MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 072017-017

Project Number: 2016-10-034
Installation Number: 047-0099

Parent Company: StandardAero Aviation Holdings, Inc.

Parent Company Address: 6710 N. Scottsdale Rd., Ste. 250, Scottsdale, AZ 85253

Installation Name: PAS Technologies Inc.

Installation Address: 1234 Atlantic St, Kansas City, MO 64116

Location Information: Clay County, S23, T50N, R33W

Application for Authority to Construct was made for:
Retroactively permitting various emission sources including spray guns, powder coating, acid wash, and dust collectors. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required.*

☐ Standard Conditions (on reverse) are applicable to this permit.

☑ Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

Hans Robinson

Prepared by
Hans Robinson
New Source Review Unit

Kyra L Moore

Director or Designee
Department of Natural Resources

JUL 24 2017

Effective Date

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant sources(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

<u>Contact Information</u>:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/

SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

PAS Technologies Inc.
Clay County, S23, T50N, R33W

1. Capture Device Requirement – Spray Booth
   A. PAS Technologies Inc. shall capture emissions from all spray applied powder surface coating operations within a totally enclosed booth and exhaust fan(s). This includes the following eight spray booths: EP21, EP24, EP27, EP28, EP29, EP30, EP43, and EP44.

   B. PAS Technologies Inc. shall capture emissions from all spray applied liquid surface coating operations with a booth and exhaust fan(s). This includes the following three spray booths: EP31, EP32, and EP34.

   C. Negative pressure shall be demonstrated and recorded at the three liquid coating booth (EP31, EP32, and EP34) openings at least once every 24 hours using visual indication such as streamers, powder puff, smoke, or other method preapproved by the Air Pollution Control Program. Twenty-four hour periods when spray applied surface coating is non-operational shall be recorded.

   D. PAS Technologies Inc. shall operate the surface coating booth's exhaust fan(s) at all times surface coating is spray applied.

2. Capture Device Requirement – Downdraft Table
   A. The Downdraft Table (EP35) shall be operated and maintained in accordance with the manufacturer's specifications.

   B. The Downdraft Table must switched on (downdraft maintained by a working electric motor) while aircraft parts are being refurbished by hand tools at this emission point. Parts must be tooled directly above the Downdraft Table such that the downdraft can catch any resulting particulate emissions. Aircraft parts shall be held no higher than 1.5 feet above the surface of the downdraft table.

3. Capture Device Requirement - Filter
   A. PAS Technologies Inc. shall control particulate emissions from the 11 spray booths (EP21, EP24, EP27, EP28, EP29, EP30, EP31, EP32,

SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

EP34, EP43, and EP44) using a high-efficiency filter capable of a minimum 98% control efficiency. A filter shall be attached to the input of the exhaust ventilation duct of each spray booth.

B. PAS Technologies Inc. shall control particulate emissions from the EP35 downdraft table using a fabric filter. A filter shall be installed within the Downdraft Table as defined by the table manufacturer's specifications.

C. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance). PAS Technologies Inc. shall regenerate/replace the filters before breakthrough.

D. The filters shall be operated and maintained in accordance with the manufacturer's specifications.

E. PAS Technologies Inc. shall maintain a copy of the filter manufacturer's performance warranty on site. Pressure gauges shall be installed to confirm that the operating pressure drop across each filter is maintained within the design conditions specified by the manufacturer's performance warranty. The EP35 Downdraft Table will not need a pressure gauge. Instead, PAS Technologies Inc. shall perform a visual inspection of the table while it is in operation. PAS Technologies Inc. shall record any instances where metal shavings and particulate are not being pulled to the surface of the Downdraft Table while sanding, grinding, or refurbishing of parts are occurring over the table.

4. Capture Device Requirement – Hood Dust collectors

A. Carbon Grinding (EP36) and Munson Sander (EP37) shall each be controlled by a separate hood dust collector. The dust collection systems shall be operated and maintained in accordance with the manufacturer's specifications.

B. The hood dust collectors must be switched on (downdraft maintained by a working electric motor) while aircraft parts are being refurbished by hand tools at this emission point. Parts must be tooled directly above the dust collectors such that the downdraft can catch any resulting particulate emissions.

5. Capture Device Requirement – Box/Cabinet Dust Collectors

A. Abrasive Blasting operations (EP41) must be performed within a totally enclosed box/cabinet dust collector. The dust collector may not be opened while aircraft parts are being blasted.

SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

6. Operational Requirement – Solvents and Cleaning Solutions
   A. PAS Technologies Inc. shall keep all solvents and cleaning solutions in sealed containers whenever the materials are not in use. PAS Technologies Inc. shall provide and maintain suitable, easily read, permanent markings on all solvents and cleaning solution containers used with this equipment *(See Acid Cleaning/Etching/Airframe section in the Project Description for details).*

7. Record Keeping and Reporting Requirements
   A. PAS Technologies Inc. shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.

   B. PAS Technologies Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.
   C. PAS Technologies Inc. shall maintain an operating, maintenance, and inspection log for all capture and control devices listed in Special Conditions No. 1 through 5 which shall include the following:
      1) Incidents of malfunction(s) including the dates(s) and duration of the event, the probable cause, any corrective actions taken, and the impact on emissions due to the malfunction;
      2) Any maintenance activities conducted on the units, such as replacement of equipment, etc.
      3) Dates of all above schedules, incidents, activities, and actions.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2016-10-034
Installation ID Number: 047-0099
Permit Number: 072017-017

Installation Address:
PAS Technologies Inc.
1234 Atlantic St
Kansas City, MO 64116

Parent Company:
StandardAero Aviation Holdings, Inc.
6710 N. Scottsdale Rd., Ste. 250
Scottsdale, AZ 85253

Clay County, S23, T50N, R33W

REVIEW SUMMARY

- PAS Technologies Inc. has applied for authority to retroactively permit control devices and equipment associated with refurbishing commercial and military aircraft components that have been installed and operated previous to the issuance of this permit.

- The application was deemed complete on November 22, 2016.

- HAP emissions are expected from the proposed equipment. HAPs emitted from this process are hydrofluoric acid, hydrochloric acid, cobalt, nickel, chromium compounds, Methyl Isobutyl Ketone (MIBK, 4-methylpentan-2-one), antimony compounds, ethylbenzene, lead compounds, toluene, and xylene.

- None of the New Source Performance Standards (NSPS) apply to the installation.

- The MACT standard, 40 CFR Part 63, HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing* applies to EP 31, 32, and 34. The MACT standard, 40 CFR Part 63, WWWWWW, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations* applies to EP 21, 24, 29, 30, 43, and 44.

- Spray booths with filters, Downdraft Tables, and box dust collectors are being used to control the particulate emissions from the equipment in this permit.

- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM_{10} and $PM_{2.5}$ are conditioned below de minimis levels via the operational requirements contained in the special conditions.

- This installation is located in Clay County, an attainment area for all other criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since potential emissions of the application are conditioned below de minimis levels.

- No Operating Permit is required for this installation.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The PAS Technologies, Inc. North Kansas City (NKC) facility refurbishes commercial and military aircraft components. The components are first cleaned with acid, strippers, and/or caustic materials. The components are then reconditioned through abrading/smoothing and painting or coating. Emissions sources include chemical clean lines, surface preparation lines, solvent cleaning, surface coating, and blending/grinding operations. Surface coating includes spray painting with paint booths and powder coating using High Velocity Oxygen Fuel (HVOF), plasma, and D-gun spray equipment. The HVOF system is fueled by kerosene.

The existing facility is covered under Basic Operating Permit No. 2013-04-052 and has no previously issued construction permits. With the issuance of this permit, PAS Technologies Inc. will no longer be required to obtain an operating permit. Due to various surface coating operations' capture and control devices required by this permit, the conditioned PTE is de minimis for all criteria pollutants. Without permitting requirements for capture and control devices, the facility would be a minor source for PM_{10} and $PM_{2.5}$.

PROJECT DESCRIPTION

The PAS Technologies Inc. NKC facility is applying for a construction permit to retroactively permit previously installed emission units and their respective capture and control devices. The conditions requiring the use of capture and control devices will allow the facility to become a de minimis source and thus avoid modeling requirements that would have been required. Emission source descriptions are summarized below.

Detonation Gun (D-Gun): It is often necessary to apply metal coatings to aircraft parts during the refurbishing process. Parts will be placed in a spray booth equipped with a filter and exhaust system. Essentially, a powder consisting of metal compounds, such as cobalt (a HAP), are loaded into the D-Gun. A detonation occurs that fires the metal powder at high velocities and temperatures. The resulting thermal spray coats the aircraft parts with metal compounds that prevent degradation and oxidization.

Plasma Gun: Similar to the D-Gun, plasma guns use hot electrically generated plasma

to create a thermal spray for coating metal surfaces. Thus plasma, rather than a detonation, propels metal coating powder at high temperatures and velocities. For this facility, the metal coatings for the plasma gun compose of chromium compounds, cobalt, and nickel. Note: None of the chromium exists as the hexavalent form Cr(VI) as stated by the gun manufacturer. Coating will occur in the same type of spray booth as the D-Gun coating.

HVOF Coating: The HVOF coating systems use kerosene combustion to coat aircraft parts with a high temperature, high velocity gas stream of metal particulate. Expected metal components, like the plasma gun, will contain HAPs in the form of chromium compounds, cobalt, and nickel. HVOF coating will be done in a smaller spray booth designated as a HVOF cubicle.

Paint Booth (Liquid Paint): EP31, EP32 and EP34 are all liquid coating booths and they use air brush kit spray nozzles. For EP31 and EP32, the paint is contained within a small canister directly attached to the nozzle. EP34 uses this type, and may also use a type that has a hose that is connected to a larger paint container.

Abrasive Blasting & Dust Collector: Aircraft parts can be cleaned and prepped for refurbishment using abrasive blasting. The cabinet dust collector is a small box that contains the abrasive blaster. Essentially an abrasive substance, such as ceramic grit, steel shot, plastic media, glass media, or alumina media is blasted at an aircraft part which strips the outer layers. A conservative 95% control efficiency for the Abrasive dust collector was given to account for the particulate emissions from opening and closing the unit after blasting has been completed (since otherwise the collector has 100% control efficiency for being completely enclosed). The cabinet cannot operate unless its door is shut, meaning that particulate will not be able to escape the enclosure while aircraft parts are being blasted. Cleaning of the cabinet will be done by hand. Refer to Special Condition 5.A for abrasive blasting operational requirements.

Munson Sander and Carbon Grinding: These are stations for small parts that are tooled by hand. The Munson Sander sits on a work bench with a hood/vent that collects particulate emissions during sanding and sends them to an enclosed box dust collector. The dust collector is occasionally emptied by personnel. Carbon Grinding is used to grind on carbon seals, which is a liner inside some of the small parts, to smooth and remove imperfections. This is controlled by an INVINCIBLE Dust Collection System #64KT30 Model TC172. Both processes are controlled by different "hood" dust collectors that utilize a strong ventilation or downdraft to collect dust. Both processes are performed in small enclosed devices that are always open on at least one side. An 80% capture efficiency was given based on the fact that most particulate will be captured by the strong air movement within the hoods. A higher capture efficiency could not be justified since aircraft parts will be machined close to the hood opening.

Antigal Booth: The antigal booth can be thought of as a fume hood where the filter and exhaust system are built intrinsically into the device. This emission point is essentially a small paint booth, meaning it is not big enough for employees to stand in. It has a roof and three walls and an opening in the front where the employee stands to spray the paint over small parts that sit on the work surface of the booth under the hood. There is

exhaust air flow that pulls the air through the filter, and it is equipped with a pressure gauge.

PulsePak Downdraft Table: The downdraft table is designed so that aircraft part preparation tasks such as grinding and smoothing with handheld devices are performed over a "downdraft." Essentially the station is a workbench with a perforated metal surface. The table uses an electric motor to create a strong suction force that pulls particulate and other emissions through an internal filter. Since aircraft parts will be grinded and smoothed under a strong downdraft, and since parts will be held no more than 1.5 feet directly over the downdraft, a conservative 70% capture efficiency was used to calculate emissions.

Acid Cleaning/Etching/Airframe: Hydrofluoric acid (HF) and hydrochloric acid (HCl) are used for various cleaning, etching, and electroplating operations. Small amounts of concentrated HF and HCl are added to large sinks (dip tanks) of water where the acid is substantially diluted. Aircraft parts are lowered into the acid baths where they may be cleaned or etched upon. Note: Special Condition 6 *Operational Requirement – Solvents and Cleaning Solutions* applies specifically to the solvent and cleaning solution containers and not to acid etch or dip tank baths. Essentially, the containers that HF, HCl, and cleaning solvents are stored in or originally purchased in must be sealed so that the components won't fume/evaporate into the immediate surroundings when not in use. There may be hoods and scrubbers installed above acid wash stations but these are not required as a part of this permit.

See Attachment A for a complete list of equipment, control devices, emissions, materials, and products produced (including MHDR) with designated emission point numbers.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 12.20.2 *Electroplating* (July, 1996), as well as WebFIRE and corresponding SCC codes. Emissions from natural gas furnaces at the facility were calculated using SCC 1-03-006-03. (Note: no electroplating currently occurs at the facility. Electroplating emission factors were used as reasonable estimates for agitation based particulate emissions from acid dip tanks.) Mass balances were performed on certain pieces of equipment by measuring input of materials and output of pollutants and products (usually by physically collecting and weighing incoming and outgoing materials). Since HCl and HF have the potential to completely fume from solution, the National Oceanic and Atmospheric Administration *Evaporation Calculator* was used to estimate HCl and HF emissions. Relevant HF and HCl evaporation parameters are as follows: 20 °C ambient operating temperature, Alongwind Puddle length (7.5 feet), Crosswind Puddle Width (1.67 feet), Wind speed (1 mph), 5.0% HF and 5% HCl tank concentration, and high volatility assumed.

Particulate emissions for acid/chemical washes (EP02, EP07, EP14, EP15, EP42) were calculated using the air sparging equation found in AP-42 Chapter 12.20.2, Equation 4. Surface preparation lines, such as EP02 Building 1 Bay 7 FPI line for example, use various VOC emitting cleaning materials. EP02, in particular, uses Magnaflux ZL-37A and Magnaflux ZR-10E. VOC emissions were estimated based upon the maximum gallons used during an eight-hour shift (as in, the FPI line is always in operation over those eight hours and consistently filled with Magnaflux) and then scaled that over 8,760 hours per year. EP19 and EP47 part washing and solvent cleaning were calculated by determining the maximum actual usage rates observed at the facility (gallons/hour) and multiplying by VOC content and density.

Detonation gun, plasma gun, and HVOF coating particulate emissions (EP21, EP43, EP24, EP29, EP22, EP27, EP28, and EP30) were calculated from manufacturer's specifications for the maximum grams per minute of material throughput for each gun. After so many hours, guns generally need to be rebuilt and that takes an hour for HVOF coating and plasma coating and two hours for detonation guns. This occurs every 25 hours of operation for HVOF and D-guns, and every three hours for plasma guns. Additionally, every 45 minutes all powder coating requires 15 minutes of maintenance (considering the high energies and explosive nature of the coating processes). Excluding rebuild time and maintenance time, total potential operation time (less than 8,760 hours because of maintenance and rebuilding) was multiplied by the manufacturer's grams per minute powder coat throughput. Total particulate emissions were then multiplied by the constituent HAP weight percentages within each powder coat in order to calculate HAP emissions. Powder coat booths were given 98% overall control efficiencies (Composite 98% filter removal efficiency and 100% exhaust capture efficiency). HVOF coating requires kerosene fuel. Kerosene combustion emissions were calculated using SCC 2-04-003-02.

Some aircraft parts will receive a coat of solvent based paints. These paints are applied with a spray gun within a three-sided spray booth (includes a roof). The spray booth will have an air flow exhaust system and a fabric filter for capturing overspray particulate. Since the spray booth is not a total enclosure (only three sides and a roof) the capture efficiency of the booth was estimated at 90% (rather than 100% for a fully enclosed booth). Manufacturer's specifications for the filter specify 97% control efficiency. Thus an overall 87.3% control efficiency was used for EP31, EP32, and EP34. Paint usage throughput was calculated based upon the maximum amount of gallons the paint booths have actually used when continuously operating over four-hour periods. Gallon per hour throughput was developed and PM emissions were calculated as the solid weight percentage within each paint. AP-4.2.2.12-1 *Metal Furniture Surface Coating* states that air atomized spray guns without electrostatic controls will have a transfer efficiency of around 25% (i.e. 75% of the solid portion of the paint sprayed will become particulate). Once particulate emission rates were determined, solid HAPs were calculated as a percentage of solid particulate within the paint. Volatile HAPs were calculated as the percentage of HAPs within the total liquid content of the paint. Liquid paint usage rates are based upon constant operation of the booths during heavy spray usage (booth spray guns used continuously on parts over a set period of time).

Particulate emissions for the PulsePak Downdraft Tables (EP35), Carbon Grinding (EP36), Munson Sander (EP37), and Blending Downdraft Table (EP38) were calculated based upon particulate collected during periods of high use. Particulate emissions from these sources are captured in drums and weighed. Total particulate emissions were then back calculated from assigned overall control efficiencies or manufacturer specified control efficiencies. EP35, EP36, EP37, and EP38 have control efficiencies of 70%, 80%, 80%, and 95%. (Note: EP38 has an attached rotoclone dust collection system, though this device is not required as a part of this permit.) This calculation provides an average lb/hour particulate emission rate for particulate.

Abrasive blasting (EP41) has a 95% capture efficiency since the entire blasting operation is enclosed when in operation. When the abrasive blasting unit is opened, some remaining particulate suspended in the air may be released into the ambient air. SCC 3-09-002-02 provides that sand abrasive has a 13.00 lb/Mlbs PM_{10} and 1.30 lb/Mlbs $PM_{2.5}$ emission factors. However, sand is not used for blasting, so emission factors within AP-42 Chapter 13.2.6.3 states that particulate emissions will be only 24% that of sand when using generic grit substances (the abrasive blasting unit at PAS Technologies Inc. uses ceramic grit, steel shot, plastic media, glass media, and alumina media). See Attachment A for a complete list of equipment, control devices, emissions, emission factor sources, materials, and products produced with designated emission point numbers.

Table 1: Controlled Emission Points

Emission Point	Emission Description	Control Device[1]	Controlled Pollutants	Overall Control Efficiency
EP21	HVOF Cubicle 01C	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP24	Plasma 03B	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP27	D-Gun 05A	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP28	D-Gun 06A	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP29	Plasma 06B	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP30	D-Gun 07A	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP31	Bay 8 Antigal Booth	3 Sided Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	87%
EP32	Bay 6 Paint Booth	3 Sided Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	87%
EP34	Bay 10 Paint Booth	3 Sided Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	87%
EP35	PulsePak Downdraft Table	Downdraft Table - Filter	PM_{10} & $PM_{2.5}$	70%
EP36	Carbon Grinding	Box Dust Collector	PM_{10} & $PM_{2.5}$	80%
EP37	Munson Sander	Box Dust Collector	PM_{10} & $PM_{2.5}$	80%
EP41	Abrasive Blasting	Box Dust Collector	PM_{10} & $PM_{2.5}$	95%
EP43	HVOF Cubicle 02C	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%
EP44	Plasma 05B	PTE Spray Booth - Filter	PM_{10}, $PM_{2.5}$, HAPS	98%

[1]PTE Spray Booth is the abbreviated form of Permanent Total Enclosure Spray Booth

The following table provides an emissions summary for this project. Existing actual emissions were taken from the installation's 2016 EIQ. Potential emissions of the project represent the potential of all equipment at the facility, assuming continuous operation (8760 hours per year).

Table 2: Potential to Emit (tpy)

Pollutant	Regulatory *De Minimis* Levels or *SMAL*	Existing Potential Emissions[1]	Existing Actual Emissions (2016 EIQ)	Conditioned Potential Emissions of the Project[2]	New Installation Conditioned Potential[3]
PM	25	N/A	0.0002	N/A	N/A
PM_{10}	15	21.105	0.0002	3.880	5.875
$PM_{2.5}$	10	19.788	0.0002	3.814	5.809
SOx	40	0.009	0.0007	0.009	0.009
NOx	40	0.832	1.1056	0.832	0.832
VOC	40	7.685	0.0247	7.685	7.685
CO	100	1.038	0.0699	1.038	1.038
HAPs	10.0/25.0	9.146	0	1.022	1.022
MIBK	10	0.0318	N/A	0.032	0.032
Ethylbenzene	10	0.0373	N/A	0.037	0.037
Cobalt	0.1	6.197	N/A	0.095	1.547
Nickel	1	0.8197	N/A	0.024	0.024
Toluene	10	0.1306	N/A	0.131	0.131
Xylene	10	0.0978	N/A	0.098	0.098
Antimony Compounds	5	0.0976	N/A	0.013	0.013
Chromium Compounds	5	1.1747	N/A	0.051	0.051
Hydrochloric acid	10	0.0044	N/A	0.002	0.002
Hydrofluoric acid	0.1	0.0259	N/A	0.026	0.026
Methanol	10	0.4935	N/A	0.494	0.494
Lead Compounds	0.01	0.0202	N/A	0.003	0.003

N/A = Not Applicable

[1]Since all equipment has been previously installed and operable, Existing Potential Emissions lists the unconditioned potential to emit of the facility.

[2]Emissions for PM_{10}, $PM_{2.5}$, and HAPs are slightly larger if you include EP22 (Detonation Gun) which was installed in 1979 and grandfathered from Construction Permitting. See Attachment A for Potential to Emit (PTE) of the project including the emissions from EP22. Total PTE is still less than de minimis including EP22.

[3]Includes the Condition Potential Emissions of the Project and the grandfathered EP22 emissions. EP22 contributes to PM_{10}, $PM_{2.5}$, and Cobalt emissions.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required.* Potential emissions of PM_{10} and $PM_{2.5}$ are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

PAS Technologies Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Start-Up, Shutdown, and Malfunction Conditions,* 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information,* 10 CSR 10-6.110
    - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes,* 10 CSR 10-6.400
- *MACT Regulations*, 10 CSR 10-6.075
    - *National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing,* 40 CFR Part 63, Subpart HHHHHH
- *MACT Regulations*, 10 CSR 10-6.075
    - *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations,* 40 CFR Part 63, Subpart WWWWWW

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 12, 2016, received October 17, 2016, designating StandardAero Aviation Holdings, Inc. as the owner and operator of the installation.

OTHER RELIED UPON DOCUMENTS

- "Evaporation Calculator," for hydrofluoric acid and hydrochloric acid vapor emissions, hosted by the Office of Response and Restoration, National Ocean Service, National Oceanic and Atmospheric Administration (NOAA) (revised August 20, 2003).
- E-mail Communications between PAS Technologies, Inc. and the Missouri Air Pollution Control Program. This includes supplemental data submitted along with the e-mails.

Attachment A: Complete Equipment and Potential Emissions Summary[1]

MDNR De Minimis or SMAL Threshold (tpy)								15	40	40	40	100	0.01	25	10	NA
Source	Throughput	Units	E.F.	E.F. Units	Source of E.F.	Control Device	Efficiency	PM10 (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	HAPs (tpy)	PM25 (tpy)	NH3 (tpy)
EP02																
Bld 1 Bay 7 FPI Line																
PM10	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	n/a	0.1139								
VOC	1139.39	gal	2.900	lb/gal	Mass Balance	n/a	n/a				1.6521					
PM25	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	n/a								0.1139	
EP03																
Bld 1 Bay 10 Acid Clean Line																
PM10	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%	0.5694								
HAP - Hydrofluoric acid	8760.00	hours	0.0025	lb/hour	Evaporation Calculator	n/a	0%							0.0110		
PM25	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%								0.5694	
EP07																
Bld 1 Bay 14 FPI Line																
VOC	1003.02	gal	2.950	lb/gal	Mass Balance	n/a	n/a				1.4795					
EP08																
Bld 1 Bay 15 Acid Clean Line																
PM10	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%	0.1139								
HAP - Hydrochloric acid	8760.00	hours	0.0010	lb/hour	Evaporation Calculator	n/a	0%							0.0044		
PM25	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%								0.1139	
EP14																
Bld 1 Bay 11 Nital Etch Line																
PM10	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%	0.3416								
HAP - Hydrochloric acid	8760.00	hours	0.0000	lb/hour	Evaporation Calculator	n/a	0%							0.0000		
PM25	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%								0.3416	
EP15																
Bld 1 Bay 11 Airframe Line																
PM10	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%	0.3416								
HAP - Hydrofluoric acid	8760.00	hours	0.0034	lb/hour	Evaporation Calculator	n/a	0%							0.0149		
PM25	8760.00	hours	0.0260	lb/hour	AP-42 12.20.2 Eq 4	n/a	0%								0.3416	
EP19																
Bld 1 Bay 16 Better Engineering Parts Washer																
VOC	4380.00	gal	0.7600	lb/gal		n/a	n/a				1.6644					
EP21																
HVOF Cubicle 01C																
PM10	33.30	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0333								
HAP-Chromium and/or Compounds	1.62	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0016		
HAP-Cobalt	6.60	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0066		
HAP-Nickel	0.03	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0000		
PM25	33.30	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0333	

Attachment A: Complete Equipment and Potential Emissions Summary[1]

MDNR Permits or SMAL Threshold (tpy)								15	40	40	40	100	0.01	25	10	N/A
Source	Throughput	Units	E.F.	E.F. Units	Source of E.F.	Control Device	Efficiency	PM10	SOx	NOx	VOC	CO	Lead	HAPs	PM25	NH3
								(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
EP22 (Installed 1979, Grandfathered from Construction Permitting)																
D-Gun 02A																
PM10	39.90	tons	100.0000	lb/ton	Mass Balance	n/a	n/a	1.9950								
HAP-Cobalt	29.04	tons	100.0000	lb/ton	Mass Balance	n/a	n/a							1.4520		
PM25	39.90	tons	100.0000	lb/ton	Mass Balance	n/a	n/a								1.9950	
EP24																
Plasma 03B																
PM10	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0145								
HAP-Chromium and/or Compounds	0.72	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0007		
HAP-Cobalt	1.08	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0011		
HAP-Nickel	3.32	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0033		
PM25	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0145	
EP27																
D-Gun 05A																
PM10	39.90	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0399								
HAP-Cobalt	26.41	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0264		
PM25	39.90	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0399	
EP28																
D-Gun 06A																
PM10	39.89	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0399								
HAP-Cobalt	29.92	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0299		
PM25	39.89	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0399	
EP29																
Plasma 06B																
PM10	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0145								
HAP-Chromium and/or Compounds	7.23	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0072		
HAP-Cobalt	7.23	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0072		
HAP-Nickel	7.23	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0072		
PM25	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0145	
EP30																
D-Gun 07A																
PM10	39.89	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0399								
HAP-Chromium and/or Compounds	4.89	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0049		
HAP-Cobalt	21.25	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0213		
HAP-Nickel	1.14	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0011		
PM25	39.89	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0399	
EP31																
Bld 1 Bay 8 Antigal Booth																
PM10	98.97	gal	2.6400	lb/gal	Mass Balance	Booth + Filter	87.3%	0.0166								
VOC	105.29	gal	5.9000	lb/gal	Mass Balance	Booth + Filter	0.0%				0.3106					
HAP-4-methylpentan-2-one	88.44	gal	0.7200	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0318		
HAP-Antimony Compounds	105.29	gal	0.4800	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0032		
HAP-Chromium and/or Compounds	88.44	gal	0.3600	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0020		
HAP-Ethylbenzene	88.44	gal	0.1000	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0044		
HAP-Lead Compounds	16.85	gal	0.5800	lb/gal	Mass Balance	Booth + Filter	87.3%						0.0006	0.0006		
HAP-Nickel	88.44	gal	0.3600	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0020		
HAP-Toluene	16.85	gal	2.5100	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0211		
HAP-Xylene	88.44	gal	0.7200	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0318		
PM25	98.97	gal	2.6400	lb/gal	Mass Balance	Booth + Filter	87.3%								0.0166	

Attachment A: Complete Equipment and Potential Emissions Summary[1]

MDNR De Minimis or SMAL Threshold (tpy)								15	40	40	40	100	0.01	25	10	NA
Source	Throughput	Units	E.F.	E.F. Units	Source of E.F.	Control Device	Efficiency	PM10 (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	HAPs (tpy)	PM25 (tpy)	NH3 (tpy)
EP32																
Bld 1 Bay 6 Paint Booth																
PM10	18.95	gal	5.0000	lb/gal	Mass Balance	Booth + Filter	87.3%	0.0060								
VOC	16.85	gal	6.4200	lb/gal	Mass Balance	Booth + Filter	0.0%				0.0541					
HAP-Antimony Compounds	16.85	gal	0.0000	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0000		
HAP-Chromium and/or Compounds	8.42	gal	0.6200	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0003		
HAP-Lead Compounds	16.85	gal	0.5800	lb/gal	Mass Balance	Booth + Filter	87.3%						0.0006	0.0006		
HAP-Toluene	16.85	gal	2.5100	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0211		
PM25	18.95	gal	5.0000	lb/gal	Mass Balance	Booth + Filter	87.3%								0.0060	
EP34																
Bld 1 Bay 10 Paint Booth																
PM10	362.21	gal	5.2100	lb/gal	Mass Balance	Booth + Filter	87.3%	0.1198								
VOC	362.21	gal	3.6000	lb/gal	Mass Balance	Booth + Filter	0.0%				0.6520					
HAP-4-methylpentan-2-one	235.86	gal	0.0000	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0000		
HAP-Antimony Compounds	101.08	gal	1.4300	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0092		
HAP-Chromium and/or Compounds	185.32	gal	2.4900	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0293		
HAP-Ethylbenzene	252.71	gal	0.2600	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0329		
HAP-Lead Compounds	50.54	gal	0.4100	lb/gal	Mass Balance	Booth + Filter	87.3%						0.0013	0.0013		
HAP-Nickel	50.54	gal	2.0500	lb/gal	Mass Balance	Booth + Filter	87.3%							0.0066		
HAP-Toluene	176.89	gal	1.0000	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0884		
HAP-Xylene	151.63	gal	0.8700	lb/gal	Mass Balance	Booth + Filter	0.0%							0.0660		
PM25	362.21	gal	5.2100	lb/gal	Mass Balance	Booth + Filter	87.3%								0.1198	
EP35																
PulsePak Dow ndraft Table																
PM10	0.70	tons	2000.0000	lb/ton	Mass Balance	Dow ndraft Filters	70%	0.2100								
PM25	0.70	tons	2000.0000	lb/ton	Mass Balance	Dow ndraft Filters	70%								0.2100	
EP36																
Carbon Grinding																
PM10	0.70	tons	2000.0000	lb/ton	Mass Balance	Dust Collector	80%	0.1400								
PM25	0.70	tons	2000.0000	lb/ton	Mass Balance	Dust Collector	80%								0.1400	
EP37																
Munson Sander																
PM10	0.70	tons	2000.0000	lb/ton	Mass Balance	Dust Collector	80%	0.1400								
PM25	0.70	tons	2000.0000	lb/ton	Mass Balance	Dust Collector	80%								0.1400	
EP38*																
Blending																
PM10	1.40	tons	2000.0000	lb/ton	Mass Balance	Rotoclone	0%	1.4000								
PM25	1.40	tons	2000.0000	lb/ton	Mass Balance	Rotoclone	0%								1.4000	

Attachment A: Complete Equipment and Potential Emissions Summary[1]

MDNR De Minimis or SMAL Threshold (tpy)								15	40	40	40	100	0.01	25	10	N/A
Source	Throughput	Units	E.F.	E.F. Units	Source of E.F.	Control Device	Efficiency	PM10 (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	HAPs (tpy)	PM25 (tpy)	NH3 (tpy)
EP41																
Abrasive Blasting																
PM10	937.32	1,000 lbs/yr	3.12	lbs/1,000 lbs	SCC 3-09-002-02	Dust Collector	95%	0.0731								
PM25	937.32	1,000 lbs/yr	0.310	lbs/1,000 lbs	SCC 3-09-002-02	Dust Collector	95%								0.0073	
EP42*																
Bld 1 Bay 11 FPI Line																
VOC	216.05	gal	3.200	lb/gal	Mass Balance	n/a	n/a				0.3457					
EP43																
HVOF Cubicle 02C																
PM10	33.30	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0333								
HAP-Chromium and/or Compounds	3.33	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0033		
HAP-Cobalt	1.33	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0013		
PM25	33.30	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0333	
EP44																
Plasma 05B																
PM10	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%	0.0145								
HAP-Chromium and/or Compounds	0.72	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0007		
HAP-Cobalt	1.08	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0011		
HAP-Nickel	3.32	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%							0.0033		
PM25	14.45	tons	100.0000	lb/ton	Mass Balance	Booth + Filter	98%								0.0145	
EP45																
Kerosene Combustion																
PM10	100.92	Mgal	0.016	lb/Mgal	SCC 2-04-003-02	n/a	n/a	0.0008								
SOx	100.92	Mgal	0.07	lb/Mgal	SCC 2-04-003-02	n/a	n/a		0.0035							
NOx	100.92	Mgal	0.00	lb/Mgal	SCC 2-04-003-02	n/a	n/a			0.0000						
TOC	100.92	Mgal	0.00	lb/Mgal	SCC 2-04-003-02	n/a	n/a				0.0000					
CO	100.92	Mgal	6.72	lb/Mgal	SCC 2-04-003-02	n/a	n/a					0.3391				
PM25	100.92	Mgal	0.01	lb/Mgal	SCC 2-04-003-02	n/a	n/a								0.0005	
EP46																
Natural Gas Furnaces (2, grouped)																
PM10	16.64	mmcf	7.60	lb/mmcf	SCC 1-03-006-03	n/a	n/a	0.0632								
SOx	16.64	mmcf	0.60	lb/mmcf	SCC 1-03-006-03	n/a	n/a		0.0050							
NOx	16.64	mmcf	100.00	lb/mmcf	SCC 1-03-006-03	n/a	n/a			0.8320						
VOC	16.64	mmcf	5.50	lb/mmcf	SCC 1-03-006-03	n/a	n/a				0.0458					
CO	16.64	mmcf	84.00	lb/mmcf	SCC 1-03-006-03	n/a	n/a					0.6989				
Lead	16.64	mmcf	5.00E-04	lb/mmcf	SCC 1-03-006-03	n/a	n/a						0.0000			
HAPs	16.64	mmcf	see Combustion Sources	lb/mmcf	SCC 1-03-006-03	n/a	n/a							0.0157		
PM25	16.64	mmcf	7.60	lb/mmcf	SCC 1-03-006-03	n/a	n/a								0.0632	
NH3	16.64	mmcf	0.49	lb/mmcf	SCC 1-03-006-03	n/a	n/a									0.0041

Attachment A: Complete Equipment and Potential Emissions Summary[1]

MDNR De Minimis or SMAL Threshold (tpy)								15	40	40	40	100	0.01	25	10	N/A
Source	Throughput	Units	E.F.	E.F. Units	Source of E.F.	Control Device	Efficiency	PM10 (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	HAPs (tpy)	PM25 (tpy)	NH3 (tpy)
EP47																
Solvent Cleaning																
VOC	450.00	gal	6.5830	lb/gal		n/a	n/a				1.4812					
HAP-Methanol	150.00	gal	6.5800	lb/gal										0.4935		
						PTE (all sources)		5.875	0.009	0.832	7.685	1.038	0.003	2.472	5.809	0.004
						PTE (excluding grandfathered EP22)		3.880	0.009	0.832	7.685	1.038	0.003	1.020	3.814	0.004
								PM10 (tpy)	SOx (tpy)	NOx (tpy)	VOC (tpy)	CO (tpy)	Lead (tpy)	HAPs (tpy)	PM25 (tpy)	NH3 (tpy)
						De Minimis or SMAL Threshold		15.0000	40.0000	40.0000	40.0000	100.0000	0.0100	10.0/25.0	10.0000	n/a
Individual HAP Emissions	The below speciated HAP emissions calculations exclude the insignificant emissions of 0.0157 from EP46.															
Major Source Thresholds (tpy)														10		
HAP-4-methylpentan-2-one														0.0318		
HAP-Antimony Compounds														0.0124		
HAP-Cobalt	all sources													1.5469		
HAP-Cobalt	excluding EP22													0.0949		
HAP-Chromium and/or Compounds														0.0500		
HAP-Ethylbenzene														0.0373		
HAP - Hydrochloric acid														0.0044		
HAP - Hydrofluoric acid														0.0259		
HAP-Lead Compounds														0.0025		
HAP-Methanol														0.4935		
HAP-Nickel														0.0235		
HAP-Toluene														0.1306		
HAP-Xylene														0.0978		

* These sources are equipped with control devices, but controls are not required by federally enforceable requirements. Therefore, the control device efficiency is set to 0% for purpose of these calculations.

[1]Missing Emission Points (ie. EP01,EP26, etc.) were installed in the past but dismantled or removed entirely from the facility. Chronological numbering for the equipment remains even though some emission points no longer exist.

APPENDIX A

Abbreviations and Acronyms

% ..... percent
°F ..... degrees Fahrenheit
acfm ..... actual cubic feet per minute
BACT..... Best Available Control Technology
BMPs..... Best Management Practices
Btu..... British thermal unit
CAM ..... Compliance Assurance Monitoring
CAS ..... Chemical Abstracts Service
CEMS ..... Continuous Emission Monitor System
CFR ..... Code of Federal Regulations
CO ..... carbon monoxide
CO_2..... carbon dioxide
CO_2e..... carbon dioxide equivalent
COMS..... Continuous Opacity Monitoring System
CSR..... Code of State Regulations
dscf ..... dry standard cubic feet
EIQ ..... Emission Inventory Questionnaire
EP..... Emission Point
EPA ..... Environmental Protection Agency
EU..... Emission Unit
fps ..... feet per second
ft..... feet
GACT ..... Generally Available Control Technology
GHG ..... Greenhouse Gas
gpm ..... gallons per minute
gr..... grains
GWP ..... Global Warming Potential
HAP ..... Hazardous Air Pollutant
hr..... hour
hp ..... horsepower
lb ..... pound
lbs/hr..... pounds per hour
MACT ..... Maximum Achievable Control Technology
$\mu g/m^3$..... micrograms per cubic meter
m/s ..... meters per second
Mgal ..... 1,000 gallons
MW..... megawatt
MHDR..... maximum hourly design rate
MMBtu ... Million British thermal units
MMCF..... million cubic feet
MSDS..... Material Safety Data Sheet
NAAQS .. National Ambient Air Quality Standards
NESHAPs National Emissions Standards for Hazardous Air Pollutants
NO_x..... nitrogen oxides
NSPS..... New Source Performance Standards
NSR..... New Source Review
PM..... particulate matter
$PM_{2.5}$..... particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} ..... particulate matter less than 10 microns in aerodynamic diameter
ppm..... parts per million
PSD..... Prevention of Significant Deterioration
PTE ..... potential to emit
RACT ..... Reasonable Available Control Technology
RAL..... Risk Assessment Level
SCC..... Source Classification Code
scfm..... standard cubic feet per minute
SDS..... Safety Data Sheet
SIC ..... Standard Industrial Classification
SIP..... State Implementation Plan
SMAL ..... Screening Model Action Levels
SO_x..... sulfur oxides
SO_2..... sulfur dioxide
tph..... tons per hour
tpy..... tons per year
VMT..... vehicle miles traveled
VOC..... Volatile Organic Compound

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Eric R. Greitens, Governor
Carol S. Comer, Director

JUL 24 2017

Mr. Gregg Clinton
Safety Coordinator
PAS Technologies Inc.
1234 Atlantic St
Kansas City, MO 64116

RE: New Source Review Permit - Project Number: 2016-10-034

Dear Mr. Clinton:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

During the review of this construction permit, it has been determined that this installation is no longer required to obtain a basic operating permit. Therefore your basic operating permit, Project #2013-04-052, has been terminated at this time and your existing application for the renewal of the basic operating permit, Project #2016-09-010 has been closed. You are still obligated to meet all applicable air pollution control rules, Department of Natural Resources' rules, and any other applicable federal, state, or local agency regulations.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: http://dnr.mo.gov/regions/. The online CAV request can be found at http://dnr.mo.gov/cav/compliance.htm.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date

was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact Hans Robinson at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:hrj

Enclosures

c: Kansas City Regional Office
PAMS File: 2016-10-034

Permit Number: 072017-017