Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

4/13/2016

Certified Mail

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Curtis Dowell
Alliance Casting Co. LLC
1001 E Broadway St
Alliance, OH 44601

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1576010014
Permit Number: P0115576
Permit Type: Administrative Modification
County: Stark

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Canton Repository. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

Canton City Health Department
420 Market Avenue
Canton, OH 44702-1544

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted.Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now.If you have any questions, please contact Canton City Health Department at (330)489-3385.

Sincerely,

Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA Region 5 -*Via E-Mail Notification*
Canton; Pennsylvania; West Virginia

Permit Strategy Write-Up

1. Check all that apply:

X Synthetic Minor Determination

Netting Determination

2. Source Description:

Alliance Castings Co., LLC is a Title V steel foundry that makes steel castings for the construction of railcars. In a casting operation, melted material, in this case, steel, is poured into molds which eventually produce a casting of the desired size, shape, and metallurgy. Cores are solid pieces made of sand and binder used to produce desired voids, or spaces, in the final steel casting.

Alliance Castings was issued PTI 15-01570 on 12/16/2004 to install a new One Piece Core Production (OPCP) operation consisting of 11 emission units. PTI 15-01570 required initial compliance stack testing to be conducted, which occurred on 07/26/2007 for the D018 Donaldson baghouse, 07/27/2007 for the D019 scrubber, and 05/15/2008 for the D023 Wheelabratorbaghouse.

Alliance Castings has applied for an administrative modification to PTI 15-01570 to update the emission limitations to reflect the results of the stack tests and new manufacturer's specifications, and to simplify the emission units from 11 to 4 to be a better reflection of actual operations. As a result of this modification request, Alliance Castings also requested new synthetic minor restrictions in order to continue to avoid major NSR and PSD regulations. Below is a table summarizing the changes to the emission units (EUs).

PTI 15-01570 EUs		P0115576 EUs			
EU ID	**EU Name**	**EU ID**	**EU Name**	**Permit Status**	**EU Status**
P039	45 ton sand storage bin	P039	45 ton sand storage bin with Sand heater #3 and Sand heater #4	De minimis exempt (not in permit)	Operating
P043	Sand heater #3	*P043*	*Now part of P039*	*n/a*	*Invalid*
P044	Sand heater #4	*P044*	*Now part of P039*	*n/a*	*Invalid*
P040	2-12 ton sand storage bins	P040	2-12 ton sand storage bins with Sand heater #2	De minimis exempt (not in permit)	Operating
P042	Sand heater #2	*P042*	*Now part of P040*	*n/a*	*Invalid*
P041	Sand heater #1	P041	Sand heater #1	n/a	Shutdown
P045	EMI Sand Mixer	P045	EMI CB500 One Piece Core Production operation line	Included in Permit	Operating
P047	EMI CB500 Core Machine	*P047*	*Now part of P045*	*n/a*	*Invalid*
P046	Artisand Sand Mixer	P046	Artisand One Piece Core Production operation line	Included in Permit	Operating
P048	Artisand A80 Core Machine	*P048*	*Now part of P046*	*n/a*	*Invalid*
P049	Artisand A12 Core Machine	*P049*	*Now part of P046*	*n/a*	*Invalid*

The changes to the emission units in P0115576 are now a reflection of what equipment can operate independently or not. Even though the new P039 and P040 supply material to the new P045 and P046 units, they can be loaded at any time independent of those operations, and they can supply material to either P045 and P046 when needed. New P039 and P040 also have independent control devices. New

P045 and P046 reflect how the mixer and the core machines are a process line since they are not able to operate independent of each other.

In addition to the 11 original PTI 15-01570 EUs, there were several EUs that were installed under the same project but were permit exempt, so not included in the permit. Below is a list of those exempt EUs:

- P051: Iron OxideStorage Addition System for P045 and P046 including receiving hopper, transporter, and holding tank.
- K005: Core Wash station for P045 including natural gas-fired Core Wash Drying Oven rated at 1.5 mmbtu/hr
- K006: Core Wash station for P046 including natural gas-fired Core Wash Drying Oven rated at 0.5 mmbtu/hr

Note: The facility originally requested that the throughput of K005 and K006 be increased above de minimis levels by adding spray application, thus requiring a separate permit with new synthetic minor restrictions. However, the facility has not selected which spray application technology they want to use, so this permit application request has been returned as technically incomplete. The facility has not reapplied, therefore, K005 and K006 remain deminimis and unchanged.

3. Facility Emissions and Attainment Status:

Alliance Castings Co., LLC, is located in Stark County, Ohio which is designated as attainment for all criteria pollutants. The facility is currently operating under Title V Permit P0101199 (01/30/2002) and PTIs 15-01570 (12/16/2004) and P0116125 (09/04/2014). The facility is currently major for PE, PM_{10}, $PM_{2.5}$, CO and HAPs. The facility is classified as one of the listed source categories in the Ohio Administrative Code (OAC) 3745-31-01(NNN)(2) with a potential to emit more than 100 tons per year, so it is considered a major stationary source. The facility is classified as one of the listed source categories in the OAC 3745-31-01(NNN)(4), so fugitive emissions are required to be included in any major NSR project.

The uncontrolled emissions from the original proposed installation project in PTI 15-01570 exceeded the major New Source Review (NSR) significant emission increase thresholds for PM_{10}, $PM_{2.5}$ and VOC. The permittee requested in the PTI 15-01570 application to install particulate and VOC control devices that brought the project below the thresholds, thus successfully avoiding major NSR. The control devices required were included in PTI 15-01570 pursuant to OAC rule 3745-31-05(A)(3), which is Best Available Technology (BAT). The rule cite OAC 3745-31-05(D) for synthetic minor was not explicitly included in the PTI to accurately reflect the avoidance of major NSR, which was a typographical error. However, the PTI still included all necessary legally and practically enforceable requirements per BAT for the proper avoidance of major NSR. The below table summarizes the project for the original PTI 15-01570.

	PTI 15-01570 Project Summary			
	Uncontrolled Emissions		**Controlled (Restricted) Emissions**	
EU ID	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**
P039	42	-	0.0042	-
P043	0.083	-	0.033	-
P044	0.11	-		-
P040	32.3	-		-
P042	0.03	-		-

	PTI 15-01570 Project Summary			
	Uncontrolled Emissions		Controlled (Restricted) Emissions	
EU ID	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**
P041	0.022	-		-
P045	0.131	17.34		17.34
P046	0.11	13.88		13.88
P047	-	76.7	-	0.153
P048	-	46	-	0.092
P049	-	15.33	-	0.030
P051	0.211	0	Included in P040 limit	0
K005	1.820	0.036	1.820	0.036
K006	1.787	0.012	1.787	0.012
Totals	**78.63**	**169.30**	**3.644**	**31.54**
NSR Threshold	*15 / 10*	*40*	*15 / 10*	*40*

Per the application for the administrative modification to PTI 15-01570, which is this permit P0115576, the permittee updated organic and dry material usage rates based on manufacturer specifications versus the previous estimations used. As such, the uncontrolled emissions for the original installation increased, thus still exceeding the major NSR thresholds for PM_{10}, $PM_{2.5}$ and VOC. The application also updated capture efficiencies to reflect actual conditions versus estimated conditions and updated control device efficiencies and emission rates based on stack test data. As such, the controlled emissions for the original installation increased, thus now exceeding the major NSR threshold for PM_{10}, $PM_{2.5}$ and VOC with control devices that were previously sufficient for avoiding NSR. Therefore, the permittee requested in the P0115576 annual material throughput restrictions to bring the project emissions below the thresholds, thus successfully avoiding major NSR. These synthetic minor restrictions have been added to P0115576 pursuant to OAC rule 3745-31-05(D) to reflect the avoidance of major NSR. It should be noted that the permittee supplied actual usage records for all the years the EUs were operated (from 2006 – 2014), and they never exceeded 50% of the annual throughput restrictions being added to the permit, thus no violations or exceedances of the NSR/PSD regulations have occurred. The below table summarizes the project for P0115576.

		PTI P0115576 Project Summary					
		Uncontrolled Emissions		Controlled Emissions[1]		Restricted Emissions[2]	
Old EU ID	**lew EU ID**	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**	**$PM_{10}/PM_{2.5}$ tpy**	**VOC tpy**	**$PM_{10}/PM_{2.5}$tpy**	**VOC tpy**
P039	P039	0.008	0	0.008	0	0.008	0
P043							
P044							
P040	P040	32.31	0	1.126	0	1.126	0
P042							
P041							
P045	P045	7.97	161.0	3.08	57.384	3.08	29.744
P047							
P046	P046	2.56	51.74	0.026*	18.445	0.026*	9.560
P048							
P049							
P051	P051	0.211	0	*	0	*	0
K005	K005	1.820	0.036	1.820	0.036	1.820	0.036
K006	K006	1.787	0.012	1.787	0.012	1.787	0.012
Totals		**46.67**	**212.75**	**7.85**	**75.88**	**7.85**	**39.35**
NSR Threshold		*15 / 10*	*40*	*15 / 10*	*40*	*15 / 10*	*40*

*Stack emissions from P046 & P051 are included in P045 since they share a combined limit/control device.
1. Based on stated capacity of the core machines (7 tons/hr for EMI and 2.25 tons/hr for the 2 Artisands) and maximum hours of operation per year (8760). These remain the BAT emission limitations.
2. Based on the 735 tpy resin materials usage restriction requested by permittee.

4. Source Emissions:

The materials processed are dry materials (consisting of foundry sand (new or reclaimed) and iron oxide), liquid organic resin, and a catalyst gas. Emissions are primarily PM_{10}, $PM_{2.5}$ and VOC, with negligible emissions of combustion products from the natural gas fired core wash drying ovens associated with K005 and K006. For the purposes of this permit, PM_{10} is being used as a surrogate for $PM_{2.5}$. All detailed emission calculations are within the permit T&Cs section f) and in the permit application.

The original PTI 15-01570 stated that emission units P040-P046 all shared a common fabric filter control device. This was inaccurate. P040-P044 are controlled by the Donaldson baghouse (D018) and P045, P046, and P051 are controlled by the Wheelabratorbaghouse (D023). Both baghouses were stack tested in 2007 and 2008.

5. Best Available Technology (BAT) Changes:

As shown in section 3 above, the application for P0115576 requested an increase in emissions. However, this increase was not a result of physical changes or changes in the method of operation, but instead due to more accurate and site specific data. Therefore, the request does not meet the definition of "modification" in OAC rule 3745-31-01(SSS), so P0115576 is not classified as a Chapter 31 modification, but instead an administrative modification. As such, in compliance with OAC rule 3745-31-05(A)(3)(b), BAT cannot be reevaluated or redetermined since no modification of the source has occurred.

The existing BAT that was determined for PTI 15-01570 was based on maximum potential-to-emit calculated from AP-42 emission factors, engineering judgment, and control device specifications as supplied within the permit application. Per policy, existing BAT can be updated when more accurate information becomes available, such as stack test data or more appropriate emission factors, as long as the "technology" basis is not compromised. Existing BAT was determined prior to 2006, so it was based on the case-by-case BAT policy requiring lb/hr and tons/year emission limitations to be specified. Based on the updated data supplied within the permit application for P0115576, BAT was updated as shown in the following table. *Note that the updated BAT in P0115576 is still based maximum (unrestricted) material throughputs.*

PTI 15-01570		New Permit P0115576	
EU ID	**Limitation**	**EU ID**	**Limitation**
P045 P046	0.04 lbs/hr& 0.18 tpy of PE (stack) 0.01 lbs/hr& 0.05 tpy of PM_{10} (stack) *Note: These are combined limits for 7 EUs, P040-P046, since permitted to be using same baghouse.* *(P045 based on 5 tons sand/hr * 0.029 lb PM/ton & 0.006 lb PM10/ton * CE)* *(P046 based on 4 tons sand/hr * EF * CE)* No lb/hr&tpy PE/PM10 limit for fugitives	P045 P046	0.343 lbs/hr& 1.50 tpy of PE/PM_{10} (stack) *Baghouse D023 controls P045 and P046 only; EF = 0.020 gr/dscf based on baghouse technology; Based on 05/15/2008 stack test, 0.007 gr/dscf was worst run.*
		P045	0.021 lb/hr& 0.092 tpy of PE (fugitives) *EF = 0.30 lb PE/ton dry materials with 99.0% capture* 0.018 lb/hr& 0.079 tpy of PM_{10} (fugitives) *EF = 0.26 lb PM10/ton dry materials*

PTI 15-01570		New Permit P0115576	
EU ID	**Limitation**	**EU ID**	**Limitation**
		P046	0.007 lb/hr& 0.031 tpy of PE (fugitives) *EF = 0.30 lb PE/ton dry materials with 99.0% capture* 0.006 lb/hr& 0.027 tpy of PM_{10} (fugitives) *EF = 0.26 lb PM10/ton dry materials*
P045 P046	Fabric Filter control device for PE/PM_{10} emissions with 99.9% control efficiency *Based on 05/15/2008 stack test, 99.9% control efficiency was achieved.*	P045 P046	Control efficiency removed since now using technology based limit.
P045 P046	Totally enclosed material transfer system with: 100% capture efficiency; and No fugitive visible emissions	P045 P046	99.0% capture efficiency (since not totally enclosed material transfer into mixer) Fugitive visible emissions expected, so the no fugitive visible emissions limitation was removed. *Based on engineering judgment of actuals*
P045	4.0 lbs/hr& 17.5 tpy of VOC (fugitive) *Based on potential to emit from resin with no controls (5 tons/hr sand * 0.012 lbs resin/lb sand * 3.3% VOC released from resin)* *1.2% resin per sand* *0.033 lb VOC/lb resin*	P045	12.50 lbs/hr& 54.75 tpy of VOC (fugitive) *Remains based on potential to emit from resin with no controls (7 tons/hr sand * 0.0175 lbs resin/lb sand * 0.050 lb VOC/lb resin)* *1.75% resin per sand* *0.050 lb VOC/lb resin* *Based on potential to emit from catalyst* *EF = 0.001 lbs VOC as DMIPA/lb resin based on 99% capture efficiency* 0.613 lbs/hr& 2.685 tpy of VOC (stack) *Remains based on potential to emit from catalyst* *EF = (0.1 lb DMIPA/lb resin)*(0.99)*(1-0.975) = 0.0025 lb DMIPA/lb resin* *Based on 07/27/2007 stack test, 0.00017 lb DMIPA/lb resin from stack was achieved. Based on actual usage records from 2006-2014, average of 0.086 lb DMIPA/lb resin was used.* VOC (fugitive) from DMIPA included in limit above 0.343 lb/hr& 1.502 tpy PE/PM_{10} limit for stack *Based on potential to emit from sand in scrubber* *EF = 0.005 gr/dscf based on scrubber technology* No change for PE/PM_{10} for fugitives~
P047	0.04 lbs/hr& 0.18 tpy of VOC (stack) *Based on potential to emit from catalyst* *(5 tons/hr sand*3.5 lbs Catalyst/ton sand*CE)* *EF equivalent: 0.146 lb Catalyst/lb resin* No lb/hr&tpy VOC limit for fugitives No lb/hr&tpy PE/PM_{10} limit for stack* No lb/hr&tpy PE/PM_{10} limit for fugitives~		
P046	3.2 lbs/hr& 14.0 tpy of VOC (fugitive) *Based on potential to emit from resin with no controls (4 tons/hr sand * 0.012 lbs resin/lb sand * 3.3% VOC released from resin)* *1.2% resin per sand* *0.033 lb resin/lb sand*	P046	4.02 lbs/hr& 17.61 tpy of VOC (fugitive) *Remains based on potential to emit from resin with no controls (2.25 tons/hr sand * 0.0175 lbs resin/lb sand * 0.050 lb VOC/lb resin)* *1.75% resin per sand* *0.050 lb VOC/lb resin* *Based on potential to emit from catalyst* *EF = 0.001 lbs VOC as DMIPA/lb resin based on 99% capture efficiency* 0.197 lbs/hr& 0.863 tpy of VOC (stack)
P048	0.02 lbs/hr& 0.09 tpy of VOC (stack) *Based on potential to emit from catalyst* *(3 tons/hr sand*3.5 lbs Catalyst/ton sand*CE)* *EF equivalent: 0.146 lb Catalyst/lb resin*		

PTI 15-01570		New Permit P0115576	
EU ID	**Limitation**	**EU ID**	**Limitation**
	No lb/hr&tpy VOC limit for fugitives No lb/hr&tpy PE/PM_{10} limit for stack* No lb/hr&tpy PE/PM_{10} limit for fugitives~		*Remains based on potential to emit from catalyst* *EF = (0.1 lb DMIPA/lb resin)*(0.99)*(1-0.975) = 0.0025 lb DMIPA/lb resin* *Based on 07/27/2007 stack test, 0.00017 lb DMIPA/lb resin from stack was achieved. Based on actual usage records from 2006-2014, average of 0.086 lb DMIPA/lb resin was used.* VOC (fugitive) from DMIPA included in limit above lb/hr&tpy PE/PM_{10} limit for stack is combined limit with P045 (see above). *Based on potential to emit from scrubber* *EF = 0.005 gr/dscf based on scrubber technology* No change for PE/PM_{10} for fugitives~
P049	0.01 lbs/hr& 0.04 tpy of VOC (stack) *Based on potential to emit from catalyst (1 tons/hr sand*3.5 lbs Catalyst/ton sand*CE)* *EF equivalent: 0.146 lb Catalyst/lb resin* No lb/hr&tpy VOC limit for fugitives No lb/hr&tpy PE/PM_{10} limit for stack* No lb/hr&tpy PE/PM_{10} limit for fugitives~		
P047 P048 P049	Packed Bed sulfuric acid solution scrubber to control amine based VOCs (Isofast 705 catalyst) at 99.8% control efficiency.	P045 P046	Packed Bed acid scrubber to control DMIPA VOCs at 97.5% control efficiency. *Based on 07/27/2007 stack test, 97.96% control efficiency of DMIPA was achieved*
P047 P048 P049	100% capture efficiency of VOC emitted from core box by maintaining a vacuum (negative pressure) on core box.	P045 P046	99.0% capture efficiency of VOC emitted from core box; removed requirement to maintain a vacuum (negative pressure) on core box.
P047 P048 P049	Safety "inter-lock circuit" to ensure the scrubber is operating before amine based catalyst is introduced to core machine.	P045 P046	No change

*Visible particulate emissions opacity limit from OAC rule 3745-17-07(A)(1), indicating PE is expected from stack.
~Fugitive particulate emissions are not expected at the core machines since the materials are wet.

6. Conclusion:

This permit to install is written to incorporate federally enforceable limits for PM_{10} and VOC to avoid major NSR & PSD requirements. This will be accomplished by incorporating the permittee-requested throughput limits, technology-based emission factors, and mandating the use of a baghouse for PM_{10} control and an acid scrubber for VOC control (as proposed by permittee). Please see permit section b)(1)a. and b)(2) for details.

Emission control for PM_{10} is technology-based with outlet grain loading specifications.
Emission Control for VOC (as DMIPA) is based on 99% capture efficiency and 97.5% control efficiency in a packed bed acid scrubber.

Initial Compliance testing per a separate permit P0116125 is required for all emission units (P045, P046, and P050) controlled by the common control devices to confirm compliance with all technology-based assumptions used in the development of the emission limitations. This testing occurred on 02/09/2016 and showed compliance with all the limitations included in this permit. Subsequent testing will be set per the schedule in the Title V.

7. Please provide additional notes or comments as necessary:

The facility is subject to MACT subpart EEEEE (Iron and Steel Foundries). The only applicable requirements from that rule for this emission unit is the general building opacity limit, which was added to the permit.

8. Total Permit Allowable Emissions Summary (for informational purposes only):

Pollutant	Tons Per Year
VOC	39.32
PM_{10}	3.11

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at:http://epa.ohio.gov/actions.aspx or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email:HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install Administrative Modification
Alliance Casting Co. LLC

1001 E Broadway St,, Alliance, OH 44601-2602
ID#:P0115576
Date of Action: 4/13/2016
Permit Desc:Administrative modification to PTI 15-01570 for the One Piece Core Production operations at an existing steel foundry. This modification includes: increased emission limitations to reflect stack testing results and new manufacturer specifications; establishment of new synthetic minor restrictions to avoid major NSR; grouping and re-numbering emission units; and updating monitoring and recordkeeping requirements..
The permit and complete instructions for requesting information or submitting comments may be obtained at: http://epa.ohio.gov/dapc/permitsonline.aspx by entering the ID # or: Greg Clark, Canton City Health Department, 420 Market Avenue, Canton, OH 44702-1544. Ph: (330)489-3385

DRAFT

Division of Air Pollution Control
Permit-to-Install
for
Alliance Casting Co. LLC

Facility ID:	1576010014
Permit Number:	P0115576
Permit Type:	Administrative Modification
Issued:	4/13/2016
Effective:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install
for
Alliance Casting Co. LLC

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Authorization

Facility ID:	1576010014
Facility Description:	Steel foundry.
Application Number(s):	A0046520, A0051419, A0053383
Permit Number:	P0115576
Permit Description:	Administrative modification to PTI 15-01570 for the One Piece Core Production operations at an existing steel foundry. This modification includes: increased emission limitations to reflect stack testing results and new manufacturer specifications; establishment of new synthetic minor restrictions to avoid major NSR; grouping and re-numbering emission units; and updating monitoring and recordkeeping requirements.
Permit Type:	Administrative Modification
Permit Fee:	$750.00*DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	4/13/2016
Effective Date:	To be entered upon final issuance

This document constitutes issuance to:

Alliance Casting Co. LLC
1001 E Broadway St
Alliance, OH 44601-2602

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department
420 Market Avenue
Canton, OH 44702-1544
(330)489-3385

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler
Director

Authorization (continued)

Permit Number: P0115576
Permit Description: Administrative modification to PTI 15-01570 for the One Piece Core Production operations at an existing steel foundry. This modification includes: increased emission limitations to reflect stack testing results and new manufacturer specifications; establishment of new synthetic minor restrictions to avoid major NSR; grouping and re-numbering emission units; and updating monitoring and recordkeeping requirements.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Group Name: One Piece Core Production

Emissions Unit ID:	**P045**
Company Equipment ID:	OPCP EMI Sand Mixer
Superseded Permit Number:	15-01570
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P046**
Company Equipment ID:	OPCP Aritsand Sand Mixer
Superseded Permit Number:	15-01570
General Permit Category andType:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A.2.a), Severability Clause

(2) Standard Term and Condition A.3.c) through A. 3.e)General Requirements

(3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements

(4) Standard Term and Condition A.9., Reporting Requirements

(5) Standard Term and Condition A.10., Applicability

(6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install

(7) Standard Term and Condition A.14., Public Disclosure

(8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(9) Standard Term and Condition A.16., Fees

(10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

b) It shall not be a defense for the 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 federally enforceable terms and conditions of this permit.

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

d) This permit does not convey any property rights of any sort, or any exclusive privilege.

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) The operating conditions existing at the time of sampling or measurement.

b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

(1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Canton City Health Department.

(2) Quarterly written reports of (i) any deviations from federally enforceable emissionlimitations, operationalrestrictions, andcontroldeviceoperatingparameterlimitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Canton City Health Department. The written reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, andreportingrequirements contained in this permit shall be submitted to the Canton City Health Department every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to theCanton City Health Departmentin accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete

b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

(1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c) The permittee shall submit progress reports to the Canton City Health Department concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Canton City Health Department.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to theCanton City Health Department. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s)not exempt from the requirement to obtain a Permit-to-Install.

11. Construction of New Sources(s) and Authorization to Install

a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).

d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted,no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d)must be obtained beforeoperating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services"facility profile for each new emissions unit identified in this permit.

a) Completion of initial installation date shall be enteredupon completion of construction and prior to start-up.

b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed.The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The following emissions units in this permit are subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart EEEEE, Maximum Achievable Control Standards (MACT) for Iron and Steel Foundries: P045 and P046. The complete NESHAP/MACT requirements, including the NESHAP/MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Canton City Health Department, Air Pollution Control Division.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group -One Piece Core Production: P045,P046

Operations, Property and/or Equipment Description:

EU ID	Operations, Property and/or Equipment Description
P045	EMI CB500 One Piece Core Production operation line consisting of a dry materials and resin mixer (EMI mixer) and an EMI CB500 core machine. The EMI mixer emission outlet, plus any emissions from the iron oxide addition system (P051) are controlled by the D023 baghouse (fabric filter). The gaseous catalyst used in the EMI CB500 core machine is dimethylisopropylamine ("DMIPA"). DMIPA is not a HAP. The Core Machine emissions outlet is controlled by the D019 packed bed acid scrubber. These two pieces of equipment, formerly separately identified in PTI 15-01570 as emission units P045 (EMI mixer) and P047 (EMI CB500 core machine), have been combined into this one emission unit.
P046	Artisand One Piece Core Production operation line consisting of an Artisand dry materials and resin mixer (Artisand mixer) and two Artisand Core Machines (Artisand A80 and Artisand A12). The single Artisand mixer supplies both Artisand Core machines. The Artisand mixer emission outlet plus any emissions from the iron oxide addition system (P051) are controlled by the D023 baghouse (fabric filter). The gaseous catalyst used in the Artisand Core Machines is dimethylisopropylamine ("DMIPA"). DMIPA is not a HAP. The Core Machines emissions outlets are controlled by the D019 packed bed acid scrubber. These three pieces of equipment, formerly separately identified in PTI 15-01570 as emission units P046 (Artisand mixer), P048 (Artisand A80) and P049 (Artisand A12), have been combined into this one emission unit.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) [Federally enforceable limitations to avoid PSD]	The following limitations apply to P045 and P046 as combined total emissions: Volatile organic compound emissions (VOC) from these emissions units shall not exceed 39.320 tons per year (tpy) (stack and fugitive combined), based upon a rolling, 12-month summation of the monthly emissions

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		VOC emissions from the D019 scrubber stack shall not exceed 0.0025 pounds (lbs) VOC as DMIPA per pound (lb) resin used Fugitive VOC emissions from the resin shall not exceed 0.050 lbs per lb resin used Particulate matter less than or equal to 10 microns in size (PM_{10}) from these emission units shall not exceed 3.110 tons per year (tpy) (stack and fugitive combined), based upon a rolling, 12-month summation of the monthly emissions PM_{10} emissions from the D019 scrubber stack shall not exceed 0.005 grains per dry standard cubic foot (gr/dscf) PM_{10} emissions from the D023 fabric filter stack shall not exceed 0.020 gr/dscf See b)(2)a. through b)(2)c.
b.	OAC rule 3745-31-05(E) [Voluntary Restriction as proposed by permittee]	See b)(2)d.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-07(A)(2)	Visible particulate emissions from the stacks serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule It shall be deemed not to be a violation of this rule where the presence of uncombined water is the only reason for failure of a stack emission to meet the requirements of this rule
d.	OAC rule 3745-17-11(B) [Particulate emissions (PE) not to exceed allowable emissions from Curve P-1 of Figure II or Table I in the appendix to this rule]	18.2 lbs PE/hr This emission limitation is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D) and 3745-31-05(A)(3).
e.	OAC rule 3745-17-08(B)	Exempt per 3745-17-08(A)(1) since the facility is not located in an Appendix

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		AArea.
f.	40 CFR Part 63, Subpart EEEEE (63.7680-63.7765) [In accordance with 40 CFR 63.7682 this facility is an existing steel foundry subject to the emission limitations/control measures specified in this section]	[63.7690(a)(7)] For each building or structure housing any steel foundry emissions source at the steel foundry, you must not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity. See b)(2)f., c)(3), d)(4), e)(4), and f)(3).
g.	40 CFR Part 63, Subpart A (63.1-63.16)	Table I of 40 CFR Part 63, Subpart EEEEE, *Applicability of General Provisions to Subpart EEEEE* identifies which parts of the General Provisions in 40 CFR 63.1-16 apply.
h.	OAC rule 3745-31-05(A)(3) [Administrative modification to Best Available Technology (BAT) originally established in PTI 15-01570 issued on 12/16/2004]	These emission limitations are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D). [BAT values were originally prepared in PTI 15-01570 using the best information available at the time. Since that time, better information has become available. The values shown below are an update of the original PTI 15-01570 values using the updated information. Details of how they were calculated are contained in section f). They are shown here to demonstrate that they are less stringent than the synthetic minor values contained in Section b)(1)a above.] <u>Emissions from P045 shall not exceed:</u> VOC 12.50 lb/hr& 54.75 tpy (fugitive) VOC as DMIPA 0.613 lb/hr& 2.685 tpy (scrubber stack) PE 0.021 lb/hr& 0.092 tpy (fugitive) PM_{10} 0.018 lb/hr& 0.079 tpy (fugitive) <u>Emissions from P046 shall not exceed:</u> VOC 4.02 lb/hr& 17.61 tpy (fugitive) VOC as DMIPA 0.197 lb/hr& 0.863 tpy (scrubber stack) PE 0.007 lb/hr& 0.031 tpy (fugitive)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PM_{10} 0.006 lb/hr& 0.027 tpy (fugitive) <u>Emissions from P045 and P046 combined shall not exceed:</u> PE/PM_{10} 0.343 lb/hr& 1.502 tpy (fabric filter stack) PE/PM_{10} 0.343 lb/hr& 1.502 tpy (scrubber stack) See b)(2)e.

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in moving from Permit to Install (PTI) 15-01570 to this administrative modification PTI (P0115576) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy for PM_{10}. The federally enforceable emission limitations for PM_{10} are the following:

i. The emissions from the any mixer shall be vented to a fabric filter control device (D023 baghouse) which shall be operated at all times when the any mixer is operated.

b. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for VOC. The PTE is being restricted such that the emission increase for VOC allowed for in moving from Permit to Install (PTI) 15-01570 this administrative modification PTI (P0115576) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 40 tpy for VOC. The federally enforceable emission limitations for VOC are the following:

i. Throughput of resin shall not exceed 735 tons per year (tpy), for P045 and P046 combined based upon a rolling, 12-month summation of monthly resin combined.

ii. The emissions from any core machine shall be vented to a packed bed acid scrubber (D019) which shall be operated at all times per c)(1) when any core machine(s) are operated.

c. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

d. This permit establishes the following voluntary restriction as requested by the permittee for the purpose of limiting potential to emit (PTE) for PM_{10} to the emission limitation listed in b)(1)b above:

i. Throughput of dry materials shall not exceed 42,000 tons per year (tpy), for P045 and P046 combined, based upon a rolling, 12-month summation of dry material usage.

e. For emission units P045 and P046, the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3) for VOC emissions include the use of a scrubber control device as specified in b)(2)b.ii. meeting the capture and control efficiency requirements specified in f)(1)b. and for PE/PM_{10} emissions include the use of a fabric filter control device (baghouse) as specified in b)(2)a.i. meeting the capture efficiency and control technology requirements specified in f)(1)d. and f)(1)f. BAT includes maintaining the control devices per terms c)(1) and c)(2) of this permit.

f. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations.
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation.
63.7746	Other requirements to demonstrate continuous compliance.
63.7760	Other requirements and information.
63.7761	Other requirements and information.

c) Operational Restrictions

(1) A safety "inter-lock circuit" shall be designed and installed to insure that the scrubber is operating before amine based catalyst is introduced to any core making machine.

(2) The permittee shall operate and maintain the fabric filter (D023) and packed bed acid scrubber (D019) control devices and all associated control instrumentation and peripheral equipment in accordance with manufacturers operating and maintenance manuals, procedures, and recommendations.

(3) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for each emissions unit:

a. the quantity of dry materials processed for each emissions unit, in tons;

b. the quantity of dry materials processed for P045 and P046 combined, in tons;

c. the quantity of dry materials processed for P045 and P046 combined rolling, 12-month summation, in tons, i.e., the summation of the monthly dry materials processed from b. above for the most recent month and the previous 11 months;

d. the quantity of resin processed for each emissions unit, in tons;

e. the quantity of resin processed for P045 and P046 combined, in tons;

f. the quantity of resin processed for P045 and P046 combined rolling, 12-month summation, in tons, i.e., the summation of the monthly resin processed from e. above for the most recent month and the previous 11 months;

g. the total VOC emissions (stack and fugitive) for P045 and P046 combined, in tons;

h. the total VOC emissions (stack and fugitive) for P045 and P046 combined rolling, 12-month summation, in tons, i.e., the summation of the monthly total VOC emissions (stack and fugitive) from g. above for the most recent month and the previous 11 months;

i. the total PM_{10} emissions (stack and fugitive) for P045 and P046 combined, in tons; and

j. the total PM_{10} emissions (stack and fugitive) for P045 and P046 combined rolling, 12-month summation, in tons, i.e., the summation of the monthly total PM_{10} emissions (stack and fugitive) from i. above for the most recent month and the previous 11 months.

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the recirculating scrubber solution pH, the recirculating scrubber solution flow rate, the pressure drop across the scrubber and the pressure drop across the fabric filter while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. recirculating scrubber solution pH recorded as 1-hour averages of the continuous measurement,

b. the recirculating scrubber solution flow rate, in gallons per minute (gpm), on a once-per-shift basis

c. the pressure drop across the scrubber on a once-per-shift basis,

d. the pressure drop across the fabric filter (baghouse) on a once-per-day basis, and

e. the time periods when the emissions unit was in operation and the D023 baghouse was not operated.

Whenever the monitored values for the recirculating scrubber solution pH, the recirculating scrubber solution flow rate, the pressure drop across the scrubber and the pressure drop across the fabric filter deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the monitored parameter value(s) immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

f. The D019 recirculating scrubber solution pH shall be in the range of 0 to 4.5, the recirculating scrubber solution flow rate shall be maintained at or above 150 gpm, and the pressure drop across the scrubber shall be within 1.0 and 6.0 inches of water at all times while the emissions unit is in operation.

g. The pressure drop across the D023 baghouse shall be maintained within the range of 1.0 to 7.0 in inches of water, while the emission unit is in operation. The pressure drop shall not be considered outside the normal range when the pressure drop falls below the minimum point in the pressure drop differential range as the result of bag replacements.

(3) The permittee shall perform weekly checks, when the emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from each stack servicing these emissions units. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit).

With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

(1) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following, at a minimum:

a. the rolling, 12-month restriction on the quantity of dry materials processed for P045 and P046 combined;

b. the rolling, 12-month restriction on the quantity of resin processed for P045 and P046 combined;

c. the rolling, 12-month restriction on total VOC emissions (stack and fugitive)for P045 and P046 combined;

d. the rolling, 12-month restriction on total PM_{10} emissions (stack and fugitive)for P045 and P046 combined; and

e. any time periods when the emissions units P045 and/or P046 were in operation and the D023 baghouse was not operated.

These quarterly deviation reports shall be submitted in accordance with the Part A Standard Terms and Conditions of this permit along with any deviations that are not specified above

(2) The permittee shall submit semi-annual written reports that identify the following information concerning the operation of the D019 packed bed acid scrubber and D023 baghouse during the operation of the emissions unit(s), at a minimum:

a. each period of time (start time and date, and end time and date) when the D019 recirculating scrubber solution pH, the recirculating scrubber solution flow rate, or the pressure drop was outside of the range for each parameter specified in this PTI;

b. each period of time (start time and date, and end time and date) when the D023 baghouse pressure drop was outside of the range for each parameter specified in this PTI;

c. each incident of deviation described in a. or b. above where a prompt investigation was not conducted;

d. each incident of deviation described in a. or b. above where prompt corrective action, that would bring the monitored parameter values into compliance with the acceptable range(s), was determined to be necessary and was not taken; and

e. each incident of deviation described in a. or b. above where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;

f. all days during which any visible particulate emissions, excluding water vapor, were observed from the stack(s) and;

g. the corrective actions, if any, taken to eliminate the visible particulate emissions.

If no deviations/excursions occurred during the 6-month period, the report shall so state that no deviations occurred during the reporting period.

The semi-annual deviation reports shall be submitted in accordance with the reporting requirements of the Part A Standard Terms and Conditions of this permit.

(3) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Volatile organic compound emissions (VOC) from this emissions unit shall not exceed 39.320 tons per year (tpy) (stack and fugitive combined) for P045 and P046 combined, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by the resulting calculation below.

VOC emission (lb/time) = (throughput of resin, lb/time) x (0.0535 lb VOC/lb resin)

The quantity of resin in any one month is known from the recordkeeping specified in d)(1). The annual quantity is limited to the restricted value in term b)(2)b.

Derivation of 0.0535 lb VOC/lb of resin processed emission factor is as follows:

i. The fugitive emission limitation of 0.050 lb VOC/lb of resin (uncontrolled) (see f)(1)c.)

ii. The stack emission limitation of 0.0025 lb VOC as DMIPA/lb of resin (see f)(1)b.)

iii. The fugitive (uncaptured) VOC as DMIPA of 0.001 lb VOC as DMIPA/lb of resin derived from:

(a) An emission factor of 0.1 lb DMIPA catalyst/lb resin was supplied by the permittee in the application. The factor was based on a usage ratio.

(b) A DMIPA catalyst capture efficiency of 99.00% for each of the EMI CB500 machine, Artisand A80 machine, and Artisand A12 machine was supplied by the permittee in the application based on the core machine core box being sealed prior to catalyst addition and ventilation requirements of the core machine manufacturer.

(c) Therefore, 0.1 x (1-0.99) = 0.001 lb VOC as DMIPA/lb of resin

iv. Total emission factor is as follows:

0.050 + 0.0025 + 0.001 = 0.0535

Total VOC emissions are as follows:

0.0535 x (735 tons resin/yr) x (2000 lb resin/ton resin) x (1 ton VOC/2000 lb VOC) = 39.320 tpy VOC

b. Emission Limitation:

VOC emissions from the D019 scrubber stack shall not exceed 0.0025 pounds (lbs) VOC as DMIPA per pound (lb) resin used

Applicable Compliance Method:

The emission limitation was established by the resulting calculation below. Compliance shall be demonstrated by the performance testing required in f)(2) below.

Derivation of 0.0025 lb VOC as DMIPA/lb of resin processed emission factor is as follows:

i. An emission factor of 0.1 lb DMIPA catalyst/lb resin was supplied by the permittee in the application. The factor was based on a usage ratio.

ii. A DMIPA catalyst capture efficiency of 99.00% for each of the EMI CB500 machine, Artisand A80 machine, and Artisand A12 machine was supplied by the permittee in the application based on the core machine core box being sealed prior to catalyst addition and ventilation requirements of the core machine manufacturer.

iii. The permittee agreed to a DMIPA catalyst control efficiency of 97.5% for the D019 scrubber for P045 and P046 combined as demonstrated by a stack test conducted on July 27, 2007 for these EUs. [See note regarding stack VOCs in f)(1)c. below.]

iv. Final calculations as follows:

Stack Emissions: 0.1 x 0.99 x (1-0.975) = 0.002475 ≈ 0.0025 lb DMIPA/lb resin

c. Emission Limitation:

Fugitive VOC emission from the resin shall not exceed 0.050 lbs per lb resin used

Applicable Compliance Method:

The lb/lb resin emission limitation was established based on Ohio Cast Metals Association (OCMA) test data from the resin supplier, Ashland Chemical, supplied by the permittee in the application.

[Note: All resin VOC emissions are considered uncaptured and uncontrolled for the sake of this permit. However, since the VOC emissions are due to evaporative loss, these emissions occur over a period of unknown time. It is assumed the VOC emissions loss occurs at the mixer, the core machine, the

core wash drying oven, core storage, and mold making. Therefore, some resin VOC emissions are captured by the scrubber at the core machine and exit the scrubber stack, as discovered during the July 27, 2007 stack tests using Method 25 and 18. It is this reason why the stack emission limitation is specifically for DMIPA instead of all detectable VOCs, since all non-DMIPA VOCs, which are from the resin, are considered uncaptured and uncontrolled.]

d. Emission Limitation:

Particulate matter less than or equal to 10 microns in size (PM_{10}) from this emission unit shall not exceed 3.110 tons per year (tpy) (stack and fugitive combined), based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by the resulting calculation below.

The PM_{10} emissions are from the mixers exhausted to the fabric filter, and the core machines exhausted to the scrubber.

The quantity of dry materials in any one month is known from the recordkeeping specified in d)(1).

i. Fugitive PM_{10} emission from Mixer:

The general equations used are as follows:

Fugitive PM_{10} emission (in lb) = (throughput of materials in tons) x (EF lb PM_{10} /ton materials) x (1-Cap Eff).

Where,

EF = Emission factor

Cap Eff = Capture efficiency of total emissions generated to control device

EF = 0.26 lb PM_{10} /ton of dry materials, based on PM emission factor in the Ohio RACM guide Table 2.7-1 of 0.30 lb/ton from sand mixing and multiplied by 85% of PM is equal to PM_{10} from the USEPA PM calculator for SCC 30400350.

Cap Eff = 99.0% supplied in permit application as engineering estimate of design of the EMI mixer and the Artisand mixer and expressed as decimal fraction of 0.99.

Maximum throughput (not considering voluntary dry materials restriction) = 9.25 tons per hour dry materials, which is the sum of the maximum capacity of the EMI mixer (7.00 tons/hr) and the Artisand mixer (2.25 tons/hr) supplied in permit application. This was converted to the maximum annual capacity of the hourly capacity multiplied by the

maximum hours per year (8760), which equals 81,030 tons per year total combined.

Fugitive PM_{10} emissions (in lb) = 0.26 x 81,030 x (1-0.99) = 210.7 lbs

Fugitive PM_{10} emissions (in tons/yr) = 210.7 ÷ 2000 lbs/ton = 0.105 tpy

ii. Stack PM_{10} emissions from the Mixer:

Emissions from the EMI mixer and the Artisand mixer are exhausted to the D023 baghouse. Stack emissions are equal to the emission limitation of 0.020 gr/dscf (see f)(1)f.)

Design acfm of the D023 baghouse = 2000 acfm

Assume acfm is equivalent to dscf

Conversion to tons per year:

0.020 gr/dscf ÷ 7000 gr/1 lb x 2000 acfm x 60 min/hr x 8760 hrs/yr ÷ 2000 lbs/ton = 1.502 tpy

iii. Core Machines:

Emissions from the EMI and Artisand core machines are exhausted to the D019 scrubber. No PM or PM_{10} fugitives are anticipated since materials handled are wet. Stack PM or PM_{10} emissions are equal to the emission limitation of 0.005 gr/dscf (see f)(1)e.)

Design acfm of the D019 scrubber = 8000 acfm

Assume acfm is equivalent to dscf

Conversion to tons per year:

0.005 gr/dscf ÷ 7000 gr/1 lb x 8000 acfm x 60 min/hr x 8760 hrs/yr ÷ 2000 lbs/ton = 1.502 tpy

iv. Total PM_{10} emission:

0.105 + 1.502 + 1.502 = 3.109 ≈ 3.110 tpy

e. Emission Limitation:

PM_{10} emissions from the D019 scrubber stack shall not exceed 0.005 gr/dscf

Applicable Compliance Method:

The emission limitation was established based on the information provided by the permittee in the application as to the performance of the scrubber technology utilized.

Compliance shall be demonstrated by the performance testing required in f)(2) below.

f. Emission Limitation:

PM_{10} emissions from the D023 baghouse stack shall not exceed 0.020 gr/dscf

Applicable Compliance Method:

The emission limitation was established based on the information provided by the permittee in the application as to the performance of the fabric filter (baghouse) technology utilized.

Compliance shall be demonstrated by the performance testing required in f)(2) below.

g. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Initially and periodically thereafter, compliance shall be demonstrated by the performance testing required in f)(2) below.

For ongoing compliance, if requested, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

h. Emission Limitation:

18.2 lbs PE/hr.

Applicable Compliance Method:

The permittee shall comply with the more restrictive requirement of either Table 1 or Figure II of OAC rule 3745-17-11. The UMRE was determined as follows:

UMRE = EF X PWR = 0.30 x 9.25 = 2.775 lbs/hr

Where,

EF = Emission factor for PE is 0.30 lb PM/ton from sand mixing from the Ohio RACM guide Table 2.7-1.

PWR = process weight rate of dry materials in tons/hr which is the combined rates of the EMI and Artisand mixers (since similar units) exhausted to the D023 baghouse = 7.00 + 2.25 = 9.25

Since UMRE is less than 10 lbs/hr, Figure II does not apply. Therefore, Table I must be used. The allowable emission rate (E) in pounds per hour from Table I is determined with the following equation:

$$E = 4.10\ (PWR)^{0.67}$$ = 4.10 (9.25)$^{0.67}$ = 18.2 lb/hr

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC Rule 3745-17-03(B)(10).

i. Emission Limitation:

VOC 12.50 lb/hr& 54.75 tpy (fugitive) for P045

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The fugitive VOCemissions are from the resin used at the EMI mixer exhausted to the fabric filter (no control of VOC) and the catalyst gas used at the EMI CB500 core machine exhausted to the scrubber.

The quantity of resin used in any one month is known from the recordkeeping specified in d)(1). The annual quantity is limited to the restricted value in term b)(2)b.

i. Fugitive VOC emissions from EMI Mixer ($VOC_{fug\ EM}$):

The general equation used is as follows:

$$VOC_{fug\ EM}\frac{lb}{hr} = \frac{dry\ materials\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times \%\ resin \times \frac{EF\ lb\ VOC}{lb\ resin}$$

or alternatively,

$$VOC_{fug\ EM}\frac{lb}{hr} = \frac{lbs\ resin}{hr} \times \frac{EF\ lb\ VOC}{lb\ resin}$$

Where,

EF = Emission factor of 0.050 lb VOC per lb resin from term f)(1)c. This EF represents total uncontrolled VOC from resin.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 7.00 tons per hour dry materials, which is the maximum capacity of the EMI mixer supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{fug\ EM} = \frac{7.00\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.05\ lb\ VOC}{lb\ resin} = 12.25\ \frac{lb\ VOC}{hr}$$

[See note in f)(1)c. regarding fugitive VOC emissions from resin]

ii. Fugitive VOC emissions from EMI CB500 Core Machine ($VOC_{fug\ EC}$):

The general equation used is as follows:

$$VOC_{fug\ EC}\ \frac{lb}{hr} = \frac{dry\ materials\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times \%\ resin \times \frac{EF\ lb\ VOC}{lb\ resin}$$

or alternatively,

$$VOC_{fug\ EC}\ \frac{lb}{hr} = \frac{lbs\ resin}{hr} \times \frac{EF\ lb\ VOC}{lb\ resin}$$

Where,

EF = Emission factor of 0.001 lb VOC as DMIPA per lb resin from term f)(1)a.iii. of fugitive (uncaptured) DMIPA catalyst gas. DMIPA is 100% VOC.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 7.00 tons per hour dry materials, which is the maximum capacity of the EMI CB500 core machine supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{fug\ EC} = \frac{7.00\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.001\ lb\ VOC}{lb\ resin} = 0.245\ \frac{lb\ VOC}{hr}$$

iii. Total Fugitive VOC emissions:

$VOC_{fug\ EM} + VOC_{fug\ EC}$= 12.25 + 0.245 = 12.495 ≈ 12.50 lb VOC/hr

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{12.50\ lbs\ VOC}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 54.75\ \frac{tons\ VOC}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed

above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

j. Emission Limitation:

VOC as DMIPA 0.613 lb/hr& 2.685 tpy (scrubber stack) for P045

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The stack VOCemissions are from the catalyst gas used at the EMI CB500 core machine exhausted to the scrubber.

The quantity of resin used in any one month is known from the recordkeeping specified in d)(1). The annual quantity is limited to the restricted value in term b)(2)b.

The general equation used is as follows:

$$VOC_{stack}\,\frac{lb}{hr} = \frac{drymaterialstons}{hr} \times \frac{2000lbs}{1ton} \times \%\,resin \times \frac{EF lb DMIPA\,VOC}{lbresin}$$

or alternatively,

$$VOC_{stack}\,\frac{lb}{hr} = \frac{lbsresin}{hr} \times \frac{EF lb DMIPA\,VOC}{lbresin}$$

Where,

EF = Emission factor of 0.0025 lb DMIPA per lb resin from term f)(1)b. This EF represents total controlled VOC from DMIPA. Since DMIPA is 100% VOC, this EF is the same for DMIPA or VOC from DMIPA.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 7.00 tons per hour dry materials, which is the maximum capacity of the EMI CB500 core machine supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{stack} = \frac{7.00\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.0025\ lb\ DMIPA\,VOC}{lb\ resin} = 0.613\,\frac{lb\,VOC}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.613\ lbsVOC}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 2.685\ \frac{tonsVOC}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

k. Emission Limitation:

PE 0.021 lb/hr& 0.092 tpy (fugitive) from P045

PM_{10} 0.018 lb/hr& 0.079 tpy (fugitive) from P045

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The fugitive particulateemissions are uncaptured emissions from the EMI mixer exhausted to the fabric filter. No fugitives of particulate are anticipated from the EMI core machine since materials handled are wet.

The quantity of dry materials in any one month is known from the recordkeeping specified in d)(1).

The general equations used are as follows:

$$E_{fug}\frac{lb}{hr} = \frac{drymaterialstons}{hr} \times \frac{EFlbPE}{ton\ material} \times (1 - CapEff)$$

Where,

E_{fug}= Fugitive emissions of PE or PM_{10} depending on which EF is used

EF = Emission factor for PE is 0.30 lb PM/ton from sand mixing from the Ohio RACM guide Table 2.7-1. Emission factor for PM_{10} is 0.26 lb PM_{10} /ton of dry materials, based on PE emission factor multiplied by 85% of PM is equal to PM_{10} from the USEPA PM calculator for SCC 30400350.

Cap Eff = Capture efficiency of total emissions generated to control device of 99.0% supplied in permit application as engineering estimate of design of the EMI mixer and expressed as decimal fraction of 0.99.

Throughput = 7.00 tons per hour dry materials, which is the maximum capacity of the EMI mixer supplied in permit application (not considering voluntary dry materials restriction)

i. For Particulate Emissions (PE):

$$E_{fug}\frac{lb}{hr} = \frac{7.00\ tons}{hr} \times \frac{0.30\ lbPE}{tonmaterial} \times (1 - 0.99) = 0.021\ \frac{lbPE}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.021\ lb\ \text{PE}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 0.092\ \frac{tonsPE}{yr}$$

ii. For PM_{10} Emissions:

$$E_{fug}\frac{lb}{hr} = \frac{7.00\ tons}{hr} \times \frac{0.26\ lbPM_{10}}{tonmaterial} \times (1 - 0.99) = 0.018\ \frac{lbPM_{10}}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.018\ lbPM_{10}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 0.079\ \frac{tonsPM_{10}}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements are would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

l. Emission Limitation:

VOC 4.02 lb/hr& 17.61 tpy (fugitive) for P046

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The fugitive VOCemissions are from the resin used at the Artisand mixer exhausted to the fabric filter (no control of VOC) and the catalyst gas used at the Artisand A80 and Artisand A12 core machines exhausted to the scrubber.

The quantity of resin used in any one month is known from the recordkeeping specified in d)(1). The annual quantity is limited to the restricted value in term b)(2)b.

i. Fugitive VOC emissions from Artisand Mixer ($VOC_{fug\ AM}$):

The general equation used is as follows:

$$VOC_{fug\ AM}\frac{lb}{hr} = \frac{dry\ materials\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times \%\ resin \times \frac{EF\ lb\ VOC}{lb\ resin}$$

or alternatively,

$$VOC_{fug\ AM}\frac{lb}{hr} = \frac{lbs\ resin}{hr} \times \frac{EF\ lb\ VOC}{lb\ resin}$$

Where,

EF = Emission factor of 0.050 lb VOC per lb resin from term f)(1)c. This EF represents total uncontrolled VOC from resin.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 2.25 tons per hour dry materials, which is the maximum capacity of the Artisand mixer supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{fug\ AM} = \frac{2.25\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.05\ lb\ VOC}{lb\ resin} = 3.94\frac{lb\ VOC}{hr}$$

[See note in f)(1)c. regarding fugitive VOC emissions from resin]

ii. Fugitive VOC emissions from Artisand A80 Core Machine ($VOC_{fug\ A80}$):

The general equation used is as follows:

$$VOC_{fug\ A80}\frac{lb}{hr} = \frac{dry\ materials\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times \%\ resin \times \frac{EF\ lb\ VOC}{lb\ resin}$$

or alternatively,

$$VOC_{fug\ A80}\frac{lb}{hr} = \frac{lbs\ resin}{hr} \times \frac{EF\ lb\ VOC}{lb\ resin}$$

Where,

EF = Emission factor of 0.001 lb VOC as DMIPA per lb resin from term f)(1)a.iii. of fugitive (uncaptured) DMIPA catalyst gas. DMIPA is 100% VOC.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 1.75 tons per hour dry materials, which is the maximum capacity of the Artisand A80 core machine supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{fugA80} = \frac{1.75\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.001\ lb\ VOC}{lb\ resin}$$
$$= 0.061 \frac{lb\ VOC}{hr}$$

iii. Fugitive VOC emissions from Artisand A12 Core Machine ($VOC_{fug\ A12}$):

The general equation used is as follows:

$$VOC_{fug\ A12} \frac{lb}{hr} = \frac{dry\ materials\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times \%\ resin \times \frac{EF\ lb\ VOC}{lb\ resin}$$

or alternatively,

$$VOC_{fug\ A12} \frac{lb}{hr} = \frac{lbs\ resin}{hr} \times \frac{EF\ lb\ VOC}{lb\ resin}$$

Where,

EF = Emission factor of 0.001 lb VOC as DMIPA per lb resin from term f)(1)a.iii. of fugitive (uncaptured) DMIPA catalyst gas. DMIPA is 100% VOC.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput = 0.50 tons per hour dry materials, which is the maximum capacity of the Artisand A12 core machine supplied in permit application (not considering voluntary dry materials restriction)

$$VOC_{fugA12} = \frac{0.50\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.001\ lb\ VOC}{lb\ resin}$$
$$= 0.018 \frac{lb\ VOC}{hr}$$

iv. Total Fugitive VOC emissions:

$VOC_{fugAM} + VOC_{fugA80} + VOC_{fugA12}$= 3.94+0.061+0.018 ≈ 4.02 lb VOC/hr

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{4.02\ lbs\ VOC}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 17.61\ \frac{tons\ VOC}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

m. Emission Limitation:

VOC as DMIPA 0.197 lb/hr& 0.863 tpy (scrubber stack) for P046

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The stack VOCemissions are from the catalyst gas used at the Artisand A80 and Artisand A12 core machines exhausted to the scrubber.

The quantity of resin used in any one month is known from the recordkeeping specified in d)(1). The annual quantity is limited to the restricted value in term b)(2)b.

The general equation used is as follows:

$$VOC_{stack}\ \frac{lb}{hr} = \frac{drymaterialstons}{hr} \times \frac{2000lbs}{1ton} \times \%\ resin \times \frac{EFlbDMIPA\ VOC}{lbresin}$$

or alternatively,

$$VOC_{stack}\ \frac{lb}{hr} = \frac{lbsresin}{hr} \times \frac{EFlbDMIPA\ VOC}{lbresin}$$

Where,

EF = Emission factor of 0.0025 lb DMIPA per lb resin from term f)(1)b. This EF represents total controlled VOC from DMIPA. Since DMIPA is 100% VOC, this EF is the same for DMIPA or VOC from DMIPA.

% resin = 1.75% by weight of resin used per weight of dry material, supplied in permit application as average resin usage per year and expressed as decimal fraction of 0.0175.

Throughput =2.25 tons per hour dry materials, which is the maximum capacity of the Artisand A80 and Artisand A12 core machines combined (1.25 and 0.50

each, respectively) supplied in permit application. (not considering voluntary dry materials restriction)

$$VOC_{stack} = \frac{2.25\ tons}{hr} \times \frac{2000\ lbs}{1\ ton} \times 0.0175 \times \frac{0.0025\ lb\ DMIPA\ VOC}{lb\ resin} = 0.197\ \frac{lb\ VOC}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.197\ lbsVOC}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 0.863\ \frac{tonsVOC}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

n. Emission Limitation:

PE 0.007 lb/hr& 0.031 tpy (fugitive) from P046

PM_{10} 0.006 lb/hr& 0.027 tpy (fugitive) from P046

Applicable Compliance Method:

The emission limitations were established by the resulting calculation below.

The fugitive particulateemissions are uncaptured emissions from the Artisand mixer exhausted to the fabric filter. No fugitives of particulate are anticipated from the Artisand A80 and Artisand A12 core machines since materials handled are wet.

The quantity of dry materials in any one month is known from the recordkeeping specified in d)(1).

The general equations used are as follows:

$$E_{fug}\ \frac{lb}{hr} = \frac{drymaterialstons}{hr} \times \frac{EFlbPE}{ton\ material} \times (1 - CapEff)$$

Where,

E_{fug}= Fugitive emissions of PE or PM_{10} depending on which EF is used

EF = Emission factor for PE is 0.30 lb PM/ton from sand mixing from the Ohio RACM guide Table 2.7-1. Emission factor for PM_{10} is 0.26 lb PM_{10} /ton of dry materials, based on PE emission factor multiplied by 85% of PM is equal to PM_{10} from the USEPA PM calculator for SCC 30400350.

Cap Eff = Capture efficiency of total emissions generated to control device of 99.0% supplied in permit application as engineering estimate of design of the EMI mixer and expressed as decimal fraction of 0.99.

Throughput = 2.25 tons per hour dry materials, which is the maximum capacity of the Artisand mixer supplied in permit application (not considering voluntary dry materials restriction)

i. For Particulate Emissions (PE):

$$E_{fug}\,\frac{lb}{hr} = \frac{2.25\ tons}{hr} \times \frac{0.30\ lbPE}{tonmaterial} \times (1 - 0.99) = 0.007\ \frac{lbPE}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.007\ lb\ \text{PE}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 0.031\ \frac{tonsPE}{yr}$$

ii. For PM_{10} Emissions:

$$E_{fug}\,\frac{lb}{hr} = \frac{2.25\ tons}{hr} \times \frac{0.26\ lbPM_{10}}{tonmaterial} \times (1 - 0.99) = 0.006\ \frac{lbPM_{10}}{hr}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.006\ lbPM_{10}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 0.026\ \frac{tonsPM_{10}}{yr}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

o. <u>Emission Limitation</u>:

PE/PM_{10} 0.343 lb/hr& 1.502 tpy (baghouse stack) from P045 & P046 combined

Applicable Compliance Method:

The emission limitation was established by the resulting calculation below.

The quantity of dry materials in any one month is known from the recordkeeping specified in d)(1).

Emissions from the EMI mixer and Artisand mixer are exhausted to the D023 baghouse. Stack emissions are equal to the emission limitation of 0.020 gr/dscf (see f)(1)f.). This emission limitation is for PM_{10}. It is assumed the baghouse technology only emits PM_{10} since it controls particulate oflarger size, so PE is equal to PM_{10}. Since this is a control technology based limit, the emission limitation established is a combined limit for P045 and P046.

Design acfm of the D023 baghouse = 2000 acfm

Assume acfm is equivalent to dscf

Conversion to pounds per hour:

$$\frac{0.020\ gr}{dscf} \times \frac{1\ lb}{7000\ gr} \times \frac{2000\ cf}{min} \times \frac{60\ min}{hr} = 0.343 \frac{lb}{hr} PE/PM_{10}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.343\ lb PE/PM_{10}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 1.502\ \frac{tons}{yr} PE/PM_{10}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

p. Emission Limitation:

PE/PM_{10} 0.343 lb/hr& 1.502 tpy (scrubber stack) from P045 & P046 combined

Applicable Compliance Method:

The emission limitation was established by the resulting calculation below.

The quantity of dry materials in any one month is known from the recordkeeping specified in d)(1).

Emissions from the EMI CB500, Artisand A80, and Artisand A12 core machines are exhausted to the D019 scrubber. Stack emissions are equal to the emission limitation of 0.005 gr/dscf (see f)(1)e.). This emission limitation is for PM_{10}. It is assumed the scrubber technology only emits PM_{10} since it controls particulate oflarger size, so PE is equal to PM_{10}. Since this is a control technology based limit, the emission limitation established is a combined limit for P045 and P046.

Design acfm of the D019 scrubber = 8000 acfm

Assume acfm is equivalent to dscf

Conversion to tons per year:

Conversion to pounds per hour:

$$\frac{0.005\ gr}{dscf} \times \frac{1\ lb}{7000\ gr} \times \frac{8000\ cf}{min} \times \frac{60\ min}{hr} = 0.343 \frac{lb}{hr} PE/PM_{10}$$

The tons/year limitation was calculated by multiplying the lb/hr emission limitation by the maximum operating hours per year of 8760 and converting to tons, as shown below.

$$\frac{0.343\ lbPE/PM_{10}}{hr} \times \frac{8760\ hrs}{yr} \times \frac{1\ ton}{2000\ lbs} = 1.502\ \frac{tons}{yr} PE/PM_{10}$$

The above calculations represent the unrestricted maximum potential to emit of this emission unit under the BAT conditions. Therefore, no monitoring and/or recordkeeping requirements would have been necessary under BAT to demonstrate compliance with the emission limitations. Additionally, these BAT emission limitations are less stringent than the emission limitations in this PTI modification pursuant to OAC rule 3745-31-05(D) listed in term b)(1)a. and listed above in terms f)(1)a. through f)(1)f., which have associated monitoring and/or recordkeeping requirements. Therefore, provided compliance is demonstrated with the emission limitations listed in term b)(1)a., compliance shall also be demonstrated with these emission limitations.

q. Control Measure:

The emissions from any mixer shall be vented to a fabric filter control device (D023) which shall be operated at all times when any mixer is operated.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2)(e) for the operation of the fabric filter.

r. Operational Restriction:

Throughput of resin shall not exceed 735 tons per year (tpy), for both P045 and P046 combined based upon a rolling, 12-month summation of monthly resin.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

Throughput value established based on a value necessary to not exceed the VOC significant increase threshold discussed in term b)(2)b. as requested by the permittee.

s. Control Measure:

The emissions from the any core machine shall be vented to a packed bed acid scrubber (D019) which shall be operated at all times per c)(1) when the any core machine is operated.

Applicable Compliance Method:

Compliance shall be demonstrated by complying with c)(1).

t. Voluntary Restriction:

Throughput of dry materials shall not exceed 42,000 tons per year (tpy), for P045 and P046 combined, based upon a rolling, 12-month summation of dry material usage.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

This voluntary restriction throughput value is based on the resin throughput federally enforceable restriction of 735 tpy divided by the average resin % by weight per ton of dry materials used of 1.75, expressed as decimal fraction of 0.0175, as shown below, as requested by the permittee.

735 ÷ 0.0175 = 42,000 tpy

(2) Emission Testing Requirements - The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:

a. The emission testing shall be conducted per the schedule established in the Title V permit for these emission units.

b. The emission testing shall be conducted at the D019 scrubber in accordance with the following:

i. The outlet DMIPA concentration shall demonstrate compliance with the emission limitation specified in f)(1)b.;

[Note: For clarification, this emission limit applies to DMIPA, and no other VOC. Although, for simplification, this PTI is written on the assumption that all resin VOCs escape as fugitives from the mixer, this situation may not actually be the case. Some quantities of resin-generated VOCs may be drawn from the mixers into the core machines and thus exit the D019 scrubber stack, and therefore could be detectable in an emissions test. The D019 scrubber is designed to control DMIPA and no other VOC, which is how the emission limitations and testing protocol were written. See note in f)(1)c. for additional details.]

ii. The method that shall be used to measure the DMIPA shall be: Method 18, from 40 CFR Part 60, Appendix A

iii. The outlet PM_{10} concentration shall demonstrate compliance with the emission limitation specified in f)(1)e.

iv. The method that shall be used to measure the PM_{10} shall be: Method 201A, from 40 CFR Part 60, Appendix A

v. To demonstrate compliance with the opacity limitation, opacity observations shall be conducted at the outlet stack for during all test runs using Method 9 from 40 CFR Part 60, Appendix A.

vi. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

c. The emission testing shall be conducted at the D023 baghouse (fabric filter) in accordance with the following:

i. The outlet PM_{10} concentration shall demonstrate compliance with the emission limitation specified in f)(1)f.

ii. The method that shall be used to measure the PM_{10} shall be: Method 201A, from 40 CFR Part 60, Appendix A

iii. To demonstrate compliance with the opacity limitation, opacity observations shall be conducted at the outlet stack for during all test runs using Method 9 from 40 CFR Part 60, Appendix A

iv. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while both these emissions units (P045 and P046) and the other core machine operation line (P050) which are also vented to the same control devices, are operating at or near their maximum capacity, unless otherwise specified or approved by the Canton City Health Department, Air Pollution Control Division (Canton APC).

e. The VOC and PM_{10} emission rates shall be based upon the average of three test runs. Each run shall have a minimum duration of one hour and a minimum sample volume of 0.003 dry standard cubic meter. Gas stream samples shall be taken simultaneously at all of the control devices.

f. Monitoring and recording of the operating parameters of the scrubber and fabric filter (baghouse) specified in term d)(2) above shall be conducted at 10 minute intervals during the duration of the test(s). Hourly averages of the readings shall be used to establish and/or re-verify the parameter ranges or minimum limits specified in that term.

g. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the Canton APC. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with Canton APC that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Canton APC and/or Ohio EPA not accepting the test results as a demonstration of compliance.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Canton APC. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Canton APC and/or Ohio EPA not accepting the results of the emission test(s).

i. Personnel from Canton APC shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

j. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to Canton APC within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from Canton APC.

(3) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with the emission limitations pursuant to 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

g) Miscellaneous Requirements

(1) Definitions as used in this permit:

a. Resin: For the purposes of compliance with this permit, the word “resin” refers to any combination of resin part 1, resin part 2, and other resin related additives (such as bench life extenders which are used at about 2% of the resin per the permittee) which are liquid organic compounds used for the purpose of binding the dry materials together to create the core.

b. Dry materials: For the purposes of compliance with this permit, the word “dry materials” refers to any combination of foundry sand (new or reclaimed), silica sand, chromite sand, and any additives (such as iron oxide which are used at about 2% of the total sand per the permittee), which are dry materials used for the purpose of creating the substance of the core.

(2) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit’s maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified PTI prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.