

**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: **022017-010**

Project Number: 2016-11-040  
Installation Number: 510-1390

Parent Company: Archer Daniels Midland Company

Parent Company Address: 4666 East Faries Parkway, Decatur, IL 62526

Installation Name: American River Transportation Co., LLC

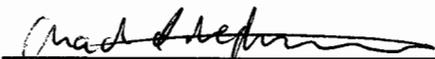
Installation Address: 4528 South Broadway, St. Louis, MO 63111

Location Information: City of St Louis County

Application for Authority to Construct was made for:  
Installing one 12.6 million BTU/hr ABCO boiler. 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.



Prepared by  
Chad Stephenson  
New Source Review Unit



Director or Designee  
Department of Natural Resources

**FEB 22 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 source(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 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."*

American River Transportation Co., LLC  
City of St Louis County

1. Fuel Requirement-Boiler

- A. American River Transportation Co., LLC shall burn exclusively fuel oil for the boiler (EU-6) with a sulfur content less than or equal to 0.5 % by weight.
- B. American River Transportation Co., LLC shall demonstrate compliance with Special Condition 1.A by obtaining records of the fuel's sulfur content from the vendor for each shipment of fuel received or by testing each shipment of fuel for the sulfur content in accordance with the method described in 10 CSR 10-6.040 Reference Methods.
- C. American River Transportation Co., LLC shall keep the records required by Special Condition 1.B with the unit and make them available for Department of Natural Resources' employees upon request.

2. Record Keeping and Reporting Requirements

- A. American River Transportation Co., LLC 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.
- B. American River Transportation Co., LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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.

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

Project Number: 2016-11-040  
Installation ID Number: 510-1390  
Permit Number: **022017-010**

Installation Address:

American River Transportation Co., LLC  
4528 South Broadway  
St. Louis, MO 63111

Parent Company:

Archer Daniels Midland Company  
4666 East Faries Parkway  
Decatur, IL 62526

City of St Louis County

REVIEW SUMMARY

- American River Transportation Co., LLC has applied for authority to install one 12.6 million BTU/hr fuel oil fired ABCO boiler.
- The application was deemed complete on November 22, 2016.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are from fuel oil combustion.
- 40 CFR 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" applies to the equipment.
- 40 CFR Part 63 Subpart JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources" applies to the equipment.
- No air pollution control equipment is being used in association with the new equipment.
- 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 below de minimis levels.
- This installation is located in City of St Louis County, an attainment area for all 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 de minimis levels.

- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
- An Basic Operating Permit application amendment is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

American River Transportation Co., LLC is an existing installation that is a river terminal located in St. Louis, Missouri. They operate under a basic operating permit.

The following New Source Review permits have been issued to American River Transportation Co., LLC from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
02-10-022	Local CP for Boilers
OP05003	Basic Operating Permit.
OP05003A	Amendment to Basic Operating Permit for Source Registration
11-03-002	Local CP to Update Boiler Fuel

### PROJECT DESCRIPTION

American River Transportation Co., LLC (ARTCO) has applied for authority to install a fuel oil fired 12.6 million Btu/hr ABCO 3000 AMC boiler. The ABCO boiler was previously used with a different fuel source and is being modified to generate steam heat using fuel oil for tank barge washing and heating certain tanks used for caustic soda storage. The fuel oil will not exceed 0.5 percent sulfur by weight.

### 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 1.3 Fuel Oil Combustion.

The following table provides an emissions summary for this project. Existing potential emissions were not available. Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the application represent the potential of the modified equipment, assuming continuous operation (8760 hours per year).

**Table 2: Emissions Summary (tpy)**

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project
PM	25.0	N/D	N/D	0.81
PM <sub>10</sub>	15.0	N/D	0.38	0.94
PM <sub>2.5</sub>	10.0	N/D	0.31	0.63
SOx	40.0	N/D	0.18	29.32
NOx	40.0	N/D	2.99	8.14
VOC	40.0	N/D	0.05	0.08
CO	100.0	N/D	0.64	2.04
GHG (CO <sub>2</sub> e)	N/A	N/D	N/D	9,113
GHG (mass)	N/A	N/D	N/D	9,081
HAPs	10.0/25.0	N/D	N/D	0.03

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 below de minimis levels. Potential emissions of SOx are above insignificant levels.

#### APPLICABLE REQUIREMENTS

American River Transportation Co., LLC 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

- *Operating Permits*, 10 CSR 10-6.065
- *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
- *New Source Performance Regulations*, 10 CSR 10-6.070
  - – *Standards of Performance for Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc
- *MACT Regulations*, 10 CSR 10-6.075
  - *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers – Area Sources* 40 CFR Part 63, Subpart JJJJJ
- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405 applies to the boiler. The boiler will combust fuel oil with less than 1.2% sulfur, therefore it is deemed in compliance.

#### 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 November 14, 2016, received November 18, 2016, designating Archer Daniels Midland Company as the owner and operator of the installation.

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ...	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ..	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EIQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

Emission Unit	Description	Installation's Designation	MHDR (MMBtu/hr input)	Combined MHDR (MMBtu/hr input)	MHDR (1,000 gal/hr)	Pollutant	CAS	HAP?	Emission Factor	Emission Factor Units	Emission Factor Source	Available Pollutant (lb/hr)	Control Device	PTE (lb/hr)	PTE (tpy)
EP-02	12.6 MMBtu/hr ABCO	0	12.6	12.6	0.093	PM filterable			2		SCC 1-02-005-02 industrial boiler no 2 distillate oil 10-100 MMBtu/hr	0.1859	none	0.1859	0.81
0		0	0.0			PM10			2.30			0.2138	none	0.2138	0.94
0		0	0.0				PM2.5		1.55			0.1441	none	0.1441	0.63
0		0	0.0				SOx		72.0000			6.6941	none	6.6941	29.32
0		0	0.0				NOx		20			1.8595	none	1.8595	8.14
						NMTOC as VOC			0.2		0.0186	none	0.0186	0.08	
						CO			5		0.4649	none	0.4649	2.04	
						Combined HAPS			0.0790		0.0073	none	0.0073	0.03	
						POM aggregate group			4.49E-03		4.18E-04	none	4.18E-04	1.83E-03	
						POM (particulate only)		y	0.0033		0.0003	none	3.07E-04	1.34E-03	
						Formaldehyde	50-00-0	y	6.10E-02		5.6714E-03	none	0.0057	0.02	
						Benzene	71-43-2	y	2.14E-04		1.9896E-05	none	1.99E-05	8.71E-05	
						Ethylbenzene	100-41-4	y	6.36E-05		5.9131E-06	none	5.91E-06	2.59E-05	
						Naphthalene	91-20-3	y	1.13E-04		1.0506E-04	none	1.05E-04	4.60E-04	
						1,1,1-Trichloroethane	71-55-6	y	2.36E-04		2.1942E-05	none	2.19E-05	9.61E-05	
						Toluene	108-88-3	y	6.20E-03	lb / 1,000 gal	5.7643E-04	none	5.76E-04	2.52E-03	
						o-Xylene	95-47-6	y	1.09E-04		1.0134E-05	none	1.01E-05	4.44E-05	
						Acenaphthene	83-32-9	y	2.11E-05		1.9617E-06	none	1.96E-06	8.59E-06	
						Acenaphthylene	208-96-8	y	2.53E-07		2.3522E-08	none	2.35E-08	1.03E-07	
						Anthracene	120-12-7	y	1.22E-06		1.1343E-07	none	1.13E-07	4.97E-07	
						Benzo(a)anthracene	56-55-3	y	4.01E-06		3.7282E-07	none	3.73E-07	1.63E-06	
						Benzo(b)fluoranthene	205-99-2	y	1.48E-06		1.3760E-07	none	1.38E-07	6.03E-07	
						Benzo(k)fluoranthene	207-08-9	y	1.48E-06		1.3760E-07	none	1.38E-07	6.03E-07	
						Benzo(g,h,i)perylene	191-24-2	y	2.26E-06		2.1012E-07	none	2.10E-07	9.20E-07	
						Chrysene	218-01-9	y	2.38E-06		2.2128E-07	none	2.21E-07	9.69E-07	
						Dibenzo(a,h)anthracen	53-70-3	y	1.67E-06		1.5527E-07	none	1.55E-07	6.80E-07	
						Fluoranthene	206-44-0	y	4.84E-06		4.4999E-07	none	4.50E-07	1.97E-06	
						Fluorene	86-73-7	y	4.47E-06		4.1559E-07	none	4.16E-07	1.82E-06	
						Indo(1,2,3-cd)pyrene	193-39-5	y	2.14E-06		1.9896E-07	none	1.99E-07	8.71E-07	
						Phenanthrene	85-01-8	y	1.05E-05		9.7622E-07	none	9.76E-07	4.28E-06	
						Pyrene	129-00-0	y	4.25E-06		3.9514E-07	none	3.95E-07	1.73E-06	
						OCDD (dioxin)	3268-87-9	y	3.10E-09		2.8822E-10	none	2.88E-10	1.26E-09	
						Arsenic		y	4	lb / 10 <sup>12</sup> Btu	5.0400E-05	none	5.04E-05	2.21E-04	
						Beryllium		y	3		3.7800E-05	none	3.78E-05	1.66E-04	
						Cadmium		y	3		3.7800E-05	none	3.78E-05	1.66E-04	
						Chromium		y	3		3.7800E-05	none	3.78E-05	1.66E-04	
						Copper		y	6		7.5600E-05	none	7.56E-05	3.31E-04	
						Lead		y	9		1.1340E-04	none	1.13E-04	4.97E-04	
						Mercury		y	3		3.7800E-05	none	3.78E-05	1.66E-04	
						Manganese		y	6		7.5600E-05	none	7.56E-05	3.31E-04	
						Nickel		y	3		3.7800E-05	none	3.78E-05	1.66E-04	
						Selenium		y	15		1.8900E-04	none	1.89E-04	8.28E-04	
						Zinc		y	4		5.0400E-05	none	5.04E-05	2.21E-04	
						CO2			22,300	lb / 1,000 gal	2073.31	none	2073.3063	9081.08	
						CH4			0.052		0.00	none	0.0048	0.02	
						N2O			0.26		0.02	none	0.0242	0.11	
						GHG (mass)								9,081.21	
						GHG (CO2e)								9,113.16	

Sulfur Content (wt %)	ULSD HHV (Btu/gal)
0.5000%	135,523

ULSD Density (lb/gal)
7.1

100yr GWP 40 CFR 98  
Table A-1, Jan 1 2014

CO2	1
CH4	25
N2O	298

Emission factor for Benzo(b,k)fluoranthene conservatively applied to each (b) and (k)  
ULSD Diesel HHV reduced 1.1% on a volume basis from LSD. Reference: USEIA "The Transition to Ultra-Low-Sulfur Diesel Fuel: Effects on Prices and Supply" Report #: SR-OIAF/2001-01  
PM, PM10, and PM2.5 emission factors cited from AP-42 Table 1.3-1, 1.3-2, 1.3-6 for industrial boiler May 2010.

NSPS DC defined as oil fired initial notification record keep fuel usage per boiler and sulfur content	MACT 6J defined as oil fired, new every other year tune-up as the CO management practice standard PM limit of 0.03 lb/MMBtu heat input AP-42 PM emission factors are in compliance with the limit. They equate to initial performance test, and every 3 years after monthly fuel mix records	PM	0.015
		PM10	0.017



Eric R. Greitens, Governor • Carol S. Comer, Acting Director

## DEPARTMENT OF NATURAL RESOURCES

[dnr.mo.gov](http://dnr.mo.gov)

**FEB 22 2017**

Mr. Ryan Wilson  
Terminal Manager  
American River Transportation Co., LLC  
P.O. Box 2889  
St. Louis, MO 63111

RE: New Source Review Permit - Project Number: 2016-11-040

Dear Mr. Wilson:

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 amended 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.

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](http://www.oa.mo.gov/ahc).



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Mr. Ryan Wilson  
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csj

Enclosures

c: St. Louis Regional Office  
PAMS File: 2016-11-040

Permit Number: **022017-010**