

STATE OF 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: 052016-007

Project Number: 2013-12-020
Installation Number: 183-0143

Parent Company: Alpa, Inc.

Parent Company Address: 289 Highway 155 South, McDonough, GA 30253

Installation Name: Alpa, Inc.

Installation Address: 9 Cermak Blvd, St. Peters, MO 63376

Location Information: St. Charles County, S25, T16N, R6E

Application for Authority to Construct was made for:

Installation of four new high density polyethylene (HDPE) blow molding lines. This review was conducted in accordance with Section (5) of 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.

Alana L. Hess

Prepared by
Alana Hess
New Source Review Unit

Randall B. Hale for

Director or Designee
Department of Natural Resources

MAY 31 2016

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. The 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 source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's St. Louis Regional Office 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 source(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.

Contact Information:
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."

Alpla, Inc.
St. Charles County, S25, T16N, R6E

1. Control Device Requirement – Cartridge Filter
 - A. Alpla, Inc. shall control particulate emissions from EP-02 Lines 1 – 4 Grinding and EP-09 Re grind using cartridge filters as specified in the permit application.
 - B. The cartridge filters shall be operated and maintained in accordance with the manufacturer's specifications. The cartridge filters shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. The gauges or meters shall be located such that Department of Natural Resources' employees may easily observe it.
 - C. Replacement filters for the cartridge 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).
 - D. Alpla, Inc. shall monitor and record the operating pressure drop across each cartridge filter at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance specifications.
 - E. Alpla, Inc. shall maintain a copy of each cartridge filter manufacturer's performance specifications on site.
 - F. Alpla, Inc. shall maintain an operating and maintenance log for the cartridge filters which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

SPECIAL CONDITIONS:

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

2. **Record Keeping and Reporting Requirements**
Alpla, 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.

3. **Superseding Condition**
The conditions of this permit supersede Special Condition 2 of Construction Permit 112011-010 previously issued by the Air Pollution Control Program.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2013-12-020
Installation ID Number: 183-0143
Permit Number:

Installation Address:

Alpla, Inc.
9 Cermak Blvd.
St. Peters, MO 63376

Parent Company:

Alpla, Inc.
289 Highway 155 South
McDonough, GA 30253

St. Charles County, S25, T16N, R6E

REVIEW SUMMARY

- Alpla, Inc. has applied for authority to install four new HDPE blow molding lines at their Cermak facility.
- The application was deemed complete on March 29, 2016.
- HAP emissions are expected from the proposed equipment. Acetaldehyde, acrolein, acrylic acid, formaldehyde, and propionaldehyde are emitted from the blowing of HDPE, emissions of each individual HAP are less than 0.01 tons per year.
- None of the regulations in 40 CFR Parts 60, 61, and 63 apply to the proposed equipment.
- A cartridge filter is being used to control particulate emissions from EP-9 Re grind and EP-02 Lines 1 – 4 Grinding.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*. Potential emissions of all pollutants are conditioned below de minimis levels by the federally enforceable control device requirement for the cartridge filters.
- This installation is located in St. Charles County, a nonattainment area for the 2008 8-hour ozone standard and the 1997 PM_{2.5} standard and 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 below the de minimis levels and the SMALs.
- Emissions testing is not required for this equipment.

- A Basic Operating Permit application is required for this installation no later than 30 days after the issuance date of this permit.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Alpla, Inc. produces plastic bottle for household products in St. Peters, Mo. The installation consists of two facilities located at 9 Cermak Blvd and 1 Gerber Industrial Court. The two facilities are considered one installation per 10 CSR 10-6.020(2)(I)17 as they:

1. Share the same 2-digit SIC code
Both facilities produce plastic bottles under SIC 3085.
2. Are on one or more contiguous or adjacent properties
The two facilities are located less than 0.5 miles apart in St. Peters, Mo.
3. Are under common control
The two facilities share a single plant manager.

A complete list of permitted emission sources for the installation is provided in Table 1.

Table 1: Alpla, Inc. Emission Source List

Emission Source	Description	MHDR	Federally Enforceable Control Equipment	Facility
EP-01	HDPE Blow Molding Lines 1 – 4	3 tph HDPE	None	9 Cermak Blvd.
EP-02	Lines 1 – 4 Grinding	1.59 tph HDPE	Cartridge Filter ¹	
EP-03	Burn-off Oven/Incinerator	2.65 MMBtu/hr natural gas	Afterburner	
EP-04	Plastic Silo #1	3 tph HDPE (Lines 1 – 4)	None	
EP-05	Plastic Silo #2		None	
EP-06	Plastic Silo #3	3 tph HDPE (Lines 5 – 8)	None	
EP-07	Plastic Silo #4		None	
EP-08	HDPE Blow Molding Lines 5 – 8	3 tph HDPE	None	
EP-09	Lines 5 – 8 Grinding	1.59 tph HDPE	Cartridge Filter	
-	96 HP Emergency Generator	21.7 gal/hr diesel	None	1 Gerber Industrial Court
-	133 HP Emergency Generator	1185 cfh natural gas	None	

¹ Construction Permit 112011-010 required the use of a mesh filter sock. The mesh filter sock has since been replaced by a cartridge filter. In order to ensure the proper operation of the cartridge filter, EP-02 is being required to comply with Special Condition 1.

The following New Source Review permits have been issued to Alpla, Inc. from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
112011-010	Installation of four HDPE blow molding lines and a burnoff oven at 9 Cermak Blvd

Note: Alvey, Inc. was the prior tenant at 9 Cermak Blvd; however, all equipment installed by Alvey, Inc. was removed prior to Alpla, Inc. using the property.

The installation was required to obtain a Basic Operating Permit by Construction Permit 112011-010, but has failed to do so.

PROJECT DESCRIPTION

Alpla, Inc. has applied to install four new HDPE blow molding lines at their Cermak Blvd facility. The lines include two new plastic pellet storage silos (EP-06 and EP-07), four new blow molding machines (EP-08), and a new grinding machine (EP-09). The four new molding lines have a maximum hourly design rate of 3 tph HDPE. Based on historical usage of the existing four HDPE blow molding lines at the installation, the maximum hourly design rate of the grinding operations is 53% of the blow molding maximum hourly design rate (i.e. 1.59 tph). Particulate emissions from the new plastic pellet storage silos will be controlled with bin vent filters during loading operations. Particulate emissions from the grinding machine will be controlled by a cartridge filter.

EMISSIONS/CONTROLS EVALUATION

An emission factor for the handling of HDPE was obtained from WebFIRE for Process SCC 30101807. This emission factor was used for EP-06, EP-07, and EP-09. The cartridge filters consist of nonwoven polypropylene. The manufacturer's specifications indicated a control efficiency of 90% - 95%. To be conservative, 90% overall control was used in emissions calculations.

Emissions from EP-08 HDPE blow molding machines were calculated using emission factor from a 1996 Air and Waste Management Association journal article, *Development of Emission Factors for Polyethylene Processing*.

The following table provides an emissions summary for this project. Existing potential emissions were calculated for this project and are based on calculations performed for Projects 2011-07-076, 2015-10-007, and 2015-10-039. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).

Table 3: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	9.75	N/A	9.65	19.39
PM ₁₀	15.0	9.82	1.29	9.65	19.46
PM _{2.5}	10.0	9.82	1.29	9.65	19.46
SO _x	40.0	0.22	N/D	N/A	0.22
NO _x	40.0	5.26	0.0001	N/A	5.26
VOC	40.0	0.92	0.31	0.55	1.47
CO	100.0	1.78	0.0001	N/A	1.78
HAPs	25.0	0.05	N/D	0.004	0.05
Hexane	10.0	0.02	N/D	N/A	0.02
Formaldehyde	10.0	0.02	N/D	0.002	0.02
Acetaldehyde	10.0	0.004	N/D	0.001	0.005
Acrolein	10.0	0.002	N/D	0.001	0.003
Propionaldehyde	10.0	0.001	N/D	0.001	0.001
Acrylic Acid	10.0	0.001	N/D	0.001	0.001

N/A = Not Applicable; N/D = Not Determined

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 all pollutants are conditioned below de minimis levels by the federally enforceable control device requirement for the cartridge filters.

APPLICABLE REQUIREMENTS

Alpla, 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.

GENERAL REQUIREMENTS

- 10 CSR 10-6.065 *Operating Permits*
 - A Basic Operating Permit application is required for this installation no later than 30 days after the issuance date of this permit.
- 10 CSR 10-6.110 *Submission of Emission Data, Emission Fees and Process Information*

- A full EIQ is required for the 2017 calendar year.
- 10 CSR 10-6.165 *Restriction of Emission of Odors*
- 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*
- 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*

SPECIFIC REQUIREMENTS

- 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes* applies to EP-06 and EP-07. With an MHDR of 3 tph the calculated PM limit is 8.56 lb/hr. The uncontrolled emission rate is 1.98 lb/hr; therefore, no control equipment is required.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5) of 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 December 16, 2013, received December 16, 2013, designating Alpla, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
cfh	cubic feet per hour	NO_x	nitrogen oxides
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	carbon monoxide	NSR	New Source Review
CO₂	carbon dioxide	PM	particulate matter
CO_{2e}	carbon dioxide equivalent	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
COMS	Continuous Opacity Monitoring System	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CSR	Code of State Regulations	ppm	parts per million
dscf	dry standard cubic feet	PSD	Prevention of Significant Deterioration
EQ	Emission Inventory Questionnaire	PTE	potential to emit
EP	Emission Point	RACT	Reasonable Available Control Technology
EPA	Environmental Protection Agency	RAL	Risk Assessment Level
EU	Emission Unit	SCC	Source Classification Code
fps	feet per second	scfm	standard cubic feet per minute
ft	feet	SDS	Safety Data Sheet
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Tom Nash
Alpla, Inc.
9 Cermak Blvd.
St. Peters, MO 63376

RE: New Source Review Permit - Project Number: 2013-12-020

Dear Mr. Nash:

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 submittal of a Basic operating permit application are necessary to achieve 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.

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 §§621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission 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 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.

Mr. Tom Nash
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If you have any questions regarding this permit, please do not hesitate to contact Alana Hess, 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:ahj

Enclosures

c: St. Louis Regional Office
PAMS File: 2013-12-020

Permit Number: