



## **Bureau of Air Quality Registration Permit**

### **Cotton Ginning Operations**

Pursuant to the provisions of the *Pollution Control Act*, Sections 48-1-50(5) and 48-1-110(a), the *1976 Code of Laws of South Carolina*, as amended, and *South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards*, the Bureau of Air Quality authorizes the operation of these sources in accordance with the plans, specifications and other information submitted in the Registration Permit Application for Cotton Ginning Operations.

The operation of these sources is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

**Issue Date:            September 1, 2011**

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**Elizabeth J. Basil, Director  
Engineering Services Division  
Bureau of Air Quality**

# Registration Permit for Cotton Ginning Operations

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RECORD OF REVISIONS	
Revision Date	Description of Change
11/01/2013	Removal of the permit's expiration date; changes to the permit's format and layout; modification of condition 4.1.

# Registration Permit for Cotton Ginning Operations

### PART 1 - FACILITY WIDE REQUIREMENTS

Condition Number	Condition
1.1	<p>This registration permit applies to cotton ginning operations. A cotton ginning operation is defined as any facility or plant that separates cotton lint from cotton seed. This process typically includes cleaning (removing plant material, dirt and other foreign matter) and packaging the lint into bales. A facility may operate under the conditions contained herein if it meets the following criteria:</p> <ol style="list-style-type: none"> <li>1. The facility shall not produce more than 75,000 bales of ginned cotton per ginning season.</li> <li>2. No fuel burning source shall have a rated input capacity greater than or equal to <math>10 \times 10^6</math> BTU/hr nor shall the combined rated input capacity of all fuel burning sources exceed <math>50 \times 10^6</math> BTU/hr.</li> <li>3. Each fuel burning source is allowed to use natural gas, propane, or a Department approved fuel.</li> <li>4. If applicable, the facility's grain handling operation shall not process more than 2,250,000 bushels of grain per year nor be in operation for more than 4,000 hours per year.</li> <li>5. No facility covered under this registration permit shall be potentially major for Prevention of Significant Deterioration (PSD), Nonattainment New Source Review (NA NSR), or Title V (TV).</li> </ol>
1.2	<p>In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.C.7, reasonable precautions should be taken when operating or maintaining storage piles, materials, equipment, or vehicles in order to prevent any substance from being scattered by the wind or air in order to prevent fugitive dust emissions.</p> <p>Trash stacker areas shall contain one of the following:</p> <ol style="list-style-type: none"> <li>1. A three sided enclosure with a roof whose sides are high enough above the opening of the dumping device to prevent wind from dispersing dust or debris; or</li> <li>2. A device to provide wet suppression at the dump area of the trash cyclone and minimize free fall distance of waste material exiting the trash cyclone.</li> </ol> <p>The owner/operator shall ensure that all trucks transporting gin trash material are covered and that the trucks are cleaned of over-spill material before trucks leave the trash hopper dump area.</p>
1.3	<p>In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section X.A, all non-enclosed operations shall be conducted in such a manner that a minimum of particulate matter becomes airborne. In no case shall established ambient air quality standards be exceeded at or beyond the property line.</p> <ol style="list-style-type: none"> <li>(A) The owner/operator shall maintain dust control of the premises and any roadway it owns or controls by paving, or other suitable measures. Oil treatment is prohibited.</li> <li>(B) If dust suppressant aids are used, then they shall be applied according to the manufacturer specifications for quantity and frequency. A record shall be kept of the type of dust suppressant that is applied and the dates of application.</li> <li>(C) Fugitive Particulate (PM) emissions from material handling, process equipment, control equipment, or storage piles will be minimized to the maximum extent possible. This will include proper maintenance of the control system such as scheduled inspections, replacement of damaged or worn parts, etc. Fugitive emissions from dust buildup will be controlled by proper housekeeping and/or wet suppression.</li> </ol>

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### PART 2 - CONDITIONS FOR COTTON GINNING EQUIPMENT

Condition Number	Conditions
2.1	<p>This facility is limited to a maximum production rate of 75,000 bales of ginned cotton per ginning season.</p> <p>The owner/operator shall record the number of bales produced weekly during the ginning season. Reports of the facility's bale production shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality by January 30<sup>th</sup> of the following year. The report shall cover the period from January 1<sup>st</sup> through December 31<sup>st</sup> of the current year.</p>
2.2	<p>In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.C.3, air pollutant emissions from the cotton gin shall not exceed 20% opacity.</p> <p>(A) All pollution control devices shall be in place and operational at all times when equipment or processes controlled by the devices are operating.</p> <p>(B) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.B.2, existing facilities with a maximum gin stand rated capacity (or documented equipment limitation) of less than twenty (20) bales per hour that do not have cyclones on lint cleaning system exhausts and battery condenser exhausts, will not be required to add the emission control devices as specified by S.C. Regulation 61-62.5, Standard No. 4, Section V.C.2 to lint cleaning exhausts or battery condenser exhausts if emissions from these exhausts are controlled by fine mesh screens.</p> <p>(C) Except as specified by paragraph (B) above, in accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.C.2, each cotton ginning operation shall install and operate a particulate emission control system on all high and low pressure exhausts and lint cleaning system exhausts that includes one or more 1D-3D or 2D-2D cyclones meeting the cylinder diameter requirements to produce a 3.5 to 6.0 or 3.0 to 5.5 inches of water pressure drop (respectively) as illustrated in Figure 6-20 and 6-21 of the Agricultural Handbook Number 503, <i>Cotton Ginners Handbook</i>, dated December 1994. Existing facilities shall comply with these control equipment requirements by August 31, 2012.</p> <p>(D) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.C.4, stacks shall not be equipped with raincaps or other devices that deflect the emissions downward or outward.</p> <p>(E) In accordance with S.C. Regulation 61-62.5, Standard No.4, Section V.D, the owner/operator of a cotton ginning operation may petition the Department to use alternative control measures to those specified in S.C. Regulation 61-62.5, Standard No. 4, Section V. The petition shall include the information as specified in paragraphs (E)(1) through (E)(4) of this condition. Once approved, repairs and maintenance of such devices will not require notification to the Department.</p> <p style="margin-left: 40px;">(E)(1) The name and address of the petitioner;</p> <p style="margin-left: 40px;">(E)(2) The location and description of the cotton ginning operation;</p> <p style="margin-left: 40px;">(E)(3) A description of the alternative control measure; and</p>

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### PART 2 - CONDITIONS FOR COTTON GINNING EQUIPMENT

Condition Number	Conditions
	<p>(E)(4) A demonstration that the alternative control measure is at least as effective as the control device or method specified by S.C. Regulation 61-62.5, Standard No. 4, Section V.</p> <p>(F) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.E.1, to ensure that the minimum required removal efficiency is maintained, the owner/operator shall establish, based on manufacturers recommendations or industry standards, an inspection and maintenance schedule for the control devices, other emission processing equipment, and monitoring devices that are used pursuant to S.C. Regulation 61-62.5, Standard No. 4, Section V. The inspection and maintenance schedule shall be followed throughout the ginning season. The results of the inspections and any maintenance performed on the control equipment, emission processing equipment, or monitoring devices shall be documented in an on-site log book and made available to the Department upon request. The owner/operator shall keep a copy of the manufacturer's specifications for each type of control device installed.</p> <p>(G) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.E.2, on a weekly basis, the owner/operator shall measure and calculate the pressure drops across all cyclones. Measurements shall be made using a manometer, a Magnahelic® gauge, or other device that the Department has approved as being equivalent to a manometer. These measurements shall be recorded in the log book. If the owner/operator measures a static pressure out of the range indicated in paragraph (C) above, the owner/operator shall initiate corrective action. Corrective action shall be recorded in the log book. If corrective action will take more than 48 hours to complete, the owner/operator shall notify the Department's local Environmental Quality Control (EQC) Regional office by phone no later than the end of the date of the out of range reading and shall notify the local EQC Regional office by letter once the corrective action has been completed. The corrective action completion letter shall be submitted within fifteen (15) days of completion and shall include the date of the out of range reading; identity of the stack and/or emission point where the out of range reading occurred; and steps taken to remedy the occurrence and the steps taken or planned to prevent the recurrence of an out of range reading. The contact information for the local EQC Regional office can be found at <a href="http://www.scdhec.gov/environment/envserv/regions.htm">http://www.scdhec.gov/environment/envserv/regions.htm</a>.</p> <p>(H) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.E.3, during the ginning season, the owner/operator shall weekly inspect for structural integrity of the control devices and other emissions processing systems and shall ensure that the control devices and emission processing systems conform to normal and proper operation of the gin. Fine mesh screens shall be inspected daily throughout the ginning season and any clogs should be removed. If a problem is found, corrective action shall be taken and recorded in the log book.</p> <p>(I) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section V.E.4, if control devices are repaired or replaced with equivalent control equipment, the owner/operator must maintain on-site documentation showing compliance with the conditions specified in S.C. Regulation 61-62.5,</p>

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#### PART 2 - CONDITIONS FOR COTTON GINNING EQUIPMENT

Condition Number	Conditions
	Standard No. 4, Section V.C or allowed for under S.C. Regulation 61-62.5, Standard No. 4, Section V.D.
2.3	Unless specified elsewhere within this permit, each seed cotton dryer is permitted to burn natural gas or propane. The use of any other fuel is not allowed without prior written approval from the Department.

#### PART 3 - CONDITIONS FOR GRAIN HANDLING OPERATIONS

Condition Number	Conditions
3.1	<p>(A) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section VIII, particulate matter emissions from all sources not related to ginning cotton shall be limited to the rate specified by use of the following equations:</p> <ul style="list-style-type: none"> <li>a) For process weight rates less than or equal to 30 tons per hour (<math>E = 4.10P^{0.67}</math>); or</li> <li>b) For process weight rates greater than 30 tons per hour (<math>E = 55.0P^{0.11} - 40</math>).</li> </ul> <p>Where E = the allowable emission rate in pounds per hour and P = process weight rate in tons per hour.</p> <p>(B) In accordance with S.C. Regulation 61-62.5, Standard No. 4, Section IX, Visible Emissions (Where Not Specified Elsewhere) from all sources not related to ginning cotton,</p> <ul style="list-style-type: none"> <li>a) Where construction or modification began after December 31, 1985, emissions (including fugitive emissions) shall not exhibit an opacity greater than 20%; or</li> <li>b) Where construction or modification began on or before December 31, 1985, emissions (including fugitive emissions) shall not exhibit an opacity greater than 40%.</li> </ul> <p>This facility's grain handling operation is limited to a maximum processing rate of 2,250,000 bushels of grain per year. The owner/operator shall record the number of bushels processed weekly during each season of operation. Reports of the facility's bushel processing rate shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality by January 30<sup>th</sup> of the following year. The report shall cover the period from January 1<sup>st</sup> through December 31<sup>st</sup> of the current year.</p> <p>This facility's grain handling operation is limited to operating a maximum of 4,000 hours per year. The owner/operator shall record the actual operating hours weekly during each season of operation. Reports of the facility's grain handling hours of operation shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality by January 30<sup>th</sup> of the following year. The report shall cover the period from January 1<sup>st</sup> through December 31<sup>st</sup> of the current year.</p>
3.2	Unless specified elsewhere within this permit, each grain dryer is permitted to burn natural gas or propane. The use of any other fuel is not allowed without prior written approval from the Department.

# Registration Permit for Cotton Ginning Operations

## PART 4 - GENERAL REQUIREMENTS

Condition Number	Condition
4.1	This registration permit supersedes any other construction and/or operating permit(s) issued by the Bureau of Air Quality upon this permit's issue date and any revisions to this registration permit will supersede any existing versions of this registration permit. This permit may be reopened by the Department for cause or to include any new standard or regulation which becomes applicable to a source during the life of the permit. This permit may be modified by the Department for cause to add or alter a permit's expiration date. The Department reserves the right to revise this registration permit as deemed necessary.
4.2	All records required by S.C. Regulation 61-62.5, Standard No. 4, Section V shall be retained for a period of at least three (3) years from the date of recording and shall be made available to a Department representative upon request.
4.3	(S.C. Regulation 61-62.1, Section II.J) A copy of the Department issued permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods, at locations, intervals, and procedures as the Department shall prescribe; and provide such other information as the Department reasonably may require. All records, except those required under S. C. Regulation 61-62.5, Standard No. 4, Section V, required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years and shall be made available to a Department representative upon request.
4.4	Unless elsewhere specified within this permit, all reports required under this permit shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality, at the address listed below.  <div style="text-align: center;"> <b>SCDHEC - BAQ</b>  <b>Technical Management Section</b>  <b>2600 Bull Street</b>  <b>Columbia, SC 29201</b> </div>
4.5	In accordance with S.C. Regulation 61-62.1 Section II, the owner or operator shall comply with the terms, conditions, and limitations as specified by this registration permit. A source's permit status may change upon promulgation of new regulatory requirements.
4.6	(S.C. Regulation 61-62.1, Section II.J) For sources not required to have continuous emissions monitors, any malfunction of air pollution control equipment or system, process upset or other equipment failure which results in discharges of air contaminants lasting for one hour or more and which are greater than those discharges described for normal operation in the permit application shall be reported to the Department's local Environmental Quality Control (EQC) Regional office within twenty-four (24) hours after the beginning of the occurrence. The contact information for the local EQC Regional office can be found at <a href="http://www.scdhec.gov/environment/envserv/regions.htm">http://www.scdhec.gov/environment/envserv/regions.htm</a> .  The owner or operator shall also submit a written report within 30 days of the occurrence. This report shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality and shall include as a minimum, the following: <ol style="list-style-type: none"> <li>1. The identity of the stack and/or emission point where the excess emissions occurred;</li> <li>2. The magnitude of excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the excess emissions;</li> </ol>

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## PART 4 - GENERAL REQUIREMENTS

Condition Number	Condition
	<ol style="list-style-type: none"><li>3. The time and duration of excess emissions;</li><li>4. The identity of the equipment causing the excess emissions;</li><li>5. The nature and cause of such excess emissions;</li><li>6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction;</li><li>7. The steps taken to limit the excess emissions; and,</li><li>8. Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions.</li></ol>
4.7	(S.C. Regulation 61-62.1, Section II.M) Within 30 days of the transfer of ownership/operation of a facility, the current permit holder and prospective new owner/operator shall submit to the Department the Transfer of Ownership / Operation Form (DHEC 2954).
4.8	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.