West Virginia Department of Environmental Protection

Harold D. Ward Cabinet Secretary

Permit to Operate



Pursuant to **Title V**of the Clean Air Act

Issued to:

JELD-WEN, Inc. dba JELD-WEN JELD-WEN, Wood Fiber Division R30-06700095-2024

> Laura M. Crowder Director, Division of Air Quality

Permit Number: R30-06700095-2024
Permittee: JELD-WEN, Inc. dba JELD-WEN
Facility Name: JELD-WEN, Wood Fiber Division

Permittee Mailing Address: 500 Jeld-Wen Road, Craigsville, WV 26205

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location: Craigsville, Nicholas County, West Virginia Facility Mailing Address: 500 JELD-WEN Road, Craigsville, WV 26205

Telephone Number: (304) 742-5180 Type of Business Entity: Corporation

Facility Description: The facility manufactures wood fiber door skins.

SIC Codes: Primary 2493; Secondary 2851

UTM Coordinates: 529.8 km Easting • 4,243.8 km Northing • Zone 17

Permit Writer: Sarah Barron

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

Table of Contents

1.0.	Emission Units and Active R13, R14, and R19 Permits
2.0.	General Conditions5
3.0.	Facility-Wide Requirements and Permit Shield
	Source-specific Requirements
4.0.	Boilers
5.0.	Door Skin Manufacturing29

1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device	
TD	E1 (Fugitive)	Truck Dump	May 1, 1998	38,053 lbs/hr	None	
FSE	E2a,b,c,d,e	East Furnish Storage Silo	East Furnish Storage Silo May 1, 1998 46,563 ft ³		None	
FSW	E3a,b,c,d,e	West Furnish Storage Silo	May 1, 1998	46,563 ft ³	None	
FLSN		North Fuel Storage Silo		28,740 ft ³		
FLSS	Ι Γ	South Fuel Storage Silo		28,740 ft ³		
FLa	Ι Γ	Fiber Line Prior to Press (Former)		13,323 lbs/hr		
C2	E4	Recycle Cyclone	May 1, 1998	1,404 lbs/hr	BH3 (Baghouse)	
C3	Ι Γ	Waste Cyclone		3,037 lbs/hr		
C4	Ι Γ	Middle Reject Cyclone		1,404 lbs/hr		
C6	Ι Γ	Chip Cyclone		23,944 lbs/hr		
B1	E5	Hogged Fuel-Fired Boiler	May 1, 1998	62.5 MMBtu/hr	MC (multiclone), ESP (Electrostatic Precipitator)	
B2	E6	Natural Gas-Fired Boiler	May 1, 1998	37.7 MMBtu/hr	None	
D1		Fiber Dryer		23,942 lbs/hr	DU10 (Dashayaa)	
C1	1 [Dryer Cyclone		30,257 lbs/hr	BH1a (Baghouse) BH1b (Baghouse)	
C8	E18	Dryer Baghouse Purge Cyclone	May 1, 1998	302 lbs/hr	BH1c (Baghouse)	
PV	1 Γ	Press Vents		23,942 SF/hr	BF (Biofilter)	
C7	1 Γ	Press Vent Baghouse Purge Cyclone		3.2 lbs/hr	BH6 (Baghouse)	
FLa	E10	Fiber Line Prior to Press (Former)	May 1, 1998	13,323 lbs/hr	BH2 (Baghouse)	
FLb		Fiber Line After Press (Sizer)	May 1, 1998	21,591 SF/hr		
C5	E12	Chip Cleaning Cyclone	May 1, 1998	2,667 lbs/hr	BH4 (Baghouse)	
DC	1 Γ	Die Cleaning Operation	2009	120 lbs/hr Na ₂ CO ₃		
PL	E13	Primeline (Ovens)	May 1, 1998	3.8 MMBtu/hr (total)	None	
PL	E14	Primeline (Paint Booth)	May 1, 1998	71.0 gals/hr	None	
CM	E15	Coating Manufacturing	April 1, 1999	760 gals/hr	BH5 (Baghouse)	
RV	E16	Refiner Rotary Valve	May 1, 1998	23,944 lbs/hr	None	
DB	E17	Die Coating	May 1, 1998	145 gal coating/yr	None	
CV1 – CV5	Fugitive	Conveyors	May 1, 1998	148 tons/hr (total)	None	
RS	Fugitive	Rotary Classifier	May 1, 1998	40 tons/hr	None	
ST1	Fugitive	Resin Storage Tank 1	May 1, 1998	7,000 gallons	None	
ST2	Fugitive	Resin Storage Tank 2	May 1, 1998	7,000 gallons	None	
ST3	Fugitive	Wax Storage Tank	May 1, 1998	10,000 gallons	None	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
ST4	Fugitive	Coating Raw Material Storage Tank	May 1, 1999	10,000 gallons	None
ST5	Fugitive	Coating Raw Material Storage Tank	April 1, 1999	6,000 gallons	None
ST6	Fugitive	Coating Storage Tank	May 1, 1998	10,000 gallons	None
ST7	Fugitive	Coating Storage Tank	May 1, 1999	10,000 gallons	None
ST8	Fugitive	Coating Storage Tank	June 1, 1999	10,000 gallons	None
ST9	Fugitive	Coating Storage Tank	April 1, 1999	6,000 gallons	None

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-2192R	August 08, 2023

2.0 General Conditions

2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.39.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	NSPS	New Source Performance	
CHAA	Confidential Business Information	TIGI D	Standards	
CEM	Continuous Emission Monitor	PM	Particulate Matter	
CES	Certified Emission Statement	PM ₁₀	Particulate Matter less than	
C.F.R. or CFR	Code of Federal Regulations	1 1/110	10µm in diameter	
CO	Carbon Monoxide	nnh	Pounds per Hour	
C.S.R. or CSR	Codes of State Rules	pph	Parts per Million	
DAQ	Division of Air Quality	ppm PSD	Prevention of Significant	
DEP	Department of Environmental	rsu	Deterioration	
DEI	Protection	ngi	D Cterrorumon	
FOIA	Freedom of Information Act	psi SIC	Pounds per Square Inch Standard Industrial	
HAP	Hazardous Air Pollutant	SIC	Classification	
HON		CID		
HON HP	Hazardous Organic NESHAP	SIP	State Implementation Plan Sulfur Dioxide	
	Horsepower	SO ₂	Sulful Biolilius	
lbs/hr <i>or</i> lb/hr	Pounds per Hour	TAP	Toxic Air Pollutant	
LDAR	Leak Detection and Repair	TPY	Tons per Year	
m MA CIT	Thousand	TRS	Total Reduced Sulfur	
MACT	Maximum Achievable Control	TSP	Total Suspended Particulate	
	Technology	USEPA	United States	
mm	Million		Environmental Protection	
mmBtu/hr	Million British Thermal Units per		Agency	
. 2.	Hour	UTM	Universal Transverse	
mmft³/hr <i>or</i>	Million Cubic Feet Burned per		Mercator	
mmcf/hr	Hour	VEE	Visual Emissions	
NA or N/A	Not Applicable		Evaluation	
NAAQS	National Ambient Air Quality	VOC	Volatile Organic	
	Standards		Compounds	
NESHAPS	National Emissions Standards for			
	Hazardous Air Pollutants			
NO_x	Nitrogen Oxides			

2.3. Permit Expiration and Renewal

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c. [45CSR§30-5.1.b.]
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.

[45CSR§30-4.1.a.3.]

- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3. [45CSR§30-6.3.b.]
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.

 [45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
 - a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
 - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
 - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.

[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.

[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.

[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.

[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
 - a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
 - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the permit shield.
 - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
 - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR\$30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

[45CSR§30-5.8.a.]

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:
 - a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
 - b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

[45CSR§30-2.40]

2.12. Reasonably Anticipated Operating Scenarios

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
 - a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
 - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
 - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
 - a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
 - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
 - a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
 - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations. [45CSR§30-5.1.f.2.]

2.17. Reserved

2.18. Federally-Enforceable Requirements

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

 [45CSR§30-5.2.a.]
- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

2.21. Permit Shield

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof. [45CSR\$30-5.6.a.]
- 2.21.2. Nothing in this permit shall alter or affect the following:
 - a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
 - b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
 - c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.

[45CSR§30-5.3.e.3.B.]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect. [45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege. [45CSR§30-5.1.f.4]

2.25. **Acid Deposition Control**

- 2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.
 - No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
 - No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.
 - Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA. [45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.

[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.

[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.

[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.

[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.

[W.Va. Code § 22-5-4(a)(14)]

- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

3.1.9. No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable. (Not applicable to E5 & E6)

[45CSR§7-5.1.]

- 3.1.10. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. (Not applicable to E5 & E6) [45CSR§7-5.2.]
- 3.1.11. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13 – Permit R13-2192 §4.1.21.; 45CSR§13-5.10.]

3.2. Monitoring Requirements

3.2.1. Reserved.

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.
- d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
 - 1. The permit or rule evaluated, with the citation number and language.
 - 2. The result of the test for each permit or rule condition.
 - 3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.4. Recordkeeping Requirements

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
 - a. The date, place as defined in this permit and time of sampling or measurements;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13 – Permit R13-2192 §4.3.1.]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken. [45CSR§30-5.1.c. State-Enforceable only.]
- 3.4.4. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures applied at the facility. The permittee shall also inspect all fugitive dust control systems monthly to ensure that they are operated and maintained in conformance with their designs. The permittee shall maintain records of all scheduled and non-scheduled maintenance and shall state any maintenance or corrective actions taken as a result of the monthly inspections, the times the fugitive dust control system(s) were inoperable and any corrective actions taken.

[45CSR§30-5.1.c.]

3.4.5. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.1, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13 – Permit R13-2192 §4.3.2.]

- 3.4.6. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.1, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:
 - a. The equipment involved.
 - b. Steps taken to minimize emissions during the event.
 - c. The duration of the event.
 - d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13 – Permit R13-2192 §4.3.3.]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[45CSR§§30-4.4. and 5.1.c.3.D.]

- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. [45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ: US EPA:

Director Section Chief

WVDEP U. S. Environmental Protection Agency, Region III Division of Air Quality Enforcement and Compliance Assurance Division

601 57th Street SE Air, RCRA, and Toxics Branch (3ED21)

Charleston, WV 25304 Four Penn Center

1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852

DAQ Compliance and Enforcement¹:

DEPAirQualityReports@wv.gov

¹For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

- 3.5.4. **Fees.** The permittee shall pay fees on an annual basis in accordance with 45CSR§30-8. **[45CSR§30-8.]**
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify

compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ: US EPA:

DEPAirQualityReports@wv.gov R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. Semi-annual monitoring reports. The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:

DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7. Reserved.

3.5.8. **Deviations.**

- a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
 - 1. Reserved.
 - 2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
 - 3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
 - 4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

[45CSR§30-4.3.h.1.B.]

3.6. Compliance Plan

3.6.1. Not Applicable.

3.7. Permit Shield

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
 - a. Not Applicable.

4.0 Boilers [emission point ID(s): E5, E6]

4.1. Limitations and Standards

4.1.1. Visible emissions from each of the boiler stacks (E5, E6) shall not exceed ten (10) percent opacity based on a six-minute block average. *Compliance with this streamlined VE limit assures compliance with 40 CFR 60 Subpart Dc for E5*.

[45CSR§2-3.1.; 45CSR16; 40 CFR §60.43c(c)]

- 4.1.2. Reserved.
- 4.1.3. The addition of sulfur oxides to boiler B1's exit gas stream for the purpose of improving emissions control equipment efficiency is prohibited unless written approval for such addition is provided by the Secretary. [45CSR\$2-4.4.]
- 4.1.4. Any fuel burning unit(s) including associated air pollution control equipment, shall at all times, including periods of start-up, shutdowns, and malfunctions, to the extent practicable, be maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions.

 [45CSR§2-9.2.; 45CSR16; 40 CFR §60.11(d)]
- 4.1.5. No owner or operator of an affected facility that combusts wood shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 0.10 lb/MMBtu heat input if the affected facility has an annual capacity factor for wood greater than 30 percent. The PM standard applies at all times except during periods of startup, shutdown, or malfunction. (E5)

 [45CSR16; 40 CFR §§60.43c(b) and (d)]
- 4.1.6. Emissions from the wood fired boiler (B1) shall not exceed the following:

Pollutant	lbs/hr	TPY
TSP/PM ₁₀ /PM _{2.5} *	1.03	4.28
SO ₂ **	1.56	6.50
СО	20.25	84.27
NO_X	33.24	138.30
VOC	1.08	4.51
Lead	0.01	0.01
Acetaldehyde	0.06	0.22
Acrolein	0.25	1.00
Benzene	0.26	1.10
Carbon Tetrachloride	0.01	0.02
Chlorine	0.05	0.21
Dichloromethane	0.02	0.08

Pollutant	lbs/hr	TPY
Formaldehyde	0.28	1.10
Hydrogen Chloride	1.20	4.90
Manganese	0.10	0.42
Naphthalene	0.01	0.03
Phenol	0.01	0.02
Propionaldehyde	0.01	0.02
Styrene	0.12	0.49
Toluene	0.06	0.24
Total HAPs	2.42	10.05

^{*} Compliance with these streamlined PM limits assures compliance with 45CSR§2-4.1.2.

[45CSR13 – Permit R13-2192 §4.1.7.]

4.1.7. Emissions from the gas fired boiler (B2) shall not exceed the following:

Pollutant	lbs/hr	TPY
TSP/PM ₁₀ /PM _{2.5} *	0.27	1.11
SO ₂ **	0.02	0.09
СО	0.02	0.10
NO_X	5.97	24.83
VOC	0.19	0.80
Hexane	0.07	0.26
Formaldehyde	0.01	0.02
Total HAPs	0.07	0.27

^{*} Compliance with these streamlined PM limits assures compliance with 45CSR§2-4.1.2.

[45CSR13 – Permit R13-2192 §4.1.8.]

[45CSR§10-3.8.]

4.1.8. Compliance with the allowable sulfur dioxide emission limitations shall be based on a continuous twenty-four (24) hour averaging time. Emissions shall not be allowed to exceed the weight emissions standards for sulfur dioxide as set forth in 45CSR10, except during one (1) continuous twenty-four (24) hour period in each calendar month. During this one (1) continuous twenty-four hour period, emissions shall not be allowed to exceed such weight emission standards by more than ten percent (10%) without causing a violation of 45CSR10. A continuous twenty-four (24) hour period is defined as one (1) calendar day.

^{**} Compliance with these streamlined SO₂ limits assures compliance with 45CSR§10-3.3.6.

^{**} Compliance with these streamlined SO₂ limits assures compliance with 45CSR§10-3.3.6.

- 4.1.9. No person shall cause, suffer, allow or permit any source of fugitive particulate matter to operate that is not equipped with a fugitive particulate matter control system. This system shall be operated and maintained in such a manner as to minimize the emission of fugitive particulate matter. Sources of fugitive particulate matter associated with fuel burning units shall include, but not be limited to, the following:
 - a. Stockpiling of ash or fuel either in the open or in enclosures such as silos;
 - b. Transport of ash in vehicles or on conveying systems, to include spillage, tracking or blowing of particulate matter from or by such vehicles or equipment; and
 - c. Ash or fuel handling systems and ash disposal areas.

[45CSR§2-5.1.]

- 4.1.10. Reserved.
- 4.1.11. The permittee shall conduct a tune-up of the boiler B1 biennially as specified in 40 CFR §63.11223. [45CSR13 Permit R13-2192 §4.1.17.; 45CSR34; 40 CFR §63.11201(b) and Table 2, Item 6 of 40 CFR 63, Subpart JJJJJJ]
- 4.1.12. Reserved.
- 4.1.13. The annual heat input to Boiler B1 shall not exceed 520,125 MMBtu/yr based on a rolling 12 month total. [45CSR13 Permit R13-2192 §4.1.19.]
- 4.1.14. The annual heat input to Boiler B2 shall not exceed 313,739 MMBtu/yr based on a rolling 12 month total. [45CSR13 Permit R13-2192 §4.1.20.]
- 4.1.15. The permittee must demonstrate continuous compliance with the work practice and management practice standards as follows:
 - a. For affected sources subject to the work practice standard or the management practices of a tune-up, the permittee must conduct a performance tune-up according to paragraph b. of this section and keep records as required in condition 4.4.5. to demonstrate continuous compliance. The permittee must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.
 - b. Except as specified in paragraphs 40 CFR §§63.11223(c) through (f), the permittee must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs b.1. through 7. of this section. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up. For a new or reconstructed boiler, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler.
 - 1. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.

- 2. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
- 3. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.
- 4. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
- 5. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- 6. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs b.6.i. through iii. of this section.
 - i. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
 - ii. A description of any corrective actions taken as a part of the tune-up of the boiler.
 - iii. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
- 7. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.

[45CSR34; 40 CFR §§63.11223(a) and (b)]

4.2. Monitoring Requirements

4.2.1. A continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere from boiler B1 (E5) shall be utilized, calibrated, maintained, and the output of the system shall be recorded. All COMS for measuring opacity shall be operated in accordance with the applicable procedures under Performance Specification 1 of Appendix B of 40 CFR Part 60. The span value of the opacity COMS shall be between 60 and 80 percent.

[45CSR§2-3.2.; 45CSR16; 40 CFR §§60.47c(a) and (b)]

4.2.2. Compliance with the visible emission requirements for boiler B2 (E6) shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 22 once a month. Visible emissions shall be observed using Method 22 for at least one (1) minute. If visible emissions are observed, the permittee shall conduct a Method 9 reading unless the cause for the visible emissions is corrected within 24 hours.

[45CSR§2-3.2.; 45CSR§30-5.1.c.]

- 4.2.3. Compliance with the CO, NO_X, and VOC emission limitations established for the Hogged Fuel Boiler (E5) and the Natural Gas Boiler (E6), shall be demonstrated as follows:
 - a. The permittee shall operate an oxygen monitor to measure the oxygen content of the Hogged Fuel Boiler (E5) exhaust. Unless a different range for the oxygen content is established through testing that is requested to be performed by the Secretary or a duly authorized representative of the Secretary, which demonstrates compliance with the CO, NO_X, and VOC emission limitations, the oxygen content shall be maintained within the design specifications indicated below. If a new parameter range is established through such testing for each pollutant, the permit must be revised to reflect the new established range.
 - 1. The boiler exhaust oxygen content shall range between 1% and 20%.
 - 2. The oxygen content shall be recorded once every 12 hours during boiler operation.
 - 3. If a test is requested to be performed by the Secretary, a report, including the measured oxygen content during the required source test, measured oxygen content for at least three months of operation, and proposed oxygen content range for the boiler shall be submitted to the Director within sixty (60) days of completing the test. The oxygen content range shall not apply to periods of start-up, shut down, or idle (less than 10,000 pounds of steam per hour) conditions.
 - b. Continual compliance with the Natural Gas Boiler (E6) CO and NO_X emission limitations shall be demonstrated by means required in 4.4.1.b. of this permit.

[45CSR§30-5.1.c.]

4.3. Testing Requirements

- 4.3.1. Compliance with the particulate matter emission limitations established for the Hogged Fuel Boiler B1 (E5) shall be demonstrated as follows:
 - a. Stack testing shall be performed in accordance with 40 CFR §60.45c and 45CSR2 Appendix "Compliance Test Procedures for 45CSR2," or alternative method approved by the Director, once per permit term and/or within five years of the most recent successful tests. Results from such testing shall be submitted to the Director within sixty (60) days from the date of completion of said testing;
 - b. The permittee shall monitor and record the following parameters for the Hogged Fuel Boiler B1 (E5):
 - 1. Operating secondary voltage on the ESP of 28 to 55 Kilovolts.
 - 2. Operating secondary current on the ESP of 0 to 250 milliamps.
 - 3. Monitored parameters will be recorded once every 24 hours when the unit is operating.

These parameters shall be maintained within the design specifications as indicated above. If different ranges for the parameters that demonstrate compliance with the particulate matter emission limitation are established through testing under 4.3.1.a., the permit must be revised to reflect the new ranges.

[45CSR§30-5.1.c.]

4.3.2. At least once every 5 years, the permittee shall perform or have performed EPA approved testing to demonstrate compliance with the VOC and Total HAP emission limits of condition 4.1.6.

[45CSR13 – Permit R13-2192 §4.2.1.]

4.4. Recordkeeping Requirements

- 4.4.1. Compliance with the lead and sulfur dioxide emissions limitations established for the Hogged Fuel Boiler B1 (E5) and the particulate matter, sulfur dioxide and VOC emissions limitations established for the Natural Gas Boiler B2 (E6) shall be demonstrated as follows:
 - a. Demonstrate that wood was used as the only fuel in the Hogged Fuel Boiler B1 (E5).
 - b. Demonstrate that natural gas was used as the only fuel in the Natural Gas Boiler B2 (E6).
 - c. Continual compliance with the particulate matter, sulfur dioxide, and VOC emission limitations for the Natural Gas Boiler B2 (E6) shall be demonstrated by maintaining records required in 4.4.2.a.

[45CSR§30-5.1.c.]

- 4.4.2. Records of the operating schedule and the quality and quantity of fuel burned in each fuel burning unit shall be maintained as specified below:
 - a. For fuel burning unit(s) which burn only pipeline quality natural gas, such records shall include, but not be limited to, the date and time of start-up and shutdown, and the quantity of fuel consumed on a monthly basis. (*E6*)
 - b. For fuel burning unit(s) which burn only wood, such records shall include, but not be limited to, the date and time of start-up and shutdown, the quantity of fuel consumed on a daily basis and a quarterly ash and BTU analysis. (E5)

[45CSR§2-8.3.3.; 45CSR§2A-7.1.; 45CSR16; 40 CFR §60.48c(g)]

4.4.3. In order to determine compliance with the annual heat input limit of 4.1.13., the permittee shall keep monthly records of the total heat input to boiler B1.

[45CSR13 – Permit R13-2192 §4.3.10.]

4.4.4. In order to determine compliance with the annual heat input limit of 4.1.14., the permittee shall keep monthly records of the total heat input to boiler B2.

[45CSR13 – Permit R13-2192 §4.3.11.]

- 4.4.5. The permittee must comply with the following recordkeeping requirements from 40 CFR 63, Subpart JJJJJJ:
 - a. The permittee must maintain the records specified in paragraphs a.1. through 4. of this section.
 - 1. As required in 40 CFR §63.10(b)(2)(xiv), the permittee must keep a copy of each notification and report submitted to comply with Subpart JJJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status submitted.

- 2. The permittee must keep records to document conformance with the work practices, emission reduction measures, and management practices required by 40 CFR §63.11214 and 40 CFR §63.11223 as specified in paragraphs a.2.i. through iii. of this section.
 - i. Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
 - ii. For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to 40 CFR §241.3(b)(1) of this chapter, the permittee must keep a record which documents how the secondary material meets each of the legitimacy criteria under 40 CFR §241.3(d)(1). If combusting a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR §241.3(b)(4), the permittee must keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR §241.2 and each of the legitimacy criteria in 40 CFR §241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under 40 CFR §241.3(c), the permittee must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per 40 CFR §241.4, the permittee must keep records documenting the material is a listed non-waste under 40 CFR §241.4(a).
 - iii. For each boiler required to conduct an energy assessment, the permittee must keep a copy of the energy assessment report.
- 3. Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
- 4. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR §63.11205(a), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- b. The records must be in a form suitable and readily available for expeditious review. The permittee must keep each record for 5 years following the date of each recorded action. The permittee must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The permittee may keep the records off site for the remaining 3 years.

[45CSR34; 40 CFR §§63.11225(c)(1), (c)(2), (c)(2)(i) to (c)(2)(iii), (c)(4), (c)(5), and (d)]

4.5. Reporting Requirements

- 4.5.1. Any malfunction of boiler B1 and/or boiler B2 or their air pollution control equipment, which results in any excess particulate matter emission rate or excess opacity, shall be reported to the Secretary as provided in one of the following:
 - a. Excess opacity periods meeting the following conditions may be reported on a quarterly basis unless otherwise required by the Secretary:
 - 1. The excess opacity period does not exceed thirty (30) minutes within any 24-hour period; and

- 2. Excess opacity does not exceed 40%.
- b. The owner or operator shall report to the Secretary any malfunction resulting in excess particulate matter or excess opacity, not meeting the criteria set forth in 4.5.1.a. above (45CSR §2-9.3.1.), by telephone or e-mail by the end of the next business day after becoming aware of such condition. The owner or operator shall file a certified written report concerning the malfunction with the Secretary within thirty (30) days providing the following information:
 - 1. A detailed explanation of the factors involved or causes of the malfunction;
 - 2. The date and time of duration (with starting and ending times) of the period of excess emissions;
 - 3. An estimate of the mass of excess emissions discharged during the malfunction period;
 - 4. The maximum opacity measured or observed during the malfunction;
 - 5. Immediate remedial actions taken at the time of the malfunction to correct or mitigate the effects of the malfunction; and
 - 6. A detailed explanation of the corrective measures or program that will be implemented to prevent a recurrence of the malfunction and a schedule for such implementation.

[45CSR§2-9.3.]

4.5.2. The owner or operator of each affected facility subject to the PM or opacity limits of 40 CFR §60.43c shall submit to the Administrator the performance test data from the initial and any subsequent performance tests. (E5)

[45CSR16; 40 CFR §60.48c(b)]

4.5.3. The owner or operator of each wood-fired affected facility subject to the opacity limits under 40 CFR §60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility which occur during the reporting period. (*E5*)

[45CSR16; 40 CFR §60.48c(c)]

4.5.4. The reporting period for the reports required under 40 CFR Part 60 Subpart Dc is each six-month period. All reports shall be submitted to the Administrator and Director and shall be postmarked by the 30th day following the end of the reporting period. (*E5*, *E6*)

[45CSR16; 40 CFR §60.48c(j)]

- 4.5.5. The permittee must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs a. through b. of this section. For boilers that are subject only to the energy assessment requirement and/or a requirement to conduct a biennial or 5-year tune-up according to 40 CFR §63.11223(a) and not subject to emission limits or operating limits, the permittee may prepare only a biennial or 5-year compliance report as specified in paragraphs a. and b. of this section.
 - a. Company name and address.

- b. Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of 40 CFR Part 63 Subpart JJJJJJ. The notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
 - 1. "This facility complies with the requirements in 40 CFR §63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler."
 - 2. For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit."
 - 3. "This facility complies with the requirement in 40 CFR §§63.11214(d) and 63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available."

[45CSR34; 40 CFR §§63.11225(b), (b)(1), and (b)(2)]

4.6. Compliance Plan

4.6.1. Not Applicable

5.0 Door Skin Manufacturing [emission point ID(s): E1-E6, E10, E12-18]

5.1. Limitations and Standards

5.1.1. The permittee shall use only a no added Formaldehyde (NAF) resin with a maximum 0% Formaldehyde by weight.

[45CSR13 – Permit R13-2192 §4.1.1.]

5.1.2. Maximum Furnish Dryer Throughput shall not exceed 23,942 oven dried pounds per hour nor 47,500 oven dried tons per year.

[45CSR13 – Permit R13-2192 §4.1.2.]

5.1.3. Maximum production of Door Skins shall not exceed 21,591 square feet per hour nor 179,683,869 square feet per year based on a 1/8th inch basis.

[45CSR13 – Permit R13-2192 §4.1.3.]

5.1.4. Maximum production of Hogged Door Skins shall not exceed 10,796 square feet per hour nor 26,952,580 square feet per year based on a 1/8th inch basis.

[45CSR13 – Permit R13-2192 §4.1.4.]

5.1.5. Maximum primer usage shall not exceed 71.0 gallons per hour nor 534,560 gallons per year.

[45CSR13 – Permit R13-2192 §4.1.5.]

5.1.6. Emissions from the Biofilter (E18) controlling HAP emissions from the Fiber Dryer (D1) and Press Vents (PV) shall not exceed the following:

Pollutant	lbs/hr	ТРҮ
PM/PM ₁₀ /PM _{2.5} *	0.17	0.34
VOC	29.11	64.45
СО	1.68	7.00
NO _X	1.96	8.18
Acetaldehyde	0.02	0.06
Acrolein	0.02	0.07
Benzene	0.02	0.07
Formaldehyde	0.01	0.05
Methanol	0.09	0.37
Phenol	0.04	0.17
Propionaldehyde	0.02	0.09
MDI	0.01	0.01
HAPs from NG Burner	0.03	0.14

Pollutant	lbs/hr	ТРҮ
Total HAPs	0.21	0.90

^{*} Compliance with this streamlined PM limit assures compliance with the 45CSR§7-4.1. PM limit.

[45CSR13 – Permit R13-2192 §4.1.6.; 45CSR§7-4.1.]

5.1.7. Emissions from the Rotary Valve (E16) shall not exceed the following:

Pollutant	lbs/hr	TPY
PM*	2.35	4.66
PM ₁₀ /PM _{2.5}	0.59	1.16
VOC	0.81	1.60
Acetaldehyde	0.01	0.01
Acrolein	0.13	0.26
Formaldehyde	0.01	0.02
Methanol	0.39	0.77
Phenol	0.01	0.01
Propionaldehyde	0.01	0.01
Total HAPs	0.54	1.07

^{*} Compliance with this streamlined PM limit assures compliance with the 45CSR§7-4.1. PM limit.

[45CSR13 - Permit R13-2192 §4.1.9.; 45CSR§7-4.1.]

5.1.8. Emissions from the baghouses shall not exceed the following:

Source	PN	/I*	PN	A 10	VOC/	HAPs
Source	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Former BH (BH2)	0.91	1.75	0.91	1.75	0.21	0.85
Waste BH (BH3)	0.37	0.69	0.37	0.69	0.20	0.82
Sizer BH (BH4)	6.11	4.22	6.11	4.22	0.23	0.16
Total	7.39	6.66	7.39	6.66	0.64	1.83

^{*} Compliance with these streamlined PM limits assures compliance with the 45CSR§7-4.1. PM limits.

[45CSR13 - Permit R13-2192 §4.1.10.; 45CSR§7-4.1.]

5.1.9. Emissions from the Primeline Ovens (E13) shall not exceed the following:

Pollutant	lbs/hr	TPY
PM/PM ₁₀ /PM _{2.5} *	0.03	0.11
VOC	0.02	0.08
СО	0.30	1.23
NO_X	0.35	1.47
SO_2	0.01	0.01
Hexane	0.01	0.03
Total HAPs	0.01	0.03

^{*} Compliance with this streamlined PM limit assures compliance with the 45CSR§7-4.1. PM limit.

[45CSR13 – Permit R13-2192 §4.1.11.; 45CSR§7-4.1.]

5.1.10. Emissions from the Primeline Paint Booth (E14) shall not exceed the following:

Pollutant	lbs/hr	TPY
PM/PM ₁₀ /PM _{2.5} *	0.59	2.22
VOC	21.31	80.18
Total HAPs	0.18	0.67
Styrene	0.03	0.09
Methyl Methacrylate	0.01	0.02
Formaldehyde	0.01	0.04
Glycol Ether	0.13	0.49

^{*} Compliance with this streamlined PM limit assures compliance with the 45CSR§7-4.1. PM limit.

[45CSR13 – Permit R13-2192 §4.1.12.; 45CSR§7-4.1.]

5.1.11. Emissions from the Coating Manufacturing (E15) shall not exceed the following:

Ingredient	PM/PM ₁₀ /PM _{2.5} *		Glycol	Ether	VOCs		
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	
Dispersing Agent					0.05	0.08	
Fungicide			0.01	0.02	0.02	0.03	
Polymer			0.01	0.01	0.01	0.01	

Ingredient	PM/PM ₁₀ /PM _{2.5} *		Glycol Ether		VOCs	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Glycol Ether			0.32	0.56	0.32	0.56
Alkyl					0.03	0.05
Solution					0.13	0.23
Total	0.01	0.02	0.34	0.59	0.56	0.96

^{*} Compliance with the streamlined PM limit assures compliance with the 45CSR§7-4.1. PM limit.

[45CSR13 – Permit R13-2192 §4.1.13.; 45CSR§7-4.1.]

5.1.12. Emissions from the Die Coating (E17) shall not exceed the following:

Material	Total VOC		DEGMBE		Methanol		Total HAPs	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Cleaner/Degreaser	0.18	0.10	0.13	0.07			0.13	0.07
Isopropyl Alcohol	1.42	0.70						
Die Coating	0.72	0.40			0.13	0.06	0.13	0.06
Total	2.32	1.2	0.13	0.1	0.13	0.1	0.26	0.13

[45CSR13 – Permit R13-2192 §4.1.14.]

5.1.13. Maximum sodium bicarbonate usage in the die cleaning operation shall not exceed 22 tons per year based on a 12 month rolling yearly total.

[45CSR13 – Permit R13-2192 §4.1.15.]

- 5.1.14. Reserved.
- 5.1.15. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity.

 [45CSR§7-3.1.]
- 5.1.16. No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to 45CSR§7-5.1. is required to have a full enclosure and be equipped with a particulate matter control device. (*E2*, *E3*) [45CSR§7-3.7.]
- 5.1.17. Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.

[45CSR§7-4.12.]

5.2. Monitoring Requirements

5.2.1. In order to determine compliance with the HAP and VOC emission limit on emission points E14 and E15 in conditions 5.1.10. and 5.1.11. of this permit, the permittee shall monitor and record the amount and VOC/HAP content of the primer, polymer and all coating manufacturing raw materials used.

[45CSR13 – Permit R13-2192 §4.3.7.]

5.2.2. In order to determine compliance with the VOC and HAP emission limit on emission point E17 in condition 5.1.12. of this permit, the permittee shall monitor and record the amount and HAP/VOC content of the die coating used.

[45CSR13 – Permit R13-2192 §4.3.8.]

5.2.3. The permittee shall operate and maintain baghouses and the permittee shall conduct a quarterly visual inspection of the bags, bag connections, and dust hoppers of baghouses BH1a, BH1b, BH1c, BH2, BH3, and BH4 in order to ensure proper operation of the baghouses. Records shall state the date and time of each baghouse inspection, the inspection results, and corrective actions taken, if any.

[45CSR§30-5.1.c.; 40 CFR §64.6(c)]

5.2.4. Differential pressure readings (pressure drop) across baghouses BH1a, BH1b, BH1c, BH2, BH3, and BH4 shall be taken and manually recorded on a daily basis. Any pressure drop reading less than 0.2 inches of water or greater than 4.0 inches of water is defined as an excursion per the 40 CFR 64 CAM Plan. The observer shall be familiar with the pressure drop operating range and the proper operation of the baghouse and will inspect the pressure gauges for proper operation.

[45CSR§30-5.1.c.; 40 CFR §64.6(c)]

5.2.5. At all times that the Press Vents (PV) and/or Fiber Dryer (D1) are in operation, the biofilter bed temperature shall be monitored via a thermocouple with a minimum accuracy of ±0.27°F located in the treatment media. The temperature data shall be monitored and electronically recorded at 15-minute intervals. The permittee shall determine the 24-hour block average of all recorded readings, calculated after every 24 hours of operation as the average of the evenly spaced recorded readings in the previous 24 operating hours (see also Condition 5.2.7.).

Any 24-hour block average of the biofilter bed temperature that is less than 81°F or greater than 135°F shall be defined as an excursion per the CAM Plan under 40 CFR 64.

[45CSR§30-5.1.c.; 40 CFR §64.6(c)]

5.2.6. **Proper maintenance.** At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[45CSR§30-5.1.c.; 40 CFR §64.7(b)]

5.2.7. **Continued operation.** Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring

malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[45CSR§30-5.1.c.; 40 CFR §64.7(c)]

5.2.8. Response to excursions or exceedances.

- a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[45CSR§30-5.1.c.; 40 CFR §64.7(d)]

5.2.9. **Documentation of need for improved monitoring.** After approval of monitoring under this part, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 or 71 permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[45CSR§30-5.1.c.; 40 CFR §64.7(e)]

5.2.10. **Quality Improvement Plan (QIP)**. Based on the results of the determination made under Condition 5.2.8.b., the Administrator or the permitting authority may require the permittee to develop and implement a QIP. If required, the QIP shall be developed and implemented in accordance with 40 C.F.R. §§64.8(b) through (e). **[45CSR§30-5.1.c.; 40 CFR §64.8]**

5.3. Testing Requirements

5.3.1. Compliance with the visible emission requirements for the process source operations emission points E4, E10, E12, & E18 shall be determined by conducting weekly Method 22-like visible emission checks and for the process source operations emission points E2, E3, E13, & E14 monthly Method 22-like visible emission checks. At a minimum, the observer must be trained and knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water

(condensing water vapor) on the visibility of emissions. This training may be obtained from written materials found in the References 1 and 2 from 40 CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40 CFR Part 60, Appendix A, Method 9 certification course.

The visible emission check shall be performed during periods of normal facility operation and appropriate weather conditions and for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present.

If visible emissions are present during these checks or at any other time, compliance shall be determined by conducting tests in accordance with 45CSR§§7A-2.1.a. and 2.1.b. Visible emissions greater than 20 percent opacity is defined as an excursion per the 40 CFR 64 CAM Plan for emission points E4, E10, E12, & E18.

[45CSR§7A-2.1.; 45CSR§30-5.1.c.; 40 CFR §64.6(c)]

5.3.2. At least once every 5 years, the permittee shall perform or have performed EPA approved testing to demonstrate compliance with the VOC, Methanol, and Total HAP emission limits of condition 5.1.6.

For the purposes of CAM, an exceedance of the Methanol and/or aggregate HAP emissions limits occurs if the arithmetic mean of the results of the three test runs surpasses the respective emission limit.

[45CSR13 – Permit R13-2192 §4.2.1.; 45CSR§30-5.1.c.; 40 CFR §64.6(c)]

5.4. Recordkeeping Requirements

5.4.1. In order to determine compliance with Section 5.1.1. of this permit, the permittee shall keep records of the type and amount of resin used on a monthly basis.

[45CSR13 - Permit R13-2192 §4.3.4.]

5.4.2. In order to determine compliance with the production limits set forth in Sections 5.1.2., 5.1.3., and 5.1.4. of this permit, the permittee shall keep records of the hours of operation and the amount of production. [45CSR13 – Permit R13-2192 §4.3.5.]

5.4.3. In order to determine compliance with the usage limits set forth in Section 5.1.5. of this permit, the permittee shall keep records of the amount of primer used on a monthly basis.

[45CSR13 – Permit R13-2192 §4.3.6.]

5.4.4. For CAM, the owner or operator shall comply with the recordkeeping requirements of permit conditions 3.4.1. and 3.4.2. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR §64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 CFR Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

[45CSR§30-5.1.c.; 40 CFR §64.9(b)]

5.4.5. To determine compliance with the usage limit set forth in Section 5.1.13. of this permit, the permittee will keep monthly records of the amount of sodium bicarbonate used at the die cleaning operation.

[45CSR13 – Permit R13-2192 §4.3.9.]

5.5. Reporting Requirements

- 5.5.1. For CAM, monitoring reports shall be submitted to the director and at a minimum shall include and be in accordance with information in permit conditions 3.5.6. and 3.5.8. as applicable. Also, at a minimum, the following information, as applicable, shall be included:
 - a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
 - c. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR §64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[45CSR§30-5.1.c.; 40 CFR §64.9(a)]

5.6. Compliance Plan

5.6.1. Not Applicable