



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

OCT 23 2019

Ms. Jenny Below
Manager
Stoddard County Cotton Co.
17114 County Road 684
Bernie, MO 63822

RE: New Source Review Permit Amendment/Correction - Permit Number: 052006-003A
Project Number: 2019-08-032; Installation Number: 207-0018

Dear Ms. Below:

Your Construction Permit 052006-003 is being amended in response to an evaluation of stack sampling data collected as part of a study to better characterize and quantify emissions from cyclones controlling ginning process emissions. The study was conducted at seven cotton gins throughout the cotton belt by the U.S. Department of Agriculture Agricultural Research Service (USDA/ARS) and Oklahoma State University. Funding and advisory groups for the project included entities from local, state, and national industry groups; state and federal government agencies; and Texas A&M University. A single certified stack sampling company, Reliable Emissions Measurements (Auberry, CA), conducted the tests at all seven gins. Boykin, Buser, and Whitelock were the primary researchers for the project and published results in sixty-eight peer reviewed journal articles in the Journal of Cotton Science from 2013 to 2015.

EPA Method 17 (M17) was one of two methods determined by the advisory groups to be used for stack sampling at each gin and related to measurement of total Particulate Matter (PM). Laser diffraction analysis of the M17 samples was used to determine the fraction of total particulate matter collected that was associated with particulate matter having an effective diameter less than or equal to ten (10) microns or less (PM₁₀) and particulate matter having an effective diameter less than or equal to two and one-half (2.5) microns or less (PM_{2.5}). The Air Pollution Control Program's Permit and Compliance/Enforcement Sections have concurred that the M17 results coupled with the laser diffraction analysis allows for calculation of the most accurate PM₁₀ and PM_{2.5} emission factors available as compared to: 1) EPA's AP-42 *Compilation of Air Pollutant Emissions Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition*; and 2) the second method determined by the advisory groups to be used for stack sampling at each gin, EPA Method 201A (M201A)). The reasoning behind the concurrence is based on two factors. First, the low data quality ratings in AP-42 for emissions factors related to cotton ginning operations. Second, well-documented issues with Method 201A results occurred that rendered the data unsatisfactory for permitting and compliance purposes.

In addition to changes associated with the availability of more accurate ginning process emission factors, your Construction Permit 052006-003 is being updated to include consideration of mote bale shipping, seed handling, seed shipping, and trash shipping emissions.



Recycled paper

Ms. Below
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Your permit is revised by addition of Special Conditions 1 through 5 on the attached pages, replacement of Attachment A with the revised Attachment A on the attached pages, and addition of Attachment AA on the attached pages. Contributions to the compliance emission factors included in Attachment A are shown in Table 1: Compliance Emission Factor Components. In order to ensure you are using the correct compliance emission factors, please use the replacement Attachment A, or equivalent methodology, for tracking your PM₁₀ emissions. Demonstration of compliance with the limitation(s) imposed by your permit, as amended, shall begin on October 1, 2019 at zero (0.0) tons of rolling consecutive 12-month PM₁₀ emissions using your revised compliance emission factors. No fees are owed to the Air Pollution Control Program for this permit amendment.

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 amendment/correction, please do not hesitate to contact Liberty Sitzes, at the department's 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



Kendall B. Hale
Permits Section Chief

KBH:sla

Enclosures

c: Southeast Regional Office
PAMS File: 2019-08-032
Bob Cheever, R7

Table 1: Compliance Emission Factor Components

<i>Equipment Description</i>	<i>Controls</i>	<i>Unit of Measure ¹</i>	<i>Application MHDR ² (unit/hr)</i>	<i>Installation MHDR (unit/hr)</i>	<i>Non-Ratioed Emission Factor (lb PM₁₀/unit)</i>	<i>Ratioed Emission Factor ³ (lb PM₁₀/unit)</i>
Unloading	HE Cyclones	bale	12	42	0.185	0.0529
First Stage Seed Cotton Cleaning	HE Cyclones	bale	42	42	0.159	0.159
Stick and Green Leaf Machine Fan	HE Cyclones	bale	42	42	0.159	0.159
Second Stage Seed Cotton Cleaning	HE Cyclones	bale	12	42	0.0555	0.0159
Overflow	HE Cyclones	bale	12	42	0.0213	0.00609
Hull Fan	HE Cyclones	bale	12	42	0.106	0.0303
Master Trash Fan	HE Cyclones	bale	12	42	0.106	0.0303
Combined Lint Cleaning	HE Cyclones	bale	12	42	0.0861	0.0246
Mote Fan	HE Cyclones	bale	12	42	0.0200	0.00571
Battery Condenser	HE Cyclones	bale	12	42	0.0171	0.00489
Total Ginning Process	HE Cyclones	bale	Various	42	0.915	0.489
Combined Natural Gas Combustion⁴	None	MMcf	0.00588	0.00588	7.6	7.6
Seed Handling ⁵	Total Encl.	bale	12	42	0	0
Seed Loadout ⁵	None	bale	12	42	0.0110	0.00314
Total Seed Handling and Loadout	Various	bale	12	42	0.0110	0.00314
Seed Cotton Receiving Haul Road ⁵	Best Mgmt.	bale	12	42	0.00571	0.00163
Lint Bale Shipping Haul Road ⁵	Best Mgmt.	bale	12	42	0.000231	0.0000660
Seed Shipping Haul Road ⁵	Best Mgmt.	bale	12	42	0.000602	0.000172
Trash Shipping Haul Road ⁵	Best Mgmt.	bale	12	42	0.000164	0.0000469
Total Haul Roads	Best Mgmt.	bale	12	42	0.00671	0.00192
Total Fugitives	Various	bale	12	42	0.0177	0.00506

Table 1: Compliance Emission Factor Components (continued)

1. MMcf relates to million cubic feet.
 2. MHDR relates to Maximum Hourly Design Rate. The application MHDR for each emission unit is equal to the project MHDR. The project MHDR for new equipment is the bottlenecked MHDR of the associated overall process and the project MHDR for existing emission units is equal to the increase in capacity resulting from the installation of new equipment.
 3. Ratioed Emission Factor = (Application MHDR / Installation MHDR) x Non-Ratioed Emission Factor
 4. Combustion MHDR = (Application or Installation MHDR in units of MMBtu/hr) / 1020 MMBtu/MMcf.
 5. The seed handling emission factor in units of lbs PM₁₀/bale = (0.381 ton seed/bale) x (0.034 lb PM₁₀/ton seed). The seed loadout emission factor in units of lbs PM₁₀/bale = (0.381 ton seed/bale) x (0.029 lb PM₁₀/ton seed). The seed cotton receiving haul road emission factor in units of lbs PM₁₀/bale = [(0.693 ton seed cotton/bale) / (11 ton seed cotton / **0.549 VMT**)] x (0.165 lb PM₁₀/VMT). The lint bale shipping haul road emission factor in units of lbs PM₁₀/bale = [(0.243 ton lint/bale) / (22.5 ton lint / **0.114 VMT**)] x (0.188 lb PM₁₀/VMT). The seed shipping haul road emission factor in units of lbs PM₁₀/bale = [(0.381 ton seed/bale) / (22.5 ton seed / **0.189 VMT**)] x (0.188 lb PM₁₀/VMT). The trash shipping haul road emission factor in units of lbs PM₁₀/bale = [(0.0693 ton trash/bale) / (22.5 ton trash / **0.284 VMT**)] x (0.188 lb PM₁₀/VMT). Such calculations assume 35 percent by weight (% w/w) of seed cotton received is lint, 55 percent by weight (% w/w) is seed, and 10 percent by weight (% w/w) is trash. In addition, it is assumed one lint bale weighs 485 pounds.
- *Trash handling is not included because the AP-42 drop point equation is not valid for the range of trash moisture content.

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Permit No.	052006-003A
Project No.	2019-08-032

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 (3)(E). "Conditions required by permitting authority."

Stoddard County Cotton Co.
Stoddard County, S16, T23N, R10E

1. The conditions of this permit supersede all special conditions found in previously issued Construction Permit No(s). 1292-010, 0793-028, 0894-014, 0995-021, and 052006-003 issued by the Air Pollution Control Program.
2. Emission Limitation
 - A. Stoddard County Cotton Co. shall emit less than 15.0 tons of particulate matter less than ten (10) microns in diameter (PM₁₀) in any consecutive 12 month period from the new equipment and increase in capacity of existing equipment associated with this project.
 - B. Stoddard County Cotton Co. shall maintain an accurate record of PM₁₀ emitted into the atmosphere from the new equipment and increase in capacity of existing equipment associated with this project. Attachment A or an equivalent form shall be used for this purpose.
 - C. Stoddard County Cotton Co. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 2.B indicate that the source exceeds the limitation of Special Condition Number 2.A.
3. Control Device Requirement – High Efficiency Cyclones
 - A. Stoddard County Cotton Co. shall use high efficiency cyclones (1D3D with 1D3D or 2D2D inlets, or 2D2D) to control emissions from all cotton ginning process equipment exhausts at this installation. The high efficiency cyclones must be in use at all times when this plant is in operation and shall be operated and maintained in accordance with the manufacturer's specifications.

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Permit No.	052006-003A
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SPECIAL CONDITIONS:

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

- B. Stoddard County Cotton Co. shall maintain an operating and maintenance log for the high efficiency cyclones that shall include the following:
 - 1) Incidents of malfunction: with impact on emissions, duration of event, probable cause and corrective actions.
 - 2) Maintenance activities: with inspection schedule, repair actions and replacements, etc.

- 4. Operational Limitation
 - A. Stoddard County Cotton Co. shall control fugitive emissions by performing Best Management Practices. Best Management Practices include the following:
 - 1) Application of chemical surfactants, documented watering, or paving on all haul roads (Stoddard County Cotton Co. shall follow the specific requirements for control of haul road emissions found in Attachment AA to this permit amendment);
 - 2) Closure of all doors to the seed houses when loadout of materials is not occurring;
 - 3) Use of vinyl strip curtains on all natural draft openings to the seed houses not equipped with doors;
 - 4) Closure of any and all top access doors/panels to the drive-under seed and trash loadout hopper(s) when loadout of materials is not occurring;
 - 5) Documented watering of trash pile or water injection into trash auger; and
 - 6) Minimization of the trash pile footprint by frequent spreading or shipping.

- 5. Recordkeeping
 - Stoddard County Cotton Co. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

Attachment AA Best Management Practices-Haul Roads

Haul roads and vehicular activity areas shall be maintained in accordance with at least one of the following options when the cotton ginning facility is operating:

1. Pavement
 - A. The operator shall pave the area with materials such as asphalt, concrete or other materials approved by the Air Pollution Control Program. The pavement will be applied in accordance with industry standards to achieve control of fugitive emissions¹ while the plant is operating.
 - B. Maintenance and repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall periodically wash or otherwise clean all of the paved portions of the haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Application of Chemical Dust Suppressants
 - A. The operator shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to unpaved areas.
 - B. The quantities of the chemical dust suppressant shall be applied and maintained in accordance with the manufacturer's recommendation (if available) and in sufficient quantities to achieve control of fugitive emissions from these areas while the plant is operating.
 - C. The operator shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator shall keep these records with the plant for not less than five (5) years and make these records available to Department of Natural Resources' personnel upon request.

3. Application of Water-Documented Daily
 - A. The operator shall apply water to unpaved areas. Water shall be applied at a rate of 100 gallons per day per 1,000 square feet of unpaved or untreated surface area while the plant is operating.
 - B. Precipitation may be substituted for watering if the precipitation is greater than one quarter of one inch and is sufficient to control fugitive emissions.
 - C. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads.
 - D. The operator shall record the date and volume of water application or the amount of precipitation that day. The operators shall also record the rationale for not watering (e.g. freezing conditions or not operating).
 - E. The operator shall keep these records with the plant for not less than five (5) years, and the operator shall make these records available to Department of Natural Resources' personnel upon request

Note: For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)