



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: **102013-011** Project Number: 2013-06-020
Installation Number: 047-0169

Parent Company: Tire Centers L.L.C.

Parent Company Address: 100 East 14th Avenue, North Kansas City, MO 64116

Installation Name: Tire Centers L.L.C.

Installation Address: 100 East 14th Avenue, North Kansas City, MO 64116

Location Information: Clay County, S23, T50N, R33W

Application for Authority to Construct was made for:

Installation of a natural gas-fired burn-off oven. 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.

OCT 16 2013

EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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 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 Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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|-------------|-------------|
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| Permit No. | |
| Project No. | 2013-06-020 |

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."

Tire Centers L.L. C
Clay County, S23, T50N, R33W

1. Burn-Off Oven (EP-06) Operational Requirements
 - A. Tire Centers L.L.C. shall only remove non-chlorinated, non-hazardous coatings from metal parts with the burn-off oven.
 - B. Tire Centers L.L.C. shall only burn natural gas as fuel in this oven.
 - C. Tire Centers L.L.C. shall use a direct flame afterburner to control emissions from the burn-off oven. The afterburner shall be operated at a minimum of 1,400 degrees Fahrenheit with more than a one-half (1/2) second residence time to assure a minimum combustion efficiency of 99.9%.
 - D. The burn-off oven shall be equipped with an electronic controller, with digital readout, which is able to monitor and display the temperature in the second combustion chamber to an accuracy of plus or minus two percent (2%).
 - E. The burn-off oven shall have opacity of less than ten percent (10%) at all times. Opacity shall be determined by Method 9 compliance testing.

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

Project Number: 2013-06-020
Installation ID Number: 047-0169
Permit Number:

Tire Centers L.L. C
100 East 14th Avenue
North Kansas City, MO 64116

Complete: June 10, 2013

Parent Company:
Tire Centers L.L.C.
100 East 14th Avenue
North Kansas City, MO 64116

Clay County, S23, T50N, R33W

REVIEW SUMMARY

- Tire Centers L.L. C. has applied for authority to construct a burn-oven for the rim refurbishing process.
- HAP emissions are expected from the combustion of natural gas.
- None of the New Source Performance Standards (NSPS) apply to the installation. Subpart CCCC, *Standards of Performance for Commercial and Industrial Solid Waste Incineration Units*, does not apply to the burn-off oven because a burn-off oven is not considered an incinerator for the purpose of this subpart according to §60.2265. Subpart E, *Standards of Performance for Incinerators*, does not apply to the oven because the unit has a charge rate of less than 50 tons per day.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A direct-fired afterburner is being used to control emissions from 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 Clay County, a maintenance area for ozone 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 de minimis levels.
- Emissions testing is not required for the equipment.
- A Basic Operating Permit Application is required for this installation within 30 days after equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Tire Centers, L.L.C. owns and operates a tire retreading and rim refurbishing installation in North Kansas City. For the tire retreading operation, tires are brought to the installation for processing. The worn tire tread is first removed through a grinding process and the tire base is buffed. The resulting buffed tire base is taken to a cement booth where a new tire tread is secured to the base through the application of an adhesive compound. The rubber is then cured by subjecting it to steam, which binds the rubber of the tire base and the new tread. For the rim refurbishing operation, the rims are shot blasted to remove powder coat, dirt, rust, and other loose material. Then they are powder coated in a booth and cured in a catalytic oven.

A construction permit (No. 0698-026) was issued to the installation in 1998 for all of the equipment. At that time, the VOC and HAP emissions were calculated to be greater than their de minimis levels (40 tpy for VOC, 10 tpy for individual HAP, 25 tpy for combined HAP). However, in 2002, the installation asked that its plant-wide PTE be re-evaluated for operating permit applicability. In response, The Air Pollution Control Program recalculated the PTE and determined that emissions of all pollutants from the installation were less than their respective de minimis levels (35 tpy of VOC, 0.83 tpy of HAP). Therefore, no construction or operating permit would be required for the facility. No other construction permits have been issued since that determination.

PROJECT DESCRIPTION

The installation proposes to install a burn-off oven in its rim refurbishing process. Currently, after the rims are sand-blasted, they are sent directly to the powder coatings booth. The facility would like to add a burn-off oven between the sand-blasting booth and the powder coatings booth to remove any coatings that remain after sand-blasting. The process burner and the afterburner are both rated at 1 MMBtu/hr. The maximum number of rims that can be processed is 133,590 rims/year. The burn-off oven is not expected to bottleneck the process so there will be no increase in emissions from any existing equipment.

EMISSIONS/CONTROLS EVALUATION

Emissions from the burn-off oven are less than the exemption levels given in Missouri State Rules 10 CSR 10-6.061(3)(A)3.A. However, the burn-off oven is considered an incinerator according to Missouri State Rules 10 CSR 10-6.020 and all incinerators are required to obtain a permit in Missouri in accordance with 10 CSR 10-6.060 (1)(B).

The facility submitted emissions data from the manufacturer for SO_x, NO_x, CO, VOC and PM. However, the manufacturer was not able to provide the stack test report and the emissions data could not be verified. The emissions for a burn-off oven are generally calculated assuming that the significant emissions are from the natural gas combustion. Emissions factors for natural gas combustion is in EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Chapter 1.4, *Natural Gas Combustion*, (7/98). To be conservative, the SO_x, NO_x, CO, VOC and PM emissions were calculated using both the manufacturer's data and emission factor from AP-42 and the highest value was used for this permit. All of the PM were also considered PM_{2.5} and PM₁₀.

The burn-off oven might produce some particulate matter from the volatilization of the powder coatings. However, these emissions are expected to be insignificant compared to emissions from natural combustion. Due to the already low level of particulate emissions from natural gas combustion, the emissions from volatilization are not expected to increase the PM_{2.5}, PM₁₀ and PM emissions above their respective de minimis levels. Therefore, the particulate emissions from volatilization were not calculated for this review.

GHG mass-based and CO₂e-based emissions were calculated using both emission factors from AP-42, Chapter 1.4, and the emission factors in 40 CFR 98, Subpart C, Table C-1 and C-2. The higher emissions were used for this permit.

The following table provides an emissions summary for this project. Existing potential emissions of VOC and HAPs were taken from an operating permit applicability letter issued in 2002 (Project 2002-06-066). Emissions for other pollutants were taken from Permit No. 0698-026. Existing actual emissions were not determined because the installation is not required to file EIQs. Potential emissions of the application represent the potential of the new equipment assuming continuous operation (8760 hours per year).

Table 1: Emissions Summary (tons per year)

| Pollutant | Regulatory <i>De Minimis</i> Levels | Existing Potential Emissions | Existing Actual Emissions (EIQ) | Potential Emissions of the Application | New Installation Conditioned Potential |
|-------------------------|-------------------------------------|------------------------------|---------------------------------|--|--|
| PM | 25.0 | N/D | N/D | 0.19 | N/D |
| PM ₁₀ | 15.0 | 7.6 | N/D | 0.19 | N/D |
| PM _{2.5} | 10.0 | N/D | N/D | 0.19 | N/D |
| SO _x | 40.0 | 0.01 | N/D | 0.02 | N/D |
| NO _x | 40.0 | 0.9 | N/D | 0.86 | N/D |
| VOC | 40.0 | 35.0 | N/D | 0.05 | N/D |
| CO | 100.0 | 0.7 | N/D | 0.72 | N/D |
| GHG (CO ₂ e) | 75,000 / 100,000 | N/D | N/D | 1,032.71 | N/D |
| GHG (mass) | 0.0 / 100.0 / 250.0 | N/D | N/D | 1,030.59 | N/D |
| HAPs | 10.0/25.0 | 0.83 | N/D | 0.02 | N/D |

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. However, the burn-off oven is considered an incinerator and required to obtain a construction permit in accordance with 10 CSR 10-6.060(1)(B).

APPLICABLE REQUIREMENTS

Tire Centers L.L.C. 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

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *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
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

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*, I recommend this permit be granted with special conditions.

Chia-Wei Young
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 28, 2013, received June 10, 2013, designating Tire Centers L.L.C. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

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 |
| CFR | Code of Federal Regulations | NO_x | nitrogen oxides |
| CO | carbon monoxide | NSPS | New Source Performance Standards |
| CO₂ | carbon dioxide | NSR | New Source Review |
| CO_{2e} | carbon dioxide equivalent | PM | particulate matter |
| COMS | Continuous Opacity Monitoring System | PM_{2.5} | particulate matter less than 2.5 microns in aerodynamic diameter |
| CSR | Code of State Regulations | PM₁₀ | particulate matter less than 10 microns in aerodynamic diameter |
| dscf | dry standard cubic feet | ppm | parts per million |
| EQ | Emission Inventory Questionnaire | PSD | Prevention of Significant Deterioration |
| EP | Emission Point | PTE | potential to emit |
| EPA | Environmental Protection Agency | RACT | Reasonable Available Control Technology |
| EU | Emission Unit | RAL | Risk Assessment Level |
| fps | feet per second | SCC | Source Classification Code |
| ft | feet | scfm | standard cubic feet per minute |
| 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. Steve Manuel
Vice President of Manufacturing
Tire Centers L.L.C.
100 East 14th Avenue
North Kansas City, MO 64116

RE: New Source Review Permit - Project Number: 2013-06-020

Dear Mr. Manuel:

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, if any, 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 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.

If you have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young, 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:cyl

Enclosures

c: Kansas City Regional Office
PAMS File: 2013-06-020

Permit Number: