Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

OCT 2 3 2019

Ms. Cindy Wilkins
Gin Manager
Four Way Gin Company Inc.
P.O. Box 220
Senath, MO 63876

RE: New Source Review Permit Amendment/Correction - Permit Number: 052007-003A
Project Number: 2019-08-021; Installation Number: 069-0027

Dear Ms. Wilkins:

Your Construction Permit 052007-003 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's 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 (PM_{10}) 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 PM_{10} 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 052007-003 is being updated to include consideration of mote bale shipping, seed handling, seed shipping, and trash shipping emissions.

Your permit is revised by addition of Special Condition 5 on the attached pages and replacement of Attachment A with the revised Attachment A 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 PM_{10} 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 PM_{10} emissions using your revised compliance emission factors. No fees are owed to the Air Pollution Control Program for this permit amendment.

Table 1: Compliance Emission Factor Components

Equipment Description	Controls	Unit of Measure	Emission Factor (lb PM_{10}/unit)
Unloading	HE Cyclones	bale	0.185
First Stage Seed Cotton Cleaning	HE Cyclones	bale	0.159
Second Stage Seed Cotton Cleaning	HE Cyclones	bale	0.0555
Overflow	Screen/Drum	bale	0.0434
Master Trash Fan	HE Cyclones	bale	0.106
Combined Lint Cleaning	Screen/Drum	bale	0.176
Mote Trash Fan	HE Cyclones	bale	0.00931
Battery Condenser	Screen/Drum	bale	0.0349
Total Ginning Process	**Various**	**bale**	**0.769**
Combined Natural Gas Combustion	**None**	**MMcf[1]**	**7.6**
Seed Handling[2]	Total Encl.	bale	0
Seed Loadout[2]	None	bale	0.0110
Total Seed Handling and Loadout	**Various**	**bale**	**0.0110**
Seed Cotton Receiving Haul Road[2]	Chem. Supp.	bale	0.00103
Lint Bale Shipping Haul Road[2]	Chem. Supp.	bale	0.000154
Seed Shipping Haul Road[2]	Chem. Supp.	bale	0.000482
Trash Shipping Haul Road[2]	Chem. Supp.	bale	0.0000713
Total Haul Roads	**Chem. Supp.**	**bale**	**0.00174**
Total Fugitives	**Various**	**bale**	**0.0127**

Table 1: Compliance Emission Factor Components (continued)

1. MMcf relates to million cubic feet.
2. The seed handling emission factor in units of lbs PM_{10}/bale = (0.381 ton seed/bale) x (0.034 lb PM_{10}/ton seed). The seed loadout emission factor in units of lbs PM_{10}/bale = (0.381 ton seed/bale) x (0.029 lb PM_{10}/ton seed). The seed cotton receiving haul road emission factor in units of lbs PM_{10}/bale = [(0.693 ton seed cotton/bale) / (11 ton seed cotton / **0.0994 VMT**)] x (0.165 lb PM_{10}/VMT). The lint bale shipping haul road emission factor in units of lbs PM_{10}/bale = [(0.243 ton lint/bale) / (22.5 ton lint / **0.0758 VMT**)] x (0.188 lb PM_{10}/VMT). The seed shipping haul road emission factor in units of lbs PM_{10}/bale = [(0.381 ton seed/bale) / (22.5 ton seed / **0.152 VMT**)] x (0.188 lb PM_{10}/VMT). The trash shipping haul road emission factor in units of lbs PM_{10}/bale = [(0.0693 ton trash/bale) / (22.5 ton trash / **0.123 VMT**)] x (0.188 lb PM_{10}/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.

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 Sitzes, Liberty, 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

Kendall B. Hale
Permits Section Chief

KBH:sla

Enclosures
c: Southeast Regional Office
PAMS File: 2019-08-021
Bob Cheever, R

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."

Four Way Gin Company
Dunklin County, S1, T17N, R8E

5. Four Way Gin Company shall control fugitive emissions by performing Best Management Practices. Best Management Practices include the following:
   A. Closure of all doors when loadout of materials is not occurring, and
   B. Use of vinyl strip curtains on all natural draft openings not equipped with doors.

Attachment A – Rolling Consecutive 12-Month PM_{10} Emissions Compliance Worksheet

Four Way Gin Company
Dunklin County, S1, T17N, R8E
Project Number: 2019-08-021
Installation ID Number: 069-0027
Permit Number: 052007-003A
This sheet covers the period from _____ to _____.
(month, year) (month, year)

Description	Monthly Usage	PM_{10} Emission Factor	Monthly PM_{10} Emissions (tons)
Ginning Process (new ginstand)	Bales	0.769 lb/bale	
Dryer Heaters – Natural Gas	MMcf	7.6 lb/MMcf	
Fugitives (new ginstand)	Bales	0.0127 lb/bale	
Start-up, Shutdown, and Malfunction Emissions from all Emission Units			
052007-003A PM_{10} Emissions (tons):			

Monthly PM_{10} Emissions (tons/month) = Monthly Usage x PM_{10} Emission Factor x 0.0005 tons/lb
052007-003A PM_{10} Emissions (tons/month) = The sum of the PM_{10} Emissions from all emission units (tons/month) and the Start-up, Shut-down, and Malfunction emissions for the current month.
Rolling Consecutive 12-Month PM_{10} Emissions (tons/yr) = The sum of the last 12 months 052007-003A PM_{10} Emissions (tons/month)

Month/Year	Rolling Consecutive 12-Month PM_{10} Emissions[1] (tons/yr)	Month/Year	Rolling Consecutive 12-Month PM_{10} Emissions[1] (tons/yr)

1. Rolling Consecutive 12-Month PM_{10} Emission of less than **15.0 tons/yr** demonstrates compliance.