procedures in existing permit for the Wellons thermal fluid heater/ESP. No changes to equipment or existing operations.
4/18/13	L-661	13-3043	Installation of replacement burner in American Heating Company fluid heater. No change in unit capacity or facility throughput.
10/25/07	L-596	98-2093R9	Installation of Baghouse #7. Reconfiguration of facility woodworking equipment. Establishment of a voluntary facilitywide limit restricting PM_{10} emissions to less than 100 tpy for the purpose of avoiding Title V applicability. Superseded by 13-3043.
4/18/06	L-569	98-2093R8	Installation of a New Hammer Hog. Removal of Baghouse #2 and Fuel Bin Vent Filter. Relocation of Baghouse #3. Installation of Replacement Baghouses/Reconfiguration of Material Collection Systems. Revision of Emission Factors for Material Collection Systems. Superseded by 98-2093R9.
9/7/05	L-553	98-2093R7	Reconfiguration of Hot Press #1. Reconfiguration of veneer dryer oxidizer #1. Installation of veneer dryer #3 and veneer dryer oxidizer #2. Superseded by 98-2093R8.
3/15/05	L-542	98-2093R6	Installation of new production equipment and a new material collection system. Modification of control equipment for the Wellons fluid heater. Approval of an increase in hot press throughput to 20,100,000 lb/yr of resin. Superseded by 98-2093R7.
9/10/02	L-499	98-2093R5	Installation of a fourth hot press. Modification of emission limits for Wellons fluid heater and increase in maximum allowable hot press throughput. Superseded by 98-2093R6.
11/26/01	L-493	98-2093R4	Installation of a new sander dust storage bin and vent filter. Superseded by 98-2093R5.
6/12/00	L-465	98-2093R3	Modification of the existing CO emission limit for the veneer dryer oxidizer. Superseded by 98-2093R4.
5/19/99	L-448	98-2093R2	Replacement of the existing wood waste storage bin vent filter. Superseded by 98-2093R3.
1/8/99	L-436	98-2093R1	Modification of monitoring and recording requirements, adoption of provisions for cold startup of Wellons fluid heater/EFB, and removal of a fuel sulfur content limit. Superseded by 98-2093R2.
10/3/97	L-397	98-2093	Phase II installation of a new plywood manufacturing plant. Superseded by 98-2093R1.
5/12/97	L-389	97-2028	Phase I installation of a new plywood manufacturing plant.

13.b Compliance History. A search of source records on file at SWCAA did not identify any outstanding compliance issues at this facility.

14. PUBLIC INVOLMENT OPPORTUNITY

14.a Public Notice for ADP Application L-688. Public notice for ADP Application L-688 was published on the SWCAA internet website for a minimum of (15) days beginning on March 15, 2017.

14.b Public/Applicant Comment for ADP Application L-688. A (30) day public comment period will be provided for this permitting action pursuant to SWCAA 400-171(3). SWCAA will provide a response to all comments received during the comment period.

14.c State Environmental Policy Act. Hardel submitted a complete SEPA checklist in conjunction with ADP Application L-688. After reviewing the checklist, SWCAA has made a Determination of Non Significance (DNS) concurrent with issuance of ADP 17-3243.