



09/10/2026

Jim Davies
Meggitt Aircraft Braking Systems Corp.
1204 Massillon Rd.
Akron, OH 44306

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1677010999
Permit Number: P0141227
Permit Type: Administrative Modification
County: Summit

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) 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 Weekly Review and Public Notices website, [Weekly Review and Public Notices](#). A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Ohio EPA document search webpage: [eDocument Search | Ohio Environmental Protection Agency](#). 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:

Andrea Moore
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street Suite 700
PO Box 1049
Columbus, Ohio 43216-1049

and

Akron Regional Air Quality Management
District
1867 West Market St.
Akron, OH 44313

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice appears on the Ohio EPA Weekly Review and Public Notices website, [Weekly Review and Public Notices | Ohio Environmental Protection Agency](#). You will be notified 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 Akron Regional Air Quality Management District at (330)375-2480.

Sincerely,

Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA Region 5 Via E-Mail Notification
ARAQMD; Pennsylvania; West Virginia; Canada

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: [Weekly Review and Public Notices | Ohio Environmental Protection Agency](#) or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-3037 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install and Operate Administrative Modification

Meggitt Aircraft Braking Systems Corp.
1204 Massillon Rd.
Akron, OH 44306

ID#: P0141227

Date of Action: 09/10/2026

Permit Desc: Facility-initiated administrative modification to incorporate RACT standards. Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. The above-mentioned permit is a part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

The permit can be accessed electronically and comments may be submitted at: <https://ohioepa.commentinput.com> - Search by entering the permit # P0141227 in the "Search Projects" search box.

The public comment period will run until 10/12/2026 at 11:59 PM.

Permit Strategy Write-Up

1. Check all that apply:

☐ Synthetic Minor Determination **N/A**

☐ Netting Determination **N/A**

2. Source Description:

Emissions units P036, P037, P038, P039, P041, P044, P048, and P049 – Aerospace brake component manufacturing. As required by the reclassification to serious nonattainment for ozone under the 2015 ozone National Ambient Air Quality Standards (NAAQS) promulgated by U.S. EPA, this facility has submitted a VOC Reasonably Available Control Technology (RACT) study on May 7, 2026 (subsequently revised on July 21, 2026) to address the feasibility of controlling VOC emissions from their aerospace manufacturing operations. This facility does not have any prior source-specific VOC RACT established under OAC rule 3745-21-09. This permit modification includes the implementation of the proposed RACT limits in the July 21, 2026 revision of the RACT study. Section B of this permit cites the RACT limits under OAC rule 3745-21-11(B). The RACT limits are implemented under an OAC rule 3745-31-05(D) synthetic minor restriction for the affected emissions units in section C of this permit.

Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. This permit is part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

3. Facility Emissions and Attainment Status:

This is a Title V facility. Summit County was designated as "serious" nonattainment for the 2015 ozone NAAQS but is now a maintenance county. The county is currently designated attainment for all NAAQS (criteria) pollutants which include ozone, PM_{2.5}, PM₁₀, CO, NO₂, lead and SO₂.

4. Source Emissions:

Emissions units P036, P037, P038, P039, P041, P044, P048, and P049 have VOC emissions that are subject to the VOC RACT requirements. The VOC RACT determination for these emissions unit is venting VOC emissions to a thermal oxidizer with an overall control efficiency of at least 98%, by weight, and includes associated monitoring, record keeping, reporting, and testing requirements.

5. Conclusion:

This permit modification establishes VOC RACT limits as proposed by Meggitt Aircraft Braking Systems Corporation in their VOC RACT study as part of the requirements for the 2015 ozone NAAQs nonattainment and maintenance areas under the reclassification to serious nonattainment for the Cleveland area. The VOC RACT limit established in this permit will be implemented upon final issuance of this permit.

6. Please provide additional notes or comments as necessary:

None



Draft Permit-to-Install and Operate

Meggitt Aircraft Braking Systems Corp.

Permit Number: P0141227

Facility ID: 1677010999

Effective Date: To be entered upon final issuance

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

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	11.67
Combined HAPs	1.11



**Environmental
Protection
Agency**

DRAFT

**Division of Air Pollution Control
Permit-to-Install and Operate**

for

Meggitt Aircraft Braking Systems Corp.

Facility ID:	1677010999
Permit Number:	P0141227
Permit Type:	Administrative Modification
Issued:	09/10/2026
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install and Operate

for

Meggitt Aircraft Braking Systems Corp.

Table of Contents

Authorization.....	7
List of Commonly Used Abbreviations	11
A. Standard Terms and Conditions.....	12
B. Facility-Wide Terms and Conditions.....	17
C. Emissions Unit Terms and Conditions.....	23
1. Emissions Unit Group - Carbon Furnaces: P036, P037, P038, P039, P041, P044, P048, and P049.	24

Authorization

Facility ID: 1677010999
Application Number(s): M0008873M0008873
Permit Number: P0141227
Permit Description: Facility-initiated administrative modification to incorporate RACT standards. Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. The above-mentioned permit is a part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.
Permit Type: Administrative Modification
Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 09/10/2026
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page to:

Meggitt Aircraft Braking Systems Corp.
1204 Massillon Rd.
Akron, OH 44306

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

Akron Regional Air Quality Management District
1867 West Market St.
Akron, OH 44313
(330)375-2480

The above-named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (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 described emissions unit(s) will operate in compliance with applicable State and Federal laws and regulations.



**Environmental
Protection
Agency**

Draft Permit-to-Install and Operate

Meggitt Aircraft Braking Systems Corp.

Permit Number: P0141227

Facility ID: 1677010999

Effective Date: To be entered upon final issuance

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

John Logue
Director

Authorization (continued)

Permit Number: P0141227

Permit Description: Facility-initiated administrative modification to incorporate RACT standards. Pursuant to Part D of Title I of the Clean Air Act (CAA), Ohio EPA is required to establish a State Implementation Plan (SIP) for the attainment and maintenance of the NAAQS. The above-mentioned permit is a part of Ohio's SIP for attainment and maintenance of the 2015 ozone NAAQS and will be submitted to United States Environmental Protection Agency (U.S. EPA) as a modification of the SIP.

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

Group Name: Carbon Furnaces

Emissions Unit ID:	P036
Company Equipment ID:	Carbon Processing Furnace P036-A
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P037
Company Equipment ID:	Carbon Processing Furnace P037-A
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P038
Company Equipment ID:	Carbon Processing Furnace
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P039
Company Equipment ID:	Accutherm Carbonization Furnace
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P041
Company Equipment ID:	Carbon Processing Furnace
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P044
Company Equipment ID:	Carbon Processing Furnace
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464
Emissions Unit ID:	P048
Company Equipment ID:	Carbon Processing Furnace P036-B
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464



**Environmental
Protection
Agency**

Draft Permit-to-Install and Operate
Meggitt Aircraft Braking Systems Corp.

Permit Number: P0141227

Facility ID: 1677010999

Effective Date: To be entered upon final issuance

Emissions Unit ID:	P049
Company Equipment ID:	Carbon Processing Furnace P037-B
Superseded Permit Number:	P0129464
General Permit Category and Type:	Not Applicable P0129464

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	HVLP = high volume, low pressure	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	LAER = lowest achievable emission rate	PM = particulate matter
BACT = Best Available Control Technology	lb(s)/hr = pound(s) per hour	PM ₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	LDAR = leak detection and repair	PM _{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act	LPG = liquefied petroleum gas/propane	ppb = parts per billion
CAM = compliance assurance monitoring	MACT = maximum achievable control technology	ppm = parts per million
CEMS = continuous emissions monitoring system	MAGLC = maximum acceptable ground level concentration	PSD = Prevention of Significant Deterioration
CFC = chlorofluorocarbon	mg/m ³ = milligrams per cubic meter	psi = pounds per square inch
CFR = Code of Federal Regulations	MM = million	psia = pounds per square inch absolute
CH ₄ = methane	MMBtu = million British Thermal Units	PTE = potential-to-emit
CI = compression ignition	MSDS = material safety data sheet	PTI = Permit-to-Install
CO = carbon monoxide	MSW = municipal solid waste	PTIO = Permit-to-Install and Operate
CO ₂ = carbon dioxide	NAAQS = National Ambient Air Quality Standard	PTO = Permit-to-Operate
COM = continuous opacity monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	PWR = process weight rate
DAPC = Division of Air Pollution Control	NG = natural gas	RACM = reasonably available control measures
DO/LAA = District Office/Local Air Agency	ng/m ³ = nanograms per cubic meter	RACT = reasonably available control technology
dscf = dry standard cubic foot	NH ₃ = ammonia	RATA = relative accuracy test audit
EAC = emissions activity category	NMHC = non-methane hydrocarbons	RTO = regenerative thermal oxidizer
eDocs = electronic documents database	NMOC = non-methane organic compound	SB265 = Senate Bill 265
ERAC = Environmental Review Appeals Commission	NO = nitrogen oxide	scfm = standard cubic feet per minute
ESP = electrostatic precipitator	NO ₂ = nitrogen dioxide	SI = spark ignition
EU = emissions unit	NO _x = nitrogen oxides	SIP = State Implementation Plan
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NSPS = New Source Performance Standard	SO ₂ = sulfur dioxide
FER = Fee Emissions Report	NSR = New Source Review	SSMP = startup, shutdown, and malfunction plan
FR = Federal Register	NTV = Non-Title V	TDS = total dissolved solids
GACT = generally achievable control technology	O&M = operation and maintenance	TLV = threshold limit value
GHG = greenhouse gases	OAC = Ohio Administrative Code	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OC = organic compound	TPH = ton(s) per hour
H ₂ S = hydrogen sulfide	Ohio EPA = Ohio Environmental Protection Agency	TPY = ton(s) per year
H ₂ SO ₄ = sulfuric acid	ORC = Ohio Revised Code	TSP = total suspended particulates
HAP = hazardous air pollutant	Pb = lead	VE = visible emissions
HCl = hydrogen chloride	PBR = Permit-By-Rule	VMT = vehicle miles traveled
HF = hydrogen fluoride	PCB = polychlorinated biphenyl	VOC = volatile organic compound
Hg = mercury	PE = particulate emissions	WPP = work practice plan
hp = horsepower	PEMS = predictive emissions monitoring system	µg/m ³ = micrograms per cubic meter

A. Standard Terms and Conditions

1. What does this permit-to-install and operate (PTIO) allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- a) PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11 or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- b) Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (either electronically through Ohio EPA's eBusiness Center: Air

Services web service or postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended once by 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and permit evaluation report (PER) obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Akron Regional Air Quality Management District in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his/her authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means 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.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shut down emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, the new owner or operator must follow the procedures in OAC Chapter 3745-31-07, including notifying Ohio EPA or the local air agency of the change in ownership or operator within thirty days of the transfer date. Any transferee of this permit shall assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

- a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

- (1) None.

2. OAC rule 3745-21-11(B) VOC RACT Requirements

As required by the reclassification to serious nonattainment for ozone under the 2015 ozone National Ambient Air Quality Standards (NAAQS) promulgated by U.S. EPA, and pursuant to OAC rule 3745-21-11(B) and the VOC Reasonable Available Control Technology (RACT) Study submitted by MEGGITT AIRCRAFT BRAKING SYSTEMS CORP. on May 4, 2026 (subsequently revised on July 21, 2026):

“MEGGITT AIRCRAFT BRAKING SYSTEMS CORP.” (Facility ID: 1677010999) or any subsequent owner or operator of “MEGGITT AIRCRAFT BRAKING SYSTEMS CORP.” facility located at 1204 Massillon Road, Akron, Ohio 44306 shall comply with the following requirements*:

- a) Emission Unit Group – Carbon Furnaces: P036, P037, P038, P039, P041, P044, P048, P049

- (1) The VOC emissions from emission units P036, P037, P038, P039, P041, P044, P048, and P049 shall be vented to a thermal oxidizer with an overall control efficiency of at least 99% by weight.

3. Monitoring and/or Recordkeeping Requirements

- a) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the north thermal oxidizer, for any 3-hour block of time when one or more of the emissions units controlled by the north thermal oxidizer are in operation, shall not be more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions units were in compliance.

- b) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the south thermal oxidizer, for any 3-hour block of time when one or more of the emissions units controlled by the south thermal oxidizer are in operation, shall not be more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions units were in compliance.

- c) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizers when any of the controlled emissions units are in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit (°F). The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within $\pm 1\%$ of the temperature being measured or $\pm 5^\circ\text{F}$, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall



collect and record the following information each day any of the controlled emissions units are in operation:

- (1) all 3-hour blocks of time, when any emissions unit was in operation and vented to the north thermal oxidizer, during which the average combustion temperature within the north thermal oxidizer was more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance;
- (2) all 3-hour blocks of time, when any emissions unit was in operation and vented to the south thermal oxidizer, during which the average combustion temperature within the south thermal oxidizer was more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance; and
- (3) a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

These records shall be maintained at the facility for a period of five years.

- d) Whenever the monitored average combustion temperature within either of the thermal oxidizers deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- (1) identification of the operating emissions unit(s) and oxidizer(s);
- (2) the date and time the deviation began;
- (3) the magnitude of the deviation at that time;
- (4) the date the investigation was conducted;
- (5) the name(s) of the personnel who conducted the investigation; and
- (6) 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 range/limit specified in this permit, 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:

- (7) a description of the corrective action;
- (8) the date corrective action was completed;
- (9) the date and time the deviation ended;



(10) the total period of time (in minutes) during which there was a deviation;

(11) the temperature readings immediately after the corrective action was implemented; and

(12) the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

4. Reporting Requirements

a) The permittee shall submit quarterly deviation (excursion) reports that identify:

(1) all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

a. all 3-hour blocks of time when any emissions unit was in operation and vented to the north thermal oxidizer during which the average combustion temperature within the north thermal oxidizer was more than 50°F below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;

b. all 3-hour blocks of time when any emissions unit was in operation and vented to the south thermal oxidizer during which the average combustion temperature within the south thermal oxidizer was more than 50°F below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;

c. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit(s) was/were in operation;

d. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;

(2) the probable cause of each deviation (excursion);

(3) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

(4) the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.



The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate district office or local air agency).

- b) 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 district office or 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 required application, notification or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

5. Testing Requirements

- a) The permittee shall conduct, or have conducted, emissions testing for emission units P036, P037, P038, P039, P041, P044, P048, and P049 per the following requirements:
- (1) The emissions testing shall be conducted within six months of the permit expiration.
 - (2) The emissions testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC. No capture testing is required because the emissions units listed above are a closed system (emissions are hard piped to the control equipment) with 100% capture efficiency.
 - (3) The control efficiency (that is, the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined per the test methods and procedures specified in OAC rule 3745-21-10 or an alternative test protocol approved by Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and the total concentration, and on a consideration of the potential presence of interfering gases.
 - (4) During the emissions testing, the EUs shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. 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 (ITT) notification form described below, the permittee shall provide a description



of the EU 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 the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute worst-case. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- (5) Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 the Ohio EPA DO/LAA's refusal to accept the results of the emission test(s).
- (6) Personnel from the appropriate Ohio EPA DO/LAA 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 EUs and the testing procedures provide a valid characterization of the emissions from the EUs and/or the performance of the control equipment.
- (7) A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 the appropriate Ohio EPA DO/LAA.

C. Emissions Unit Terms and Conditions

1. Emissions Unit Group - Carbon Furnaces: P036, P037, P038, P039, P041, P044, P048, and P049.

EU ID	Operations, Property and/or Equipment Description
P036	11' carbon processing furnace - Carbon Processing Furnace P036-A
P037	11' carbon processing furnace - Carbon Processing Furnace P037-A
P038	11' carbon processing furnace
P039	Carbonization furnace (Plant F-Dept. 665) - Accutherm Carbonization Furnace
P041	One 11' Carbon Processing Furnace - Carbon Processing Furnace
P044	Carbon Processing Furnace (Plant F-Dept. 665) - Carbon Processing Furnace
P048	One 11' carbon processing furnace - Carbon Processing Furnace P036-B (Previously part of emissions unit P036 covered by Permit to Install 16-1531)
P049	One 11' carbon processing furnace - Carbon Processing Furnace P037-B (Previously part of emissions unit P037 covered by Permit to Install 16-1531)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)b.

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(A)	The emissions of organic material (OM) from emissions units P036 and P048, combined, shall not exceed 2.5 pounds per hour and 10.95 tons per year. The emissions of OM from emissions units P037 and P049, combined, shall not exceed 2.5 pounds per hour and 10.95 tons per year. The emissions of OM from emissions unit P038 shall not exceed 2.5 pounds per hour and 10.95 tons per year. The emissions of OM from emissions unit P039 shall not exceed 2.5 pounds per hour and 10.95 tons per year. The emissions of OM from emissions unit P041 shall not exceed 2.5 pounds per hour and 10.95 tons per year. The volatile organic compound (VOC) emissions from emissions unit P044 shall not exceed 2.47 pounds per hour and 10.82 tons per year. See b)(2)a. and b)(2)b. below.
b.	OAC rule 3745-31-05(D) (Synthetic Minor to avoid Title V permitting and MACT applicability under 40 CFR Part 63, Subpart GG)	The use of a thermal oxidizer that restricts the annual emissions from emissions units P036, P037, P038, P039, P041, P044, P048 and P049, combined, to 11.67 tons of VOC per rolling, 12-month period and 1.11 tons of combined hazardous air pollutants (HAP) per rolling, 12-month period.
c.	OAC rule 3745-31-05(D) [Federally enforceable requirements to comply with OAC rule 3745-21-11(B)]	See Facility-Wide Terms and Conditions B.2. through B.5. above.
d.	OAC Rule 3745-21-07(N)(3)	The control measure specified by this rule is less stringent than the control measure established pursuant to OAC rule 3745-31-



		05(D) as specified under d)(1) and d)(2) below.
--	--	---

(2) Additional Terms and Conditions

a. See Facility-Wide Terms and Conditions B.2.a) above.

b. All of the VOC and organic HAPs emissions from the emissions units listed above and all of the OM emissions from emissions units P036, P037, P038, P039, P041, P048 and P049 shall be vented to a thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when one or more of the emissions units are in operation.

c. The annual emission limitations are based on the “worst-case” scenario. However, if any proposed change(s), such as with production capacity, the types and/or quantities of materials used or processed, or anything else that increases the potential emissions of any air pollutant, then the permittee shall apply for and obtain either a final Chapter 31 or a final administrative modification to the federally enforceable permit-to-install and operate (FEPTIO) prior to the change(s).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) See Facility-Wide Terms and Conditions B.3. above.

(2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the north thermal oxidizer, for any 3-hour block of time when one or more of the emissions units controlled by the north thermal oxidizer are in operation, shall not be more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions units were in compliance.

(3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the south thermal oxidizer, for any 3-hour block of time when one or more of the emissions units controlled by the south thermal oxidizer are in operation, shall not be more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions units were in compliance.

(4) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizers when any of the controlled emissions units are in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit (°F). The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ±



1% of the temperature being measured or $\pm 5^{\circ}\text{F}$, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day any of the controlled emissions units are in operation:

- a. all 3-hour blocks of time, when any emissions unit was in operation and vented to the north thermal oxidizer, during which the average combustion temperature within the north thermal oxidizer was more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance;
- b. all 3-hour blocks of time, when any emissions unit was in operation and vented to the south thermal oxidizer, during which the average combustion temperature within the south thermal oxidizer was more than 50°F below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance; and
- c. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

These records shall be maintained at the facility for a period of five years.

- (5) Whenever the monitored average combustion temperature within either of the thermal oxidizers deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - a. identification of the operating emissions unit(s) and oxidizer(s);
 - b. the date and time the deviation began;
 - c. the magnitude of the deviation at that time;
 - d. the date the investigation was conducted;
 - e. the name(s) of the personnel who conducted the investigation; and
 - f. 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 range/limit specified in this permit, 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:

- g. a description of the corrective action;
- h. the date corrective action was completed;
- i. the date and time the deviation ended;
- j. the total period of time (in minutes) during which there was a deviation;
- k. the temperature readings immediately after the corrective action was implemented;
and
- l. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (6) The temperature ranges/limits are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA district office or local air agency. The permittee may request revisions to the permitted temperature ranges/limits based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature ranges/limits will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.
- (7) The permittee shall maintain monthly records of the following information:
 - a. the rolling, 12-month summation of VOC emissions from emissions units P036, P037, P038, P039, P041, P044, P048 and P049, combined; and
 - b. the rolling, 12-month summation of total combined HAP emissions from emissions units P036, P037, P038, P039, P041, P044, P048 and P049, combined.

e) Reporting Requirements

(1) See Facility-Wide Terms and Conditions B.4. above.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:



- i. all 3-hour blocks of time when any emissions unit was in operation and vented to the north thermal oxidizer during which the average combustion temperature within the north thermal oxidizer was more than 50°F below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;
 - ii. all 3-hour blocks of time when any emissions unit was in operation and vented to the south thermal oxidizer during which the average combustion temperature within the south thermal oxidizer was more than 50°F below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;
 - iii. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit(s) was/were in operation;
 - iv. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
- b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate district office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.
- (4) 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 district office or 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 required application, notification or report is considered to be “submitted” on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

f) Testing Requirements

(1) See Facility-Wide Terms and Conditions B.5. above.

(2) 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 Limitations:

The emissions of OM from emissions units P036 and P048, combined, shall not exceed 2.5 pounds per hour and 10.95 tons per year.

The emissions of OM from emissions units P037 and P049, combined, shall not exceed 2.5 pounds per hour and 10.95 tons per year.

The emissions of OM from emissions unit P038 shall not exceed 2.5 pounds per hour and 10.95 tons per year.

The emissions of OM from emissions unit P039 shall not exceed 2.5 pounds per hour and 10.95 tons per year.

The emissions of OM from emissions unit P041 shall not exceed 2.5 pounds per hour and 10.95 tons per year.

The VOC emissions from emissions unit P044 shall not exceed 2.47 pounds per hour and 10.82 tons per year.

Applicable Compliance Method:

Compliance with the hourly allowable OM and VOC emission limitations identified above shall be determined based upon the emission testing requirements in section f)(2).

The annual allowable OM and VOC emission limitations above were determined by multiplying the hourly allowable OM/VOC emission limitation by 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, as long as compliance with the hourly allowable emission limitations is maintained, compliance with the annual allowable emission limitations will be demonstrated



b. Emission Limitation:

The use of a thermal oxidizer that restricts the annual emissions from emissions units P036, P037, P038, P039, P041, P044, P048 and P049, combined, to 11.67 tons of VOC per rolling, 12-month period and 1.11 tons of combined HAPs per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the allowable annual VOC and combined HAPs emission limitations above shall be determined based upon the emission testing requirements in section f)(2).

(3) The permittee shall conduct, or have conducted, emission testing for the emissions units listed above in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months prior to the permit expiration.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for VOC, organic HAPs and OM.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. Methods 1 through 4 and 18 of 40 CFR Part 60, Appendix A.

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

- d. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA district office or local air agency. 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 the appropriate Ohio EPA district office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA district office or local air agency. 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 the Ohio EPA district office's or local air agency's refusal to accept the results of the emission test(s).

- f. Personnel from the appropriate Ohio EPA district office or local air agency 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.
- g. 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 the appropriate Ohio EPA district office or local air agency 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 the appropriate Ohio EPA district office or local air agency.

g) Miscellaneous Requirements

- (1) None.