



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

6/30/2015

Certified Mail

Mr. Charles Boyd
Qualawash Holdings, LLC
1302 N. 19th Street
Suite 300
Tampa, FL 33605

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318178136
Permit Number: P0118862
Permit Type: Initial Installation
County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF 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.

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



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

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Qualawash Holdings, LLC**

Facility ID:	1318178136
Permit Number:	P0118862
Permit Type:	Initial Installation
Issued:	6/30/2015
Effective:	6/30/2015
Expiration:	6/30/2025



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

for
Qualawash Holdings, LLC

Table of Contents

Authorization	1
A. Standard Terms and Conditions	3
1. What does this permit-to-install and operate ("PTIO") allow me to do?.....	4
2. Who is responsible for complying with this permit?	4
3. What records must I keep under this permit?	4
4. What are my permit fees and when do I pay them?.....	4
5. When does my PTIO expire, and when do I need to submit my renewal application?	4
6. What happens to this permit if my project is delayed or I do not install or modify my source?	5
7. What reports must I submit under this permit?	5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?	5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...	5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?	6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?	6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently?	6
13. Can I transfer this permit to a new owner or operator?.....	7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?	7
15. What happens if a portion of this permit is determined to be invalid?	7
B. Facility-Wide Terms and Conditions.....	8
C. Emissions Unit Terms and Conditions	10
1. P001, Tote Cleaning Process Industrial	11
2. P002, Tote Parts Washer Automotive	18
3. P003, Tote Valve Cleaning Station Automotive.....	27



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

Authorization

Facility ID: 1318178136
Application Number(s): A0053405
Permit Number: P0118862
Permit Description: Initial PTIO for industrial tote container cleaning process (P001), automotive tote container cleaning process (P002), and automotive tote valve cleaning station (P003).
Permit Type: Initial Installation
Permit Fee: \$1,200.00
Issue Date: 6/30/2015
Effective Date: 6/30/2015
Expiration Date: 6/30/2025
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Qualawash Holdings, LLC
6551 GRANT AVE STE B
Cuyahoga Heights, OH 44105-5621

of a Permit-to-Install and Operate 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:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

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.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

Authorization (continued)

Permit Number: P0118862
Permit Description: Initial PTIO for industrial tote container cleaning process (P001), automotive tote container cleaning process (P002), and automotive tote valve cleaning station (P003).

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

Emissions Unit ID:	P001
Company Equipment ID:	Tote Cleaning Process Industrial
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	Tote Parts Washer Automotive
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	Tote Valve Cleaning Station Automotive
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

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:

- 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.

- 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 (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 by up to 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 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 [DO/LAA] 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 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 shutdown 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, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must 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.



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

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.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

C. Emissions Unit Terms and Conditions



1. P001, Tote Cleaning Process Industrial

Operations, Property and/or Equipment Description:

Industrial Tote Container Cleaning Process which includes the following: dig-out room, dig-out room collection pit, tote draining station, pre-wash interior wash station, close-up station, valves/parts wash station, exterior wash station, and exterior wipe-down station.

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. b)(1)c., g)(2)

(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. None.

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)(3)	Fugitive volatile organic compound (VOC) emissions shall not exceed 245 lbs/day and 44.7 tons/year.
b.	OAC rule 3745-21-23	See b)(2)a. below.
c.	OAC rule 3745-114-01	See g)(2) below.

(2) Additional Terms and Conditions

a. Each solvent cleaning material shall comply with one of the following:

i. the VOC content shall not exceed 0.42 pound per gallon; or

- ii. the solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius.

c) Operational Restrictions

(1) The permittee shall employ only the following cleaning devices and methods:

- a. wipe cleaning;
- b. closed containers or hand held spray bottles from which solvents are applied without a propellant-induced force;
- c. cleaning equipment which has a solvent container that can be, and is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;
- d. remote reservoir cleaner, if the operator of the cleaner complies with all of the following:
 - i. prevents solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;
 - ii. directs solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cleaner;
 - iii. does not clean porous or absorbent materials, such as cloth, leather, wood, or rope; and
 - iv. uses only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. Any liquid leak, visible tear, or crack detected shall be repaired within one calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all solvent and shut down until it is replaced or repaired.
- e. non-atomized solvent flow method where the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; and
- f. solvent flushing method where the cleaning solvent is discharged into a container which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

- (2) The permittee is prohibited from atomizing any solvent unless the emissions are vented to VOC emission control equipment that meet the requirements of OAC rule 3745-21-23(C)(5).
 - (3) All VOC-containing solvents used in solvent cleaning operations shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except when filling or emptying. It is recommended that cloth and paper moistened with VOC-containing solvents be stored in closed, non-absorbent, non-leaking containers.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall collect and maintain daily records for the following information:
 - a. the name and identification number of each solvent used and the associated cleaning activity;
 - b. the total amount of each solvent used, in gallons;
 - c. the VOC content of each solvent cleaning material, in pounds per gallon of material, as employed (determined in accordance with f)(1)c. below);
 - d. the VOC composite partial vapor pressures of the solvents or solvent solutions used, in mm Hg at 20 degrees Celsius (determined in accordance with f)(1)d. below); and
 - e. the VOC emissions, in pounds per day, determined in accordance with f)(1)a. below.
- e) **Reporting Requirements**
- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the Cleveland Division of Air Quality (Cleveland DAQ).
 - (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
 - (3) In accordance with OAC rule 3745-21-23(H)(1), the permittee shall submit a deviation report to the Cleveland DAQ of any record maintained in accordance with d)(1) above showing the use of noncomplying solvents. A copy of such record shall be sent to the Cleveland DAQ within thirty days following the end of the month in which the use of noncomplying solvents occurs.
 - (4) In accordance with OAC rule 3745-21-23(I)(3), the permittee shall submit a compliance certification to the Cleveland DAQ in writing within thirty days following the first documented achievement of demonstrating compliance for a solvent cleaning operation subject to the VOC emission requirements in OAC rule 3745-21-23(C)(1) to (C)(4).

The compliance certification shall provide the following information, where applicable:

- a. a description of the requirements;
- b. a description of the monitoring devices;
- c. a description of the records that document continuing compliance;
- d. the results of any records that document continuing compliance, including calculations; and
- e. a statement by the permittee as to whether the solvent cleaning operation has complied with therequirement(s) of OAC rule 3745-21-23.

f) Testing Requirements

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

- a. Emission Limitation:
Fugitive VOC emissions shall not exceed 245 lbs/day

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d)(1) above and using the emission calculations for each step of the cleaning process that were provided with the permit application based on the actual number of totes cleaned and the actual amount of solvent material usage for each day. Sum the VOC emissions for each step to determine the total daily emissions.

Dig out room:

$$E = \text{solvent usage (gals/day)} \times \text{VOC content (lbs/gal)} = \text{lbs VOC/day}$$

Dig out room wash water collection pit:

$$\text{Material residue (lb/tote)} = \text{surface area of tote (ft}^2\text{/tote)} \times \text{clingage factor (bbl/1000 ft}^2\text{)} \times \text{unit conversion} \times \text{density (lbs/gal)}$$

$$\text{Residue concentration (lb/gal water)} = \text{(material residue lb/tote)} / \text{(gal water/tote)}$$

$$E = \text{(gals water/day)} \times \text{(residue concentration lb/gal water)} \times \text{(percent VOC)}$$

$$= \text{lbs VOC/day}$$

Tote draining:

$$E = \text{(lb/lb mole)} \times \text{(volume vapor displaced ft}^3\text{/tote)} \times \text{(1 / ft}^3\text{/mole)} \times \text{(percent VOC)} \times \text{number of totes/day} = \text{lbs VOC/day}$$

Pre-wash (interior with spinners):

$$E = (\text{emission factor lbs VOC/tote}) * (\text{totes/day}) = \text{lbs VOC/day}$$

Close up:

$$E = (\text{gals solvent/day}) * (\text{lbs VOC/gal}) = \text{lbs VOC/day}$$

Industrial Valves and Parts wash:

$$E = (\text{gals solvent/day}) * (\text{lbs VOC/gal}) = \text{lbs VOC/day}$$

Exterior wash:

$$E = (\text{gals solvent/day}) * (\text{lbs VOC/gal}) = \text{lbs VOC/day}$$

Industrial wipe down:

$$E = (\text{gals solvent/day}) * (\text{lbs VOC/gal}) = \text{lbs VOC/day}$$

- b. Emission Limitation:
Fugitive VOC emissions shall not exceed 44.7 tons/year

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d(1) above and by summing the actual daily emissions for each calendar year and dividing by 2000 pounds per ton.

- c. Emission Limitation:
The VOC content of the solvent cleaning material shall not exceed 0.42 pound per gallon (or see f)(1)d. below)

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(1), compliance with the VOC content limitation shall be based on USEPA Method 24 of 40 CFR Part 60 Appendix A, or formulation data from the solvent material supplier. In the event of a conflict between the solvent material formulation data and data obtained by Method 24, the Method 24 results will take precedence.

- d. Emission Limitation:
The solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius (or see f)(1)c. above).

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(3), compliance with the composite partial vapor pressure shall be determined by:

- i. Determining the identity and quantity of each compound in a blended organic solvent by using ASTM D2306-00, or by using ASTM

E260-96(2001) for organics and ASTM D3792-05 for water content, if applicable, or the manufacturer's product formulation data; and

- ii. Determining the vapor pressure of each pure VOC component by using ASTM D2879 or from publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry;" and
- iii. Calculating the composite partial pressure of the solvent by using the formula for composite partial pressure. For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula.

The VOC composite partial pressure is calculated as follows:

$$PP_c = \frac{\sum_{i=1}^n \frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VP_i = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

g) Miscellaneous Requirements

- (1) P001 was installed in September 1996 and started operating in November 1996.
- (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



Final Permit-to-Install and Operate

Qualawash Holdings, LLC

Permit Number: P0118862

Facility ID: 1318178136

Effective Date: 6/30/2015

obtain a new or modified PTIO 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 PTIO.

2. P002, Tote Parts Washer Automotive

Operations, Property and/or Equipment Description:

Automotive Tote Container Cleaning Process which includes the following: tote draining station, clear coat interior wash station, paint tote interior wash station, exterior wash station, and exterior wipe-down station.

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. b)(1)c., d)(2) - d)(5), e)(4)

(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. None.

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 3145-31-05(A)(3)	Fugitive volatile organice compound (VOC) emissions shall not exceed 150 lbs/day and 27.4 tons/year.
b.	OAC rule 3145-21-23	See b)(2)a. below.
c	OAC rule 3145-114-01	See d)(2) – d)(5) and e)(4) below.

(2) Additional Terms and Conditions

a. Each solvent cleaning material shall comply with one of the following:

i. the VOC content shall not exceed 0.42 pound per gallon; or

- ii. the solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius.

c) Operational Restrictions

(1) The permittee shall employ only the following cleaning devices and methods:

- a. wipe cleaning;
- b. closed containers or hand held spray bottles from which solvents are applied without a propellant-induced force;
- c. cleaning equipment which has a solvent container that can be, and is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;
- d. remote reservoir cleaner, if the operator of the cleaner complies with all of the following:
 - i. prevents solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;
 - ii. directs solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cleaner;
 - iii. does not clean porous or absorbent materials, such as cloth, leather, wood, or rope; and
 - iv. uses only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. Any liquid leak, visible tear, or crack detected shall be repaired within one calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all solvent and shut down until it is replaced or repaired.
- e. non-atomized solvent flow method where the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; and
- f. solvent flushing method where the cleaning solvent is discharged into a container which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

- (2) The permittee is prohibited from atomizing any solvent unless the emissions are vented to VOC emission control equipment that meet the requirements of OAC rule 3745-21-23(C)(5).
 - (3) All VOC-containing solvents used in solvent cleaning operations shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except when filling or emptying. It is recommended that cloth and paper moistened with VOC-containing solvents be stored in closed, non-absorbent, non-leaking containers.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall collect and maintain daily records for the following information:
 - a. the name and identification number of each solvent used and the associated cleaning activity;
 - b. the total amount of each solvent used, in gallons;
 - c. the VOC content of each solvent cleaning material, in pounds per gallon of material, as employed (determined in accordance with f)(1)c. below);
 - d. the VOC composite partial vapor pressures of the solvents or solvent solutions used, in mm Hg at 20 degrees Celsius (determined in accordance with f)(1)d. below); and
 - e. the VOC emissions, in pounds per day, determined in accordance with f)(1)a. below.
 - (2) The PTIO application for this emissions unit P002, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
 - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for

Chemical Substances and Physical Agents Biological Exposure Indices”;
or

- ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) “Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices”; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., “X” hours per day and “Y” days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or “worst case” toxic contaminant(s):

Toxic Contaminant (worst-case): xylene

TLV (mg/m3) (Xylene): 434.19

Maximum Hourly Emission Rate (lbs/hr): 19.62 (this is actually the maximum pounds per day and assumes that all air toxic pollutants are xylene)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 999.5

MAGLC (ug/m3): 10,338

The permittee, has demonstrated that emissions of Xylene, from emissions unit P002, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F).

- (3) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
 - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
 - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
 - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
 - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (5) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the Cleveland Division of Air Quality (Cleveland DAQ).
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) In accordance with OAC rule 3745-21-23(H)(1), the permittee shall submit a deviation report to the Cleveland DAQ of any record maintained in accordance with d)(1) above showing the use of noncomplying solvents. A copy of such record shall be sent to the Cleveland DAQ within thirty days following the end of the month in which the use of noncomplying solvents occurs.
- (4) In accordance with OAC rule 3745-21-23(I)(3), the permittee shall submit a compliance certification to the Cleveland DAQ in writing within thirty days following the first documented achievement of demonstrating compliance for a solvent cleaning operation subject to the VOC emission requirements in OAC rule 3745-21-23(C)(1) to (C)(4).

The compliance certification shall provide the following information, where applicable:

- a. a description of the requirements;
 - b. a description of the monitoring devices;
 - c. a description of the records that document continuing compliance;
 - d. the results of any records that document continuing compliance, including calculations; and
 - e. a statement by the permittee as to whether the solvent cleaning operation has complied with the requirement(s) of OAC rule 3745-21-23.
- (5) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
Fugitive VOC emissions shall not exceed 150lbs/day

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d)(1) above and using the emission calculations for each step of the cleaning process that were provided with the permit application based on the actual number of totes cleaned and the actual amount of solvent material usage for each day. Sum the VOC emissions for each step to determine the total daily emissions.

Tote draining:

$$E = (\text{lb/lb mole}) * (\text{volume vapor displaced ft}^3/\text{tote}) * (1 / \text{ft}^3/\text{mole}) * (\text{percent VOC}) * \text{number of totes/day} = \text{lbs VOC/day}$$

Clear coat tote wash (interior with spinners):

$$E = (\text{emission factor lbs VOC/tote}) * (\text{totes/day}) = \text{lbs VOC/day}$$

Paint tote wash (interior with spinners):

$$E = (\text{emission factor lbs VOC/tote}) * (\text{totes/day}) = \text{lbs VOC/day}$$

Exterior wash:

$$E = \text{solvent usage (gals/day)} * \text{VOC content (lbs/gal)} = \text{lbs VOC/day}$$

Automotive wipe down:

$$E = \text{solvent usage (gals/day)} * \text{VOC content (lbs/gal)} = \text{lbs VOC/day}$$

b. Emission Limitation:

Fugitive VOC emissions shall not exceed 27.4tons/year

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d(1) above and by summing the actual daily emissions for each calendar year and dividing by 2000 pounds per ton.

c. Emission Limitation:

The VOC content of the solvent cleaning material shall not exceed 0.42 pound per gallon (or see f)(1)d. below)

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(1), compliance with the VOC content limitation shall be based on USEPA Method 24 of 40 CFR Part 60 Appendix A, or formulation data from the solvent material supplier. In the event of a conflict between the solvent material formulation data and data obtained by Method 24, the Method 24 results will take precedence.

d. Emission Limitation:

The solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius (or see f)(1)c. above).

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(3), compliance with the composite partial vapor pressure shall be determined by:

- i. Determining the identity and quantity of each compound in a blended organic solvent by using ASTM D2306-00, or by using ASTM E260-96(2001) for organics and ASTM D3792-05 for water content, if applicable, or the manufacturer's product formulation data; and
- ii. Determining the vapor pressure of each pure VOC component by using ASTM D2879 or from publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry;" and
- iii. Calculating the composite partial pressure of the solvent by using the formula for composite partial pressure. For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula.

The VOC composite partial pressure is calculated as follows:

$$PP_c = \sum_{i=1}^n \frac{\frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VP_i = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.



Final Permit-to-Install and Operate
Qualawash Holdings, LLC
Permit Number: P0118862
Facility ID: 1318178136
Effective Date: 6/30/2015

g) Miscellaneous Requirements

- (1) P002 was installed in September 1996 and started operating in November 1996.

3. P003, Tote Valve Cleaning Station Automotive

Operations, Property and/or Equipment Description:

Automotive Tote Valve Cleaning Station with vent hood.

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. None.

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 3145-31-05(A)(3)	Volatile organic compound (VOC) emissions shall not exceed 76 lbs/day and 13.9 tons/year.
b.	OAC rule 3145-21-23	See b)(2)a. below.

(2) Additional Terms and Conditions

a. Each solvent cleaning material shall comply with one of the following:

i. the VOC content shall not exceed 0.42 pound per gallon; or

ii. the solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius.

c) Operational Restrictions

(1) The permittee shall employ only the following cleaning devices and methods:

- a. wipe cleaning;
- b. closed containers or hand held spray bottles from which solvents are applied without a propellant-induced force;
- c. cleaning equipment which has a solvent container that can be, and is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself;
- d. remote reservoir cleaner, if the operator of the cleaner complies with all of the following:
 - i. prevents solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;
 - ii. directs solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cleaner;
 - iii. does not clean porous or absorbent materials, such as cloth, leather, wood, or rope; and
 - iv. uses only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. Any liquid leak, visible tear, or crack detected shall be repaired within one calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all solvent and shut down until it is replaced or repaired.
- e. non-atomized solvent flow method where the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; and
- f. solvent flushing method where the cleaning solvent is discharged into a container which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

(2) The permittee is prohibited from atomizing any solvent unless the emissions are vented to VOC emission control equipment that meet the requirements of OAC rule 3745-21-23(C)(5).

- (3) All VOC-containing solvents used in solvent cleaning operations shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except when filling or emptying. It is recommended that cloth and paper moistened with VOC-containing solvents be stored in closed, non-absorbent, non-leaking containers.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and maintain daily records for the following information:
- a. the name and identification number of each solvent used and the associated cleaning activity;
 - b. the total amount of each solvent used, in gallons;
 - c. the VOC content of each solvent cleaning material, in pounds per gallon of material, as employed (determined in accordance with f)(1)c. below);
 - d. the VOC composite partial vapor pressures of the solvents or solvent solutions used, in mm Hg at 20 degrees Celcius (determined in accordance with f)(1)d. below); and
 - e. the VOC emissions, in pounds per day, determined in accordance with f)(1)a. below.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the Cleveland Division of Air Quality (Cleveland DAQ).
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) In accordance with OAC rule 3745-21-23(H)(1), the permittee shall submit a deviation report to the Cleveland DAQ of any record maintained in accordance with d)(1) above showing the use of noncomplying solvents. A copy of such record shall be sent to the Cleveland DAQ within thirty days following the end of the month in which the use of noncomplying solvents occurs.
- (4) In accordance with OAC rule 3745-21-23(I)(3), the permittee shall submit a compliance certification to the Cleveland DAQ in writing within thirty days following the first documented achievement of demonstrating compliance for a solvent cleaning operation subject to the VOC emission requirements in OAC rule 3745-21-23(C)(1) to (C)(4).

The compliance certification shall provide the following information, where applicable:

- a. a description of the requirements;
- b. a description of the monitoring devices;

- c. a description of the records that document continuing compliance;
- d. the results of any records that document continuing compliance, including calculations; and
- e. a statement by the permittee as to whether the solvent cleaning operation has complied with therequirement(s) of OAC rule 3745-21-23.

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions shall not exceed 76lbs/day

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d)(1) above and using the emission calculations that were provided with the permit application based on the actual solvent material usage for each day.

$$E = \text{solvent usage (gals/day)} \times \text{VOC content (lbs/gal)} = \text{lbs VOC/day}$$

b. Emission Limitation:

VOC emissions shall not exceed 13.9tons/year

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d(1) above and by summing the actual daily emissions for each calendar year and dividing by 2000 pounds per ton.

c. Emission Limitation:

The VOC content of the solvent cleaning material shall not exceed 0.42 pound per gallon (or see f)(1)d. below)

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(1), compliance with the VOC content limitation shall be based on USEPA Method 24 of 40 CFR Part 60 Appendix A, or formulation data from the solvent material supplier. In the event of a conflict between the solvent material formulation data and data obtained by Method 24, the Method 24 results will take precedence.

d. Emission Limitation:

The solvent cleaning material shall have a VOC composite partial vapor pressure that is less than or equal to 8 mm Hg at 20 degrees Celsius (or see f)(1)c. above).

Applicable Compliance Method:

In accordance with OAC rule 3745-21-23(F)(3), compliance with the composite partial vapor pressure shall be determined by:

- i. Determining the identity and quantity of each compound in a blended organic solvent by using ASTM D2306-00, or by using ASTM E260-96(2001) for organics and ASTM D3792-05 for water content, if applicable, or the manufacturer's product formulation data; and
- ii. Determining the vapor pressure of each pure VOC component by using ASTM D2879 or from publications such as "Perry's Chemical Engineer's Handbook, CRC Handbook of Chemistry and Physics, or Lange's Handbook of Chemistry;" and
- iii. Calculating the composite partial pressure of the solvent by using the formula for composite partial pressure. For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial pressures of each compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit) shall be used in the formula.

The VOC composite partial pressure is calculated as follows:

$$PP_c = \sum_{i=1}^n \frac{\frac{(W_i)(VP_i)}{MW_i}}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i = Weight of the "i"th VOC compound, in grams.

W_w = Weight of water, in grams.

W_e = Weight of exempt compound, in grams.

MW_i = Molecular weight of the "i"th VOC compound, in grams per gram-mole.

MW_w = Molecular weight of water, in grams per gram-mole.

MW_e = Molecular weight of the "e"th exempt compound, in grams per gram-mole.

PP_c = VOC composite partial pressure at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

VP_i = Vapor pressure of the "i"th VOC compound at twenty degrees Celsius (sixty-eight degrees Fahrenheit), in mmHg.

g) Miscellaneous Requirements

- (1) P003 was installed in March 2000 and started operating in March 2000.