Memorandum

Florida Department of Environmental Protection

TO: Rick Bradburn
THROUGH: Armando I. Sarasua, P.E.
FROM: Howard Ard
DATE: October 12, 2012
SUBJECT: Evaluation Summary for Burkhead Gin Company, Jay Facility, 1130027-005-AO, Santa Rosa County

We recommend issuing an air operation permit renewal to Burkhead Gin Company to operate their Jay Facility. This permit follows 1130027-004-AO, effective December 18, 2007.

Process Description.
The cotton ginning facility consists of the following processes: raw cotton unloading, seed cotton drying and cleaning, ginning, lint cleaning and baling, seed handling, trash and mote system, and trash handling. Seed cotton is pneumatically conveyed through dryers, gins and cleaners to remove seeds and trash. Cleaned (lint) cotton is baled as the final product. Particulate emissions from these systems are controlled by cyclones. Natural gas-fired heaters are used to dry the seed cotton during the unloading and conveying operations.

The facility operates four natural gas fired dryers which are used for drying cotton during the unloading and cleaning processes. These dryers are exempt from permitting provided the facility processes less than 60,000 bales of cotton per 12-consecutive-month period. This determination was based on limited use of the dryers (four months out of the year) and permit conditions limiting production.

Pollution Control Equipment.
The facility utilizes 25 cyclones to control particulate matter, primarily greater than PM10.

Environmental Impact.

Airborne Contaminant Emitted	Emission Factors[b]	FAC Rule	Estimated Emissions Tons/year	Allowable Tons/year
PM (cotton ginning)	2.537 lbs/bale	N/A	76.1[c]	<100
PM (dryer heaters)	7.6	N/A	0.37[a]	<100
SO2	0.6	N/A	0.03[a]	<100
VOC	5.5	N/A	0.26[a]	<100
NOx	100	N/A	4.8[a]	<100
CO	84	N/A	4.0[a]	<100
Objectionable Odors		62-296.320(2)	N/A	None allowed off plant property
VE		62-296.320(4)(b)	N/A	Not more than 20% opacity

[a] Estimated emissions for dryer heaters were calculated using no limitation on hours (8,760 hours/year).
[b] Emission factor for PM (cotton ginning) is from AP-42 Table 9.7-1, emission factor (lbs/MM ft^3 of Natural Gas) for PM (dryer heaters) is from AP-42 Table 1.4-2, NOx and CO are from AP-42 Table 1.4-1 and SO_2 and VOC are from AP-42 Table 1.4-2.
[c] PM emissions from cotton ginning is based on 60,000 bales and 3,000 hours/year.

Applicable Rules & Regulations. This source is regulated in accordance with Rule 62-4.030 and permit 1130027-002-AC to establish a 20% Visible Emission requirement on the cyclones for reasonable assurance of proper operation and maintenance.

Compliance Monitoring. VE testing on four cyclones (worst case cyclone from each handling category) shall be conducted annually (first month of each ginning season) during each federal fiscal year. The Permittee shall maintain a daily record of finished product output and operational hours to verify compliance with permitted limits. Due to the short annual operating duration of this facility (three to four months) and the only significant emissions being largely biodegradable PM, the submission of an AOR is not necessary.

Compliance History. VE tests have been consistently within permitted limits. File review shows no record of non-compliance within the last five years.

Fee Summary. AO2B ($1,000.00 fee) minor source with no stack test.

HA/c