Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-26-020

Washington Penn Plastic Co., Inc.
290 Chenault Road
Frankfort, KY 40601

July 15, 2026
Dylan Sears, Reviewer

SOURCE ID:	21-073-00026
AGENCY INTEREST:	1392
ACTIVITY:	APE20260001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3087, Custom Compounding of Purchased Plastics Resins

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Franklin
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☒ PM_{10} ☒ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The facility compounds thermoplastic resins in which virgin or recycled polypropylene and/or polyethylene are purchased in pellet form to be processed through extruders. During the melting of the plastic, various fillers and additives in powder or pellet form are added and mixed to develop the finished products suitable for the customer's specifications.

Typical production consists of transferring the plastic pellets to the extruder feed port, where the material is preheated between 380 and 420 degrees Fahrenheit. As the plastic is moved along the heated extruder barrel, fillers are added to give the plastic the required properties. The compounded plastic is extruded through a die into an underwater cutter box where the plastic strands are then cut into rounded pellets and then transferred in water to a classifier. The classifier separates the in-spec pellets from the out-of-spec pellets by sifting them through a perforated metal screen. Out-of-spec pellets are recycled back into the process. Finally, the finished product is transferred to boxes, hopper trucks, or railcars for shipment.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-26-020 Activities: APE20260001

Received: March 3, 2026 Application Complete Date(s): May 15, 2026

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☐Yes ☒No

Description of Action:

- Renewal of Operating Permit
- Addition of Insignificant activities, exhaust heat fans FN15 and FN20-24
- Removal of Emergency Engine
- Responsible Official change

F-26-020 Emission Summary		
Pollutant	2025 Actual (tpy)	PTE (tpy) F-26-020
CO	--	0.08
NO_X	--	0.002
PT	74.08	122.17
PM_{10}	74.08	122.17
$PM_{2.5}$	74.04	122.17
SO_2	--	5.93×10^{-4}
VOC	16.05	19.64
Lead		0
Greenhouse Gases (GHGs)		
Carbon Dioxide	--	118.5
Methane	--	2.27×10^{-3}
Nitrous Oxide	--	2.22×10^{-4}
CO_2 Equivalent (CO_2e)	--	118.6
Hazardous Air Pollutants (HAPs)		
Acetaldehyde	0.433	0.118
Formaldehyde	0.010	0.131
Methyl Ethyl Ketone	0.392	0.068
Propionaldehyde	0.073	0.015
Combined HAPs:	0.915	0.336

*Firepump engine needs to be removed from POC.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Units: EU02, EU03, EU04, EU06, EU07, EU10 and EU11 Thermoplastic Compounding Units

Pollutant	Emission Unit	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	EU02 (F3)	When: $P \leq 0.5$ tons/hr $E = 2.34$ lb/hr When: $P > 0.5, \leq 30$ tons/hr $E = 3.59 \times P^{0.62}$ Where: E = PM in lb/hr; P = process rate in tons/hr	401 KAR 59:010, Section 3(2)	3.05 lb/ton, Mass Balance	Use of control devices, Initial testing to verify control device efficiency
	EU03 (F5), EU04 (F7), EU06 (S1& S2)			21.34 lb/ton, Mass Balance	
	EU07 (F9)			14.7 lb/ton, Mass Balance	
	EU10 (EP10), EU11 (EP11)			21.3 lb/ton, Mass Balance and exit grain loading	
	All Emission Units	20% Opacity	401 KAR 59:010, Section 3(1)(a)	NA	Weekly visual observations and pressure drop monitoring

Initial Construction Date: F3: 2000; F5: 2002; F7: 2005; EU06: 9/20/2011; EU07: 6/1/2011; EU10: 2012; EU11: 2019

Process Description: Thermoplastic Compounding Operation

Emission Unit EU02 Toshiba Co-Rotating Twin Screw Extruder with pelletizer
Facility ID / KyEIS ID: F3
Maximum process rate: 4 tons/hour
Construction commenced: 2000
Control Equipment: Jet Vent Dust Collector (KyEIS Control ID D3, baghouse for particulate matter)

Emission Unit EU03 Farrel Continuous Mixer, extruder with pelletizer
Facility ID / KyEIS ID: F5
Maximum process rate: 4 tons/hour
Construction commenced: 2002
Control Equipment: Dustex Dust Collector (KyEIS Control ID D4, cartridge pulse for particulate matter)

Emission Unit EU04 Farrel Continuous Mixer, extruder with pelletizer
Facility ID / KyEIS ID: F7
Maximum process rate: 4 tons/hour
Construction commenced: 2005
Control Equipment: Donaldson Torit Dust Collector (KyEIS Control ID D8, pyramid

Emission Units: EU02, EU03, EU04, EU06, EU07, EU10 and EU11 Thermoplastic Compounding Units

	hopper for particulate matter)
Emission Unit EU06	Twin Screw Extruders with Pelletizer
Facility ID:	S1 & S2
KyEIS ID:	EU06
Maximum process rate:	0.3 tons/hour each, 0.6 tons/hr combined
Construction commenced:	9/20/2011
Control Equipment:	MAC Cartridge Dust Collector
Emission Unit EU07	Fluidized Bed and Co-rotating Extruder
Facility ID	F9
KyEIS ID:	EU07
Maximum process rate:	7.5 tons/hour
Construction commenced:	06/01/2011
Control Equipment:	Donaldson Torit Dust Collector
Emission Unit EU10	Conical Blender
KyEIS ID:	EP10
Maximum process rate:	3 tons/hour
Construction commenced:	2012
Control Equipment:	Donaldson Torit Dust Collector
Emission Unit EU11	CP550 Farrel Continuous Mixer
Facility ID:	F0
KyEIS ID:	EP11
Maximum process rate:	0.75 tons/hour
Construction commenced:	2019
Control Equipment:	Donaldson Torit Dust Collector (0.002 gr/dscf)

Applicable Regulation:
401 KAR 59:010, *New process operations*, is applicable to each affected facility, associated with a process operation, which is not subject to another emission standard with respect to particulates, commenced on or after July 2, 1975.

State Origin Requirements:
401 KAR 63:020, *Potentially Hazardous matter or toxic substances*.

Comments:
VOC and HAP emissions factors are based off of the *Journal of the Air & Waste Management Association, Volume 49, 1999, Development of Emission Factors for Polypropylene Processing* pgs. 49-56, Table 5. Particulate emissions are calculated based on mass balance of the process. Particulate emissions from the dust collectors were determined during a run of 12 hours at 4100 lbs/hr by collecting the powder from the collection drum, weighing the powder, and dividing the resulting amount by 12 and the dust collector efficiency to determine the emission rate (lb/hr) of potential to emit if no dust collector was in place.

Performance testing was completed at the inlet and outlet of Emission Unit EU03 (F5) as a representative

Emission Units: EU02, EU03, EU04, EU06, EU07, EU10 and EU11 Thermoplastic Compounding Units
control device for the controls for Emission Units EU04 (F7) and EU11 (EP11). The emission units are similar in process design and have similar dust collectors which employ cartridge type filters. Performance testing was completed at the inlet and outlet of Emission Unit EU07 (F9) as a representative control device for the controls for Emission Units EU02 (F3) and EU06 (S1 and S2). The emission units are similar in process design and have similar dust collectors which employ cartridge type filters. The particulate control efficiency is to be verified via initial compliance testing (See testing table below); the uncontrolled PM emission factors will be updated and re-evaluated at that time.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Throughput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
EU03[a] (F5)	Dustex Dust Collector D4	PM Control Efficiency	401 KAR 52:030, Section 10	Initial*	EPA Method 17	NA	99.2%	4000 lb/hr	CMN20220001	03/24/2022
EU07[b] (F9)	Donaldson Torit Dust Collector S07	PM Control Efficiency	401 KAR 52:030, Section 10	Initial*	EPA Method 17	NA	97.06%	14,000 lb/hr	CMN20220002	03/24/2022
EU10 (EP10)[c]	Donaldson Torit Dust Collector S10	PM Control Efficiency	401 KAR 52:030, Section 10	Initial*	EPA Method 17	NA	56.94%	1000 lb/hr	CMN20220003	03/24/2022

Footnotes:

* Testing was meant to be conducted 180 days upon issuance of F-15-006, but was not completed until March 2022.

a For Emission Unit F5, Uncontrolled/Controlled average emissions from the test resulted in 5.44 lb/hr and 0.043 lb/hr respectively.

b For Emission Unit EU07, Uncontrolled/Controlled average emissions from the test resulted in 3.54 lb/hr and 0.055 lb/hr respectively.

c For Emission Unit EP10, Uncontrolled/Controlled average emissions from the test resulted in 0.133 lb/hr and 0.038 lb/hr respectively.

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation
Source wide limit of < 90 tons per year of PM/PM_{10}/$PM_{2.5}$	To preclude the applicability of 401 KAR 52:020

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New process operations.	EU02 (F3), EU03 (F5), EU04 (F7), EU06 (S1 & S2), EU07 (F9), EU10 (EP10) and EU11 (EP11)
401 KAR 63:020, Potentially hazardous matter or toxic substances.	

Table C - Summary of Precluded Regulations:

None

Table D - Summary of Non Applicable Regulations:

None

Air Toxic Analysis

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances

The Division for Air Quality (Division) has performed SCREEN View on May 12, 2026 of potentially hazardous matter or toxic substances (Acetaldehyde, Acrolein, Formaldehyde, Methyl Ethyl Ketone, Propionaldehyde) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit Type	Activity #	Complete Date	Issuance Date	Summary of Action
S-06-112	Initial	APE20060001	7/14/2006	7/28/2006	Initial Source-wide permit
F-09-044	Initial	APE20090001	9/27/2009	3/19/2010	Initial Conditional Major Permit due to repeal of 401 KAR 50:080
F-09-044 R1	Minor Revision	APE20120001	4/13/2012	6/14/2012	Addition of two small extruder lines S1 and S2 and one large extruder line F9
F-15-006	Renewal	APE20140001	12/16/2014	7/14/2015	Renewal
F-15-006 R1	Minor Revision	Ape20180001	9/27/2018	11/18/2018	Addition of conical blender (EP10) to replace ribbon blender (EP#5)
F-15-006 R2	Minor Revision	APE20180002	2/28/2019	3/30/2019	Removal of F1 – BUSS Continuous Mixer, addition of F0 – CP550 Farrel Continuous Mixer, removal of emergency generator
F-21-007	Renewal	APE20200001	4/19/2021	9/3/2021	Removal of Engine

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds