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: 012018-001

Project Number: 2017-06-083
Installation Number: 183-0110

Parent Company: Zoltek Carbon Fibers

Parent Company Address: 3101 McKelvey Road, Bridgeton, MO 63304

Installation Name: Zoltek Carbon Fibers

Installation Address: 11 Research Park Dr., St. Charles, MO 63304

Location Information: St. Charles County, S34, T46N, R2E

Application for Authority to Construct was made for:
Installation of a byproduct recovery equipment including a de-sizing 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.

Prepared by
Sam Anzalone
New Source Review Unit

Kendall B. Hale for

Director or Designee
Department of Natural Resources

JAN 03 2018

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."

Zoltek Carbon Fibers
St. Charles County, S34, T46N, R2E

1. Control Device Requirement-Baghouse
   A. Zoltek Carbon Fibers shall capture and control all emissions from the following emission units using baghouses (CD-11 & CD-12) as specified in the permit application.
      1) EP-11 (CD-11): EU-11 (Pierre precutter), EU-12 (belt conveyor), EU-13 (belt conveyor)
      2) EP-12 (CD-12): EU-14 (knife chopper), EU-15 (hammer mill), EU-16 (vacuum conveyor)

   B. The total particulate matter (filterable plus condensable) emissions for each individual filter shall not exceed 0.02 gr / scf. Zoltek Carbon Fibers shall demonstrate compliance by keeping onsite a guarantee/statement from the filter manufacturer showing the filter rating.

   C. Each air flowrate shall not exceed 2233 cfm for CD-11 and 3000 cfm for CD-12. Zoltek Carbon Fibers shall demonstrate compliance at each control device by,
      1) At least once per calendar quarter conducting testing to determine the average velocity at each respective control device. Testing shall be conducted using a method preapproved by the Air Pollution Control Program. The respective velocity shall by multiplied by the cross sectional area to determine the flowrate., or
      2) Obtaining a copy of the manufacturer's calculations showing the theoretical flowrate, fan size, fan speed, motor amperage.
      3) Copies of the compliance method shall be maintained on site

   D. The baghouses shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.

   E. Zoltek Carbon Fibers shall develop a written standard operating procedure to monitor pressure drop and filter condition. Normal operation and replacement parameters shall be indicated. The standard operating procedure shall be kept on site.

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

F. Zoltek Carbon Fibers shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours when the associated equipment is in operation. The operating pressure drop shall be maintained within the design conditions specifications of the standard operating procedure.

G. Zoltek Carbon Fibers shall operate the filters according to the standard operating procedure. The operating pressure drop shall be maintained within the specifications of the standard operating procedure

H. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance). The replacement filter material type and weight shall meet or exceed the specifications of the existing filter. The air to cloth ratio or air to filter ratio shall not be increased when filter replacement is performed.

I. Zoltek Carbon Fibers shall maintain an operating and maintenance log for the baghouses 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.

2. Enclosure requirement
   A. Zoltek Carbon Fibers shall completely enclose the following equipment and route air flow to the appropriate control device
      1) EU-10(de-sizing furnace), EU-11(Pierre t cutter), EU-12(belt conveyor), EU-13(belt conveyor), EU-14(knife chopper), EU-15(hammer mill), EU-16 (vacuum conveyor)

3. Control Device Requirement – Thermal Oxidizer
   A. Zoltek Carbon Fibers shall control all emissions from the following using thermal oxidizer (CD-10) as specified in the permit application.
      1) EU-10 (de-sizing furnace)

   B. The thermal oxidizer (CD-10) shall be operated and maintained in accordance with the manufacturers' specifications. A copy of the manufacturers' specifications shall be kept on site

   C. The thermal oxidizer shall be equipped with a device for measuring, continuously monitoring and recording the combustion temperature. The minimum combustion temperature shall be 1250°F

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

D. Zoltek Carbon Fibers shall maintain an operating and maintenance log for the thermal oxidizer which shall include the following:
   1) Incidents of malfunction, with impact on emission, duration of event, probably cause, and corrective action; and
   2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
   3) Dates of all above schedules, incidents, activities and actions.

4. Record Keeping and Reporting Requirements
   A. Zoltek Carbon Fibers 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. Zoltek Carbon Fibers shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, 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: 2017-06-083
Installation ID Number: 183-0110
Permit Number: 012018-001

Installation Address:
Zoltek Carbon Fibers
11 Research Park Dr.
St. Charles, MO 63304

Parent Company:
Zoltek Carbon Fibers
3101 McKelvey Road
Bridgeton, MO 63304

St. Charles County, S34, T46N, R2E

REVIEW SUMMARY

- Zoltek Carbon Fibers has applied for authority to install a new de-sizing oven.
- The application was deemed complete on August 17, 2017.
- HAP emissions are expected from the proposed equipment. HAPs emitted from this process are from the pyrolysis of the carbon fiber and the combustion of natural gas.
- None of the New Source Performance Standards (NSPS) apply to this project.
- None of the NESHAPs apply to this project. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A baghouses are being used to control the particulate matter emissions and a thermal oxidizer is being used to control the VOC 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 all criteria pollutants are conditioned below de minimis levels.
- This installation is located in St. Charles County, a nonattainment area for the 8-hour ozone standard and the $PM_{2.5}$ standard and an attainment/unclassifiable 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 as a part of this permit. Testing may be required as part of other state, federal or applicable rules.

- A Basic Operating Permit application is required for this installation within 30 days of commencement of operations.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Zoltek Corporation operates a carbon fiber manufacturing plant in St. Charles County, Missouri. The plant previously produced carbon fiber from polyacrylonitrile (PAN) fibers, but it no longer produces the carbon fiber at the site. Instead, the plant receives carbon fiber spun on individual spools, commonly referred to as carbon tows. The plant also receives carbon fibers woven into a felt material. The tows can be handling in the milling operations where they are chopped into specific length fibers or milled into pellets. The tows can also undergo various conventional textile processes where the fiber is stretched, broken, spun into a yarn, woven or knitted. After the textile process, the carbon fiber and/or felt material are then carbonized in high temperature furnaces. The temperatures vary from 1,100°C to 2,000°C, depending on the final product specifications. During this heating process, the carbon fibers are under either vacuum or a nitrogen blanket. During the carbonization process, approximately half the weight of the fibers is lost. The resulting product is 97% to 99.9% carbon. The weight loss is the result of the chemical breakdown of the acrylics. The decomposition products form an unpredictable combination of carbon, nitrogen, hydrogen and oxygen. The effluent from the carbonization furnaces goes into a thermal oxidizer. The vacuum pump seal water is also metered into the thermal oxidizer. When the desired temperature is reached in the furnace, the fibers are held at that temperature for a predetermined period of time. When the batch run is complete, the furnace is cooled until the internals reach 150°C at which time the products are removed from the furnace. After the carbonization process is complete, the products are inspected, then stored or shipped.

This facility is classified as a minor source for construction permitting and currently operates under a Basic Operating Permit, which expired on October 31, 2017. The following New Source Review permits have been issued to Zoltek from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0191-005	Carbon Fiber Manufacturing Plant
0497-016	Two new batch furnaces
0997-046	Two new batch furnaces
082015-009	Two new pultrusion Lines

PROJECT DESCRIPTION

Zoltek Corporation (Zoltek) is installing byproduct recovery equipment. The byproduct material is from other process at the installation. The equipment involves chopping or milling the carbon fiber with a Pierre T pre-cutter (EU-11), Knife Copper (EU-14), Hammer Mill (EU-15) and three conveyors (EU-12, EU-13, and EU-16). The chopping and milling operations are routed to a baghouse (CD-11 &CD-12) to control particulate matter. The cut carbon fiber than goes through a de-sizing oven (EU-10) at a MHDR of 495 lb/hr which removes the sizing film from the carbon fibers. The sizing material is a polyurethane coating and makes up 2% of the carbon fiber weight which gives a MDHR of 9.9 lb sizing material/hr. The oven is electrically heated and operates at a range of 1,000°F to 1,250°F. This causes a thermal decomposition (pyrolysis) of the cured coating. The emissions are than exhausted to a thermal oxidizer (CD-10). The thermal oxidizer is natural gas fired with a MDHR of 0.09 MMBTU/hr. The facility then uses the recycled carbon fibers for further manufacturing in the plant. This process will not debottleneck any upstream or downstream emissions.

The follow table is a summary of equipment involved with the byproduct recovery.

Table 2: Equipment Summary

Emission Point	Emission Unit	Description	MHDR
EP-10	EU-10	De-sizing Furnace	495 lb/hr
EP-11	EU-11	Pierre T Precutter	495 lb/hr
	EU-12	Belt Conveyor	495 lb/hr
	EU-13	Belt Conveyor	495 lb/hr
EP-12	EU-14	Knife Chopper	495 lb/hr
	EU-15	Hammer Mill	495 lb/hr
	EU-16	Vacuum Conveyor	495 lb/hr
EP-13	EU-17	Thermal Oxidizer	0.09 MMBtu/hr

EMISSIONS/CONTROLS EVALUATION

The particulate emissions from the chopping and milling operations were calculated from the grain loading of the baghouses. The emissions from the thermal decomposition of the sizing material were calculated from stoichiometric approach. The SDS of the sizing material lists NO_x, CO, and hydrogen cyanide as possible products. The decomposition products form an unpredictable combination of carbon, nitrogen, hydrogen and oxygen. The emission factor for NO_x was determined to be 0.197 lb NOx/lb sizing. The decomposition materials could be either a VOC or particulate matter (smoke or aerosol) and to be conservative it was estimated to be 1lb of VOC or particulate matter/lb sizing. The CO emission from the thermal decomposition was calculated using an emission factor from a NASA technical document "Gaseous Emissions and Toxic Hazards Associated with Plastics in Fire Situations – A Literature Review"). The hydrogen cyanide emissions were calculated using a mass balance approach. The Dispercoll U53 (additive containing cyanide compounds) is 10% of the

sizing material and if HCN does form it will be less than 2% of the Dispercoll U53 per the manufacturer. The emissions of cyanide were considered uncontrolled.

The emissions from the de-sizing oven are controlled by a thermal oxidizer and given a control efficiency of 95% for VOC and particulate matter and 85% for CO. The thermal oxidizer is powered by natural gas and the emission factors used were obtain from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 1.4 Natural Gas Combustion (July 1998).

The following table provides an emissions summary for this project. Existing potential emissions were taken from construction permit #082015-009. Existing actual emissions were taken from the installation's 2016 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tpy)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions (2016 EIQ)	Controlled Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	0.93	N/D	6.10	7.03
PM_{10}	15.0	3.40	1.42	6.10	9.50
$PM_{2.5}$	10.0	3.40	1.42	6.10	9.50
SOx	40.0	0.05	N/D	N/A	0.05
NOx	40.0	51.46	5.32	0.04	54.18
VOC	40.0	11.75	0.28	4.34	16.09
CO	100.0	54.71	0.12	0.09	54.80
Cyanide Compounds	10.0/0.1[b]	0.77	N/D	0.087	N/D
Styrene	10.0/1.0[b]	2.88	N/D	N/A	N/D
MIBK[a]	10.0/10.0[b]	0.01	N/D	N/A	N/D
Total HAPs	25.0	3.67	N/D	0.087	N/D

N/A = Not Applicable; N/D = Not Determined
[a]Methyl Isobutyl Ketone
[b]SMAL

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 criteria pollutants are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Zoltek Carbon Fibers 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

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 June 27, 2017, received June 29, 2017, designating Zoltek Carbon Fibers as the owner and operator of the installation.

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
SSM.....Startup, Shutdown & Malfunction
tph.....tons per hour
tpy.....tons per year
VMT.....vehicle miles traveled
VOC.....Volatile Organic Compound

2017-06-083
Zoltek
Byproduct Recovery

Pollutant	Project PTE (tpy)	Installation PTE
PM	6.10	7.03
PM_{10}	6.10	9.50
$PM_{2.5}$	6.10	9.50
SO_2	0.00	0.05
NO_2	0.04	54.18
CO	0.09	54.80
VOC	4.34	16.09
HAPS	0.08745	3.75745
HCN	0.087	N/D

2017-06-083
Zoltek
Byproduct Recovery

Cutting/Transport Operations

EP-11	Competely Enclosed		Baghouse Grain Loading		0.02 gr/scf	
	Controlled by Baghouse CD-11				2233 CFM	
	Used Grain Loading for PM/PM10/PM2.5 emissions			PM Emissions	0.3828 lb/hr	1.676664 tpy
	EU-11	Pierre T Precutter		PM10 Emissions	0.3828 lb/hr	1.676664 tpy
	EU-12	Belt Conveyor		PM2.5 Emissions	0.3828 lb/hr	1.676664 tpy
	EU-13	Belt Conveyor				
EP-12	Competely Enclosed					
	Controlled by Baghouse CD-2					
	Used Grain Loading for PM/PM10/PM2.5 emissions		Baghouse Grain Loading		0.02 gr/scf	
	EU-14	Knife Chopper			3000 CFM	
	EU-15	Hammer Mill		PM Emissions	0.514285714 lb/hr	2.252571 tpy
	EU-16	Vacumn Conveyor		PM10 Emissions	0.514285714 lb/hr	2.252571 tpy
				PM2.5 Emissions	0.514285714 lb/hr	2.252571 tpy

EP-10

EU-10 Desizing Fumance

MHDR 495 lb carbon fiber/hr 560 SCH Design rate of oven
0.02 lb sizing/lb carbon fiber
9.9 lb sizing/hr 2%

Chemical Equation
2C25H42N2O6 + 69 O2 yields 4NO2+50CO2+42H2O
Therefore Emission rates are

0.197 lb NOx/lb sizing
1 lb VOC/lb sizing
1 lb PM/lb sizing

Emission factor for VOC and PM are the same with the assumtion that decomposition emissions can be VOC or PM

NOx Emission Factor lb/lb	NOx Emissions lb/hr	NOx Emissions tpy	Controlled	Capture Effieincy	Control Efficiency
0.197	0.01989899	0.087157576	No	0%	0%

VOC Emission Factor lb/lb	VOC Emissions lb/hr	VOC Emissions tpy	Controlled	Capture Effieincy	Control Efficiency	Controlled VOC Emissions tpy
1	9.9	43.362	Thermal Oxizider	100%	95%	2.1681

PM/PM10/PM2.5 Emission Factor lb/lb	PM/PM10/PM2.5 Emissions lb/hr	PM/PM10/PM2.5 Emissions tpy	Controlled	Capture Effieincy	Control Efficiency	Controlled PM/PM10/PM2.5 tpy
1	9.9	43.362	Thermal Oxizider	100%	95%	2.1681

CO Emission Factor ppmv	CO Emissions lb/hr	CO Emissions tpy	Controlled	Capture Effieincy	Control Efficiency	Controlled CO Emissions tpy
2000	0.081454545	0.356770909	Thermal Oxizider	100%	85%	0.054

*From NASA TN D-8338

Cyanide Emissions
Mass Balance

MHDR of Sizing (lb/hr)	% of Dispercoll Additive	% Cyanide	Cyanide Emissions (lb/hr)	Cyanide Emissions (tpy)
9.9	10%	2%	0.0198	0.087

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

JAN 0 3 2018

Mr. Terry Miner
EHS Manager
Zoltek Carbon Fibers
3101 McKelvey Road
Bridgeton, MO 63304

RE: New Source Review Permit - Project Number: 2017-06-083

Dear Mr. Miner:

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.

If you have any questions regarding this permit, please do not hesitate to contact Sam Anzalone, 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:saj

Enclosures

c: St. Louis Regional Office
PAMS File: 2017-06-083

Permit Number: 012018-001