Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-24-068
Teknor Apex Company – TCC & TPE
3058 Ohio Drive
Henderson, KY 42420
December 17, 2024
Brian Harley, Reviewer

SOURCE ID:	21-101-00115
AGENCY INTEREST:	1836
ACTIVITY:	APE20210001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3087, Custom compounding of purchased 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: Henderson
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:

Teknor Apex Company – TCC & TPE (Teknor) is a source consisting of two contiguous facilities – Teknor Color Company (AI# 1836) and Teknor Performance Elastomers (AI# 5492) having the same SIC code (3087) and located on the same property in Henderson, KY. Teknor manufactures three basic products: custom thermoplastic polymer (TPP) pellets, custom color concentrate pellets and custom color concentrate dry blend. TPP pellets are manufactured at Teknor Performance Elastomers while color concentrates (now idled) are produced at Teknor Color Company. The processes consist of blending and mixing raw materials, extruding the mixture and then pelletizing, drying and packaging the finished product.

Teknor has a potential-to-emit (PTE) of uncontrolled emissions of more than 100 tons per year (tpy) of total particulate matter and particulate matter less than 10 microns (PT/PM_{10}) where it has accepted federally enforceable limits to operate as a minor source. The source will operate in compliance with 401 KAR 52:030 of federally enforceable permits for non-major sources.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-24-068 Activities: APE20210001

Received: February 22, 2021 Application Complete Date(s): 12/13/2024

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:

- On February 22, 2021 the Division received an application for the renewal of the Conditional Major permit for Teknor Apex Company – TCC & TPE.

- On April 13, 2021, the Division received an updated DEP7007AI Form Signature page to change the Responsible Official to Bill Oeth.

- Grain Loading at the facility has been updated based on US Air Filtration manufacturer's guarantee.

- HAP emissions for the TPE emission units at the facility have been updated based on the email received by the Division on April 23, 2021.

- On December 13, 2024, the Division received an email from the facility explaining that the Teknor Color Company equipment used to produce color concentrates at the facility are no longer in operation and requested that the equipment be removed from the operating permit. After confirmation from the facility, emission units 01, 02, 03, 04, 05, 06, 07, and 08 have been removed from the permit.

F-24-068 Emission Summary		
Pollutant	2023 Actual (tpy)	PTE F-24-068 (tpy)
PT	0.66	(110.9*) 2.44**
PM_{10}	0.66	(110.9*) 2.44**
$PM_{2.5}$	0.61	(110.9*) 2.44**
Lead	0.00003	(6.59E-04*) 1.45E-05**
Hazardous Air Pollutants (HAPs)		
Combined HAPs	--	(0.553*) 0.012**

* Uncontrolled Emissions

** Includes Control in order to be in compliance with 401 KAR 59:010.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 09 (EP01A) TPE Line 1 (Line 1 Bin Vent #1) Emission Unit 10 (EP01B) TPE Line 1 (Line 1 Bin Vent #2) Emission Unit 11 (EP01C) TPE Line 1 (Extruder Dust Collector)					
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**EP**	**Emission Factor Used and Basis**	**Compliance Method**
PM	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)	01A 01B	0.00068 lb/lb	Fabric Filter/ Baghouse, 97.8% C.E.
			01C	0.0014 lb/lb	
	20% Opacity	401 KAR 59:010, Section 3(1)(a)	N/A		Weekly qualitative visual observations

Initial Construction Date: EP01A: 6/30/2001; EP01B: 6/30/2001; EP01C: 9/1/2015

Process Description:
Emission Unit 09 (EP01A) TPE Line 1 (Line 1 Bin Vent #1)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE2)

Emission Unit 10 (EP01B) TPE Line 1 (Line 1 Bin Vent #2)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE3)

Emission Unit 11 (EP01C) TPE Line 1 (Extruder Dust Collector)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE6)

Applicable Regulation:
401 KAR 59:010, New process operations, applies to each affected facility associated with a process operation which is not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR and commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Teknor has metal HAP coming from EP01A TPE Line 1 (Line 1 Bin Vent #1), EP01B TPE Line 1 (Line 1 Bin Vent #2), and EP01C TPE Line 1 (Extruder Dust Collector).

Comments:
The previous emission factor was determined by testing at a sister company in 2009 and was accepted to be 0.00056 lb/lb. With the initial conditional major permit application received by the Division on February 18, 2016, the facility provided a grain loading value of 0.01 gr/dscf with a control efficiency of 97.8%. Furthermore, a 502(b)(10)/Off-Permit Change received by the Division on February 6, 2017 provided a manufacturers guarantee of 0.005 gr/dscf per the US Air Filtration with a control efficiency between 99.7% and 99.99%. However, in an application received by the Division on March 2, 2017, after discussions with

Emission Unit 09 (EP01A) TPE Line 1 (Line 1 Bin Vent #1)
Emission Unit 10 (EP01B) TPE Line 1 (Line 1 Bin Vent #2)
Emission Unit 11 (EP01C) TPE Line 1 (Extruder Dust Collector)

the Division, the facility opted to use a control efficiency of 95% in order to show compliance with 401 KAR 59:010 without the requirement to perform emissions testing on the baghouses. However being that the manufacturer guarantees a higher control efficiency of 99.7%, the PTE for particulate matter in this renewal, has been calculated using grain loading of 0.005 gr/scf and the original control efficiency of 97.8% as follows: MCE = cfm x 60 min/hr x 1 lb/7000 grains x 0.005 grains/scf.

Emission Unit 12 (EP02A) TPE Line 2 (Line 2 Classifier DC)
Emission Unit 13 (EP02B) TPE Line 2 (Line 2 Bin Vent)
Emission Unit 14 (EP02C) TPE Line 2 (Extruder Dust Collector)

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	EP	Emission Factor Used and Basis	Compliance Method
PM	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)	02A 02B	0.00068 lb/lb	Fabric Filter/ Baghouse, 97.8% C.E.
			02C	0.0014 lb/lb	
	20% Opacity	401 KAR 59:010, Section 3(1)(a)	N/A		Weekly qualitative visual observations

Initial Construction Date: EP02A: 6/30/2001; EP02B: 6/30/2001; EP02C: 9/1/2015

Process Description:
Emission Unit 12 (EP02A) TPE Line 2 (Line 2 Classifier DC)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE1)

Emission Unit 13 (EP02B) TPE Line 2 (Line 2 Bin Vent)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE4)

Emission Unit 14 (EP02C) TPE Line 2 (Extruder Dust Collector)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE6)

Applicable Regulation:
401 KAR 59:010, New process operations, applies to each affected facility associated with a process operation which is not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR and commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Teknor has metal HAP coming from EP02A TPE Line 2 (Line 2 Classifier DC), EP02B TPE Line 2 (Line 2 Bin Vent), and EP02C TPE Line 2 (Extruder Dust Collector).

Emission Unit 12 (EP02A) TPE Line 2 (Line 2 Classifier DC)
Emission Unit 13 (EP02B) TPE Line 2 (Line 2 Bin Vent)
Emission Unit 14 (EP02C) TPE Line 2 (Extruder Dust Collector)

Comments:
The previous emission factor was determined by testing at a sister company in 2009 and was accepted to be 0.00056 lb/lb. With the initial conditional major permit application received by the Division on February 18, 2016, the facility provided a grain loading value of 0.01 gr/dscf with a control efficiency of 97.8%. Furthermore, a 502(b)(10)/Off-Permit Change received by the Division on February 6, 2017 provided a manufacturers guarantee of 0.005 gr/dscf per the US Air Filtration with a control efficiency between 99.7% and 99.99%. However, in an application received by the Division on March 2, 2017, after discussions with the Division, the facility opted to use a control efficiency of 95% in order to show compliance with 401 KAR 59:010 without the requirement to perform emissions testing on the baghouses. However being that the manufacturer guarantees a higher control efficiency of 99.7%, the PTE for particulate matter in this renewal, has been calculated using grain loading of 0.005 gr/scf and the original control efficiency of 97.8% as follows: MCE = cfm x 60 min/hr x 1 lb/7000 grains x 0.005 grains/scf.

Emission Unit 15 (EP03A) Resin Silos 1 & 2

Pollutant	Emission Limit or Standard	Regulatory Basis for Emission Limit or Standard	Emission Factor Used and Basis	Compliance Method
PM	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)	0.00057 lb/lb	Fabric Filter/ Baghouse, 97.8% C.E.
	20% Opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly qualitative visual observations

Initial Construction Date: 6/30/2001

Process Description:
Emission Unit 15 (EP03A) Resin Silos 1 &2
Maximum Operating Rate: 3425 lb/hr
Control Device: Fabric filter/Baghouse (TPE7)

Applicable Regulation:
401 KAR 59:010, New process operations, applies to each affected facility associated with a process operation which is not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR and commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Teknor has metal HAP coming from EP03A Resin Silos 1 &2.

Emission Unit 15 (EP03A) Resin Silos 1 & 2
Comments: The previous emission factor was determined by testing at a sister company in 2009 and was accepted to be 0.00056 lb/lb. With the initial conditional major permit application received by the Division on February 18, 2016, the facility provided a grain loading value of 0.01 gr/dscf with a control efficiency of 97.8%. Furthermore, a 502(b)(10)/Off-Permit Change received by the Division on February 6, 2017 provided a manufacturers guarantee of 0.005 gr/dscf per the US Air Filtration with a control efficiency between 99.7% and 99.99%. However, in an application received by the Division on March 2, 2017, after discussions with the Division, the facility opted to use a control efficiency of 95% in order to show compliance with 401 KAR 59:010 without the requirement to perform emissions testing on the baghouses. However being that the manufacturer guarantees a higher control efficiency of 99.7%, the PTE for particulate matter in this renewal, has been calculated using grain loading of 0.005 gr/scf and the original control efficiency of 97.8% as follows: MCE = cfm x 60 min/hr x 1 lb/7000 grains x 0.005 grains/scf.

Emission Unit 16 (EP04A) TPE Central Vac System				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	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)	0.00068 lb/lb	Fabric Filter/ Baghouse, 97.8% C.E.
	20% Opacity	401 KAR 59:010, Section 3(1)(a)	N/A	Weekly qualitative visual observations

Initial Construction Date: 6/30/2001

Process Description:
Emission Unit 16 (EP04A) TPE Central Vac System
Maximum Operating Rate: 2845 lb/hr
Control Device: Fabric filter/Baghouse (TPE5)

Applicable Regulation:
401 KAR 59:010, New process operations, applies to each affected facility associated with a process operation which is not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR and commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Teknor has metal HAP coming from EP04A TPE Central Vac System.

Comments:
The previous emission factor was determined by testing at a sister company in 2009 and was accepted to be 0.00056 lb/lb. With the initial conditional major permit application received by the Division on February 18, 2016, the facility provided a grain loading value of 0.01 gr/dscf with a control efficiency of 97.8%.

Emission Unit 16 (EP04A) TPE Central Vac System
Furthermore, a 502(b)(10)/Off-Permit Change received by the Division on February 6, 2017 provided a manufacturers guarantee of 0.005 gr/dscf per the US Air Filtration with a control efficiency between 99.7% and 99.99%. However, in an application received by the Division on March 2, 2017, after discussions with the Division, the facility opted to use a control efficiency of 95% in order to show compliance with 401 KAR 59:010 without the requirement to perform emissions testing on the baghouses. However being that the manufacturer guarantees a higher control efficiency of 99.7%, the PTE for particulate matter in this renewal, has been calculated using grain loading of 0.005 gr/scf and the original control efficiency of 97.8% as follows: MCE = cfm x 60 min/hr x 1 lb/7000 grains x 0.005 grains/scf.

Emission Unit 17 (EP03B) TPE Line 3 (Line 3 Bin Vent) Emission Unit 18 (EP03C) TPE Line 3 (Extruder Dust Collector)					
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**EP**	**Emission Factor Used and Basis**	**Compliance Method**
PM	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)	03B	0.00068 lb/lb	Fabric Filter/ Baghouse, 97.8% C.E.
			03C	0.0014 lb/lb	
	20% Opacity	401 KAR 59:010, Section 3(1)(a)	N/A		Weekly qualitative visual observations

Initial Construction Date: 6/30/2001

Process Description:
Emission Unit 17 (EP03B) TPE Line 3 (Line 3 Bin Vent)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE8)

Emission Unit 18 (EP03C) TPE Line 3 (Extruder Dust Collector)
Maximum Operating Rate: 2854 lb/hr
Control Device: Fabric filter/Baghouse (TPE6)

Applicable Regulation:
401 KAR 59:010, New process operations, applies to each affected facility associated with a process operation which is not subject to another emission standard for particulate matter (PM) in Chapter 59 of 401 KAR and commenced on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to each affected facility which emits or may emit potentially hazardous matter or toxic substances, provided that such emissions are not elsewhere subject to the provisions of the administrative regulations of the Division. Teknor has metal HAP coming from EP03B TPE Line 3 (Line 3 Bin Vent) and EP03C TPE Line 3 (Extruder Dust Collector).

Emission Unit 17 (EP03B) TPE Line 3 (Line 3 Bin Vent) Emission Unit 18 (EP03C) TPE Line 3 (Extruder Dust Collector)
Comments: The previous emission factor was determined by testing at a sister company in 2009 and was accepted to be 0.00056 lb/lb. With the initial conditional major permit application received by the Division on February 18, 2016, the facility provided a grain loading value of 0.01 gr/dscf with a control efficiency of 97.8%. Furthermore, a 502(b)(10)/Off-Permit Change received by the Division on February 6, 2017 provided a manufacturers guarantee of 0.005 gr/dscf per the US Air Filtration with a control efficiency between 99.7% and 99.99%. However, in an application received by the Division on March 2, 2017, after discussions with the Division, the facility opted to use a control efficiency of 95% in order to show compliance with 401 KAR 59:010 without the requirement to perform emissions testing on the baghouses. However being that the manufacturer guarantees a higher control efficiency of 99.7%, the PTE for particulate matter in this renewal, has been calculated using grain loading of 0.005 gr/scf and the original control efficiency of 97.8% as follows: MCE = cfm x 60 min/hr x 1 lb/7000 grains x 0.005 grains/scf.

Testing Requirements\Results

Testing will not be required for the emission points at the TPE facility as compliance with the allowable emission limitations pursuant to 401 KAR 59:010 using EPA Reference Method 5 and the control efficiency of at least 97.8 percent of each control device will be maintained along with the outlet grain loading value of 0.005 gr/dscf per the US Air Filtration manufacturer's guarantee.

Pursuant to 40 CFR 63.11602 (a)(1), the permittee must conduct an initial inspection of each particulate control device by visually inspecting the system ductwork, control unit for leaks, and the inside for structural integrity and condition.

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tons per year (tpy) on a twelve (12) consecutive month basis.	401 KAR 52:030, Federally-enforceable permits for nonmajor sources to preclude 401 KAR 52:020	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New Process Operations	09, 10, 11, 12, 13, 14, 15, 16, 17, 18
401 KAR 63:020, Potentially hazardous matter or toxic substances	09, 10, 11, 12, 13, 14, 15, 16, 17, 18

Table C - Summary of Precluded Regulations:

N/A

Table D - Summary of Non Applicable Regulations:

N/A

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*
The Division for Air Quality (Division) has performed SCREEN View on October 28, 2024 of potentially hazardous matter or toxic substances (Antimony, Arsenic, Cadmium and Compounds, Chromium and Chromium Compounds, Hexavalent Chromium, and Lead) and AERMOD on October 28, 2024 of potentially hazardous matter or toxic substances (Cadmium and Compounds and Hexavalent Chromium) that may be emitted by the facility (including both the TCC and TPE plants) 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
F-16-016	Initial	APE20160001	4/13/2016	8/22/2016	Initial Conditional Major Permit
F-16-016 R1	Minor Revision	APE20160002	10/27/2016	1/30/2017	Addition of Line 3 Process
F-16-016 R2	Minor Revision	APE20170002	5/2/2017	8/21/2017	Emission Factor Change for TPE Facility of the Outlet Grain Loading Value and Control Efficiency
F-16-016 R3	Minor Revision	APE20190001	6/18/2019	7/21/2019	Powder coating material manufacturing and applicability of 40 CFR 63, Subpart CCCCCCC

SECTION 6 – PERMIT APPLICATION HISTORY

None

APPENDIX A – ABBREVIATIONS AND ACRONYMS

C.E. – Control Efficiency
CFM – Cubic Feet per Minute
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
HAP – Hazardous Air Pollutant
MCE – Maximum Controlled Emissions
NO_x – Nitrogen Oxides
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
PTE – Potential to Emit
scf – Standard Cubic Feet
SO_2 – Sulfur Dioxide
VOC – Volatile Organic Compounds