



**NON-TITLE V
TECHNICAL SUPPORT DOCUMENT**

PERMIT NUMBER: 060102
BUSINESS NAME: Southwest Fibers, LLC
SOURCE TYPE: Cellulose Insulation Manufacturing
PERMIT ENGINEER: Sara Seuberling

App. ID(s):	409854
Revision(s):	2.0.0.0
Revision Type(s):	Renewal
Date Prepared:	04/07/2016

BACT: No **MACT:** No **NSPS:** No **SYNTH MINOR:** No **AIRS:** No
DUST PLAN REQUIRED: No **DUST PLAN RECEIVED:** No
O&M PLAN REQUIRED: Yes **O&M PLAN RECEIVED:** No
PORTABLE SOURCE: No **SITE VISIT:** 02/06/2015

PROCESS DESCRIPTION:

This facility manufactures cellulose insulation from recycled paper products. Post-consumed newspaper, office paper, and cardboard is fed to a shredder, conveyed to various mills to further reduce and standardize the size of the paper scraps, combined with fire retardant, baled, then packaged for sale as cellulose insulation. Emissions from each process include particulate matter (PM), which is reduced by four baghouses (two per production line). The baghouses are closed-loop so collected material is ducted back to the process equipment rather than being discharged as waste.

PERMIT HISTORY:

Date Received	Revision Number	Description
1985	0.0.0.0	Permit #8500183 issued for cellulose manufacturing plant in Chandler.
11/23/1994	0.0.0.0	Application for a non-title V unitary permit submitted under the name Greenstone Industries to replace Permit 8500183. The application was withdrawn 10/12/95 after failing to meet deadlines for information requested by Department.
1995	0.0.0.0	Application for Permit #950476 submitted. No application or close-out request was found in the file.
09/18/2006	0.0.0.0	Submitted application for new permit for cellulose insulation manufacturing.
12/02/2010	1.0.0.0	Submitted a permit renewal application.
04/22/2014	1.0.1.0	Submitted a permit revision to increase the allowable throughput of cellulose from 12,000 tons/yr to 40,000 tons/yr. NOV #731224 was issued to the source for exceeding the allowable throughput limit.
01/13/2014	-	Submitted a permit transfer application to change ownership from United Fibers to GreenFiber, LLC. Equipment from US Greenfiber's Phoenix facility (Permit #990424) is being moved to the Chandler facility (Permit #060102) and other locations across the nation.
01/13/2014	1.0.2.0	Submitted a permit revision to move equipment from U S Greenfiber's Phoenix location (Permit 990424) to the recently purchased facility in Chandler and double the throughput limits accordingly. Equipment being moved to the Chandler facility is identical to the line already present at the facility.
12/04/2015	2.0.0.0	Submitted a permit renewal application.

PURPOSE FOR APPLICATION:

Permit Renewal

A. APPLICABLE COUNTY REGULATIONS:

- Rule 100: General Provisions and Definitions
- Rule 200: Permit Requirements
- Rule 220: Non-Title V Permit Provisions
- Rule 280: Fees: Table B – chemical mixing and handling
- Rule 300: Visible Emissions
- Rule 311: Particulate Matter from Process Industries

Rule 241 (Minor New Source Review) does not apply to this facility at this time, per Rule 241 §102, since it is not new and is not being modified.

B. APPLICABLE FEDERAL REGULATIONS: none

C. AIR POLLUTION CONTROL EQUIPMENT/EMISSION CONTROL SYSTEM(s):

System description	Quantity	Comments:
Baghouses - UF Sly Inc.	2	Control particulate emissions from milling and packaging operations. Approved O &M Plans on file.
Baghouses - DCE Dalamatic	2	Control particulate emissions from milling and packaging operations. O &M Plans are due within 45 days after issuance of renewal 2.0.0.0.

D. EMISSIONS:

Pollutants	Cellulose Manufacturing	Facility wide Annual Emissions
PM10:	21,600 lbs/yr	21,600 lbs
PM2.5:	10,800 lbs/yr	10,800 lbs

E. HAP EMISSION IMPACTS:

Based on the information provided in the permit application, the facility emits insignificant amount of HAPs; therefore, SCREEN modeling was not performed per the Department’s HAPs policy.

F. PERFORMANCE TESTING: not currently required

G. REGULATORY REQUIREMENTS AND MONITORING:

Conditions 1-5 are based on a template for particulate matter from process industries and reflect the requirements of Rule 311. Emission limits and the Rule 311 §301 equation are not necessary since the enforceable throughput limits and control requirements keep the facility from exceeding any applicable threshold. Daily throughput limits were removed since Rule 241 no longer has daily BACT limits.

APPENDIX



Emission Worksheet

Particulate Emissions from Cellulose Production

Operating time: 365 days/yr
24 hrs/day

Calulation Overview

The emission factor for PM₁₀ was taken from Emissions Inventory and is based on factors derived by US Greenfiber (Permit #990424) for PM emissions from cellulose manufacturing.

Insulation Production: 80,000 tons/yr

PM₁₀ Emission Factor: 0.013500 lbs/lb product
Control Efficiency 99% (baghouse)

Emissions¹:

PM ₁₀	21,600 lbs/yr
PM _{2.5}	10,800 lbs/yr

¹PM_{2.5} emissions are assumed to be 50% of PM₁₀ emissions.

Rule 311 §301.1 Compliance Demonstration:

$$E = 3.59P^{0.62}$$

E= Emission Limit for Process Weight ≤ 30 tons/hr (lbs/hr)

P= Process Weight (tons/hr)

P = 9.1 tons/hr

E = 14.1 lbs/hr 123,926 lbs/yr

In compliance with Rule 311? Yes



Initial bales of unprocessed post-consumed paper products.



Primary shredder (right) with conveyor leading to a magnet (left) used to remove metal contaminants.



Separator (left) and surge bin (right)



Bag of fire retardant dispensed to a hopper.



Fiberizer (center) and baling equipment (bottom).



Unpackaged cellulose insulation.



Closed-loop dust collector (one of four)



NON-TITLE V COMPLETENESS DETERMINATION CHECKLIST

Items 1-15 Front page: Items 1 to 15 (14 for Renewals) must be completed.

Notes to engineer:

- *For renewal applications the source must either answer 'No' to questions 2-5 or submit an application for a permit modification.*
- *Item 8: Many applicants do not know the SIC code or NAICS code for their industry. For a new application the code can be obtained by doing an on-line search. <http://www.osha.gov/pls/imis/sicsearch.html>*
- *Items 5, 7 and 14: These may be the same for many applicants.*

Complete: Incomplete:

Item 16: A simple site diagram has been included, preferably on a standard size paper. Detailed blueprints or construction drawings are not required.

Complete: Incomplete: N/A:

Item 17: A simple process flow diagram on a standard size paper is preferred. A process flow diagram may not be needed for some small businesses.

Complete: Incomplete: N/A:

Item 18: An O&M plan is required only for a control device. An O&M plan is not required for a spray booth. Instead of including the O&M plan with the application, an applicant may submit it after receiving the permit.

Complete: Incomplete: N/A:

Item 19: A dust control plan, if required, must accompany the permit application. The plan will be reviewed and approved by the dust compliance group.

Complete: Incomplete: N/A:

Item 20: The applicant needs to complete only those sections of the permit application that are applicable.

Complete: Incomplete: N/A:

Notes to engineer:

- *Concerning Section Z: Many applicants will not be able to perform these engineering calculations. We will accept the permit application with a blank Section Z.*

Instructions for completing Sections A, B, C, D, E-1, E-2, F, G, H, I, J, K-1, K-2, K-3, K-4, L, M, X-1, X-2, Y and Z of the permit application are included at the beginning of each section and are self-explanatory.

In general, a material safety data sheet (MSDS) is required for each chemical used, stored or processed at the facility. Exceptions are for very common materials, such as gasoline, diesel, acetone, etc.

Business name: United Fibers, LLC

Permit number: 060102

Completeness review completed.

Application determined to be: Complete: Incomplete:

Permit Engineer: Sara Seuberling Date: 04/01/16