

### North Carolina Department of Environment and Natural Resources **Division of Air Quality**

**Beverly Eaves Perdue** Governor

B. Keith Overcash, P.E. Director

Dee Freeman Secretary

July 10, 2009

Mr. Cliff Bragg Natures Earth Pellets, LLC 16900 Aberdeen Road Laurinburg, NC 28352

SUBJECT: Receipt of Permit Application

**Greenfield Facility** 

Application No. 8300104.09A Natures Earth Pellets, LLC

Facility ID: 8300104, Laurinburg, Scotland County

Dear Mr. Bragg:

Your air permit application (8300104.09A) for Natures Earth Pellets, LLC, located in Scotland County, North Carolina was received by this Division on July 10, 2009.

Submittal of your air permit application request must include the following items:

#### A permit application processing fee:

Under the new permit application processing fee schedule effective January 1, 2009, your required fee is \$400.

The appropriate application fee amount was received.

Pending review of your application and based on the required fee amount indicated above, you may be required to pay an additional amount.

#### Number of Copies of Form AA:

The appropriate number of copies of Form AA was received.

Local zoning and subdivision ordinances consistency determination:

Your application did contain the complete request for consistency determination.

Signature of An Authorized Official:



Mr. Bragg July 10, 2009 Page 2

Your application was signed by an authorized official as defined by 15A NCAC 2Q.0304(j).

#### PE Seal Requirement:

The appropriate PE Seal was received.

In summary, this application submittal <u>did</u> contain all the required elements as indicated and has been accepted for processing. Your application will be considered complete as of July 10, 2009, unless informed otherwise by this office within 45 days.

Should you have any questions concerning this matter, please contact Tien Nguyen at (910) 433-3300.

1cm

Steven F. Vozzo

Regional Air Quality Supervisor

cc: Fayetteville Regional Office Files Central Files

#### DIVISION OF AIR QUALITY July 27, 2009

#### **MEMORANDUM**

TO: Tien Gnuyen, Environmental Engineer, FRO

Permit Coordinator, FRO

FROM: Tom Anderson, Meteorologist II, AQAB

THROUGH: Jim Roller, Supervisor, Air Quality Analysis Branch (AQAB)

SUBJECT: Review of Dispersion Modeling Analysis for Natures Earth Pellets NC, LLC

Laurinburg, NC Scotland County

I have reviewed the dispersion modeling analysis, received July 16 and updated on July 27, 2009, for the Natures Earth Pellets NC, LLC facility that will be located in Laurinburg, NC. The company is planning to construct and operate a wood pellet manufacturing facility and is expected to emit several N.C. regulated toxics at rates that exceed the levels outlined in NCAC 2Q .0700. The modeling adequately demonstrates compliance, on a facility-wide basis, for all toxics modeled.

All toxics will be emitted from a single rotary dryer (source EP-5) at the facility. Emissions were based on a requested annual throughput limit of 141,450 tons per year and assumed 8,760 hours per year operation. Source parameters and emission rates are provided in the attached tables.

AERMOD using a single year (1992) of meteorological data from Raleigh (surface) and Greensboro (upper air) was used to evaluate impacts in both simple and elevated terrain. Direction-specific building dimensions, determined using EPA's BPIP program (95086), were used as input to the model for building wake effect determination. Receptors were placed around the facility's property line at 50-meter intervals and extended outward to a distance of approximately 5 kilometers using a nested grid. The following table shows the maximum impact for each pollutant:

Table 1.
Maximum Impacts
Natures Earth Pellets – Laurinburg, NC

Pollutant	Averaging Period	% of AAL
Acrolein	1-hour	2 %
Benzene	annual	8 %
Formaldehyde	1-hour	8 %

This compliance demonstration assumes the source parameters and pollutant emission rates used in the analysis are correct.

cc: Jim Roller Tom Anderson

Table 1
TAP/HAP Emissions from the Rotary Dryer- Comparison to TPERs
Natures Earth Pellets NC, LLC - Laurinburg, NC

		ſ	A	ctual Emission	\$		TPEF	ts		
	<del></del>			Ctual Emission		Air				
Pollutant	НАР	TAP	Hourly Emissions (lbs/hr)	Daily Emissions (lbs/day)	Annual Emissions (lbs/yr)	Hourly Emissions (lbs/hr)	Daily Emissions (lbs/day)	Annual Emissions (lbs/yr)	Disperson Modeling Required?	
Acetaldehyde	X	X	1.09	26.1	8,346	6.8	-	-	No	
Acrolein	X	X	0.28	6.6	2,122	0.02	-		Yes	
Benzene	X	X	0.09 ~	2.1	665		-	8.1	Yes	
Formaldehyde	X	X	1.77 ✓	42.4	13,579	0.04	-	-	Yes	
Methanol	X		1.09	26.1	8,346	-		-	No	
Methyl ethyl ketone	X	X	0.06	1.5	481	22.4	78	-	No	
Metylene chloride	X	X	0.03	0.62	198	0.39	-	1,600	No	
Phenol	X	X	0.15	3.49	1,117	0.24	-		No	
Propionaldehyde	X		0.08	1.85	594	-	-		No	
Styrene	X	X	0.01	0.25	81	2.7	-	-	No	
Toluene	X	X	0.11	2.61	835	-	98	<del>  -</del>	No	
Xvlene	X	Х	0.12	2.82	902	16.4	57		No	

Table 3: Stack Parameters (Point Source)
Natures Earth Pellets NC, LLC
Laurinburg, North Carolina

		EP-5
Stack Number	Rotary Dryer	
Stack H	eight (ft) <sup>a</sup>	30.0
Stack Heig	ght (meters) <sup>a</sup>	9.1
Stack Dia	ameter (ft) <sup>b</sup>	4,4
Stack Cross	s Section (ft <sup>2</sup> )	N/A
Stack Diam	eter (meters) <sup>b</sup>	1.34
Stack Tem	perature (°F)	182
Stack Tem	perature (°R)	642
Stack Tem	perature (°K)	357
Stack Vol	lume (acfm)	48000
Stack Exit Velocity	Actual (ft/sec)	53.3
	Actual (m/sec)	16.26
	Use in modeling (m/sec) <sup>c</sup>	53.3
UTM Coordinates (m)	Horizontal (E)	640,776,4
	Vertical (N)	3851504,
Stack Base Elevat	ion Above MSL(ft)d	, ,
Stack Base Elevat	ion Above MSL(m)d	0

<sup>&</sup>lt;sup>a</sup>Stack height above ground level

<sup>&</sup>lt;sup>b</sup>Stack inside diameter measured at point of discharge (or equivalent diameter if rectangular stack)

<sup>&</sup>lt;sup>c</sup>Stack exit velocity of 0.01 m/sec used to account for horizontal discharge or rain cap, if applicable

dMSL = mean sea level

TABLE 5-1. MODELED STACK PARAMETERS

Source ID	Description	UTMX (m)	UTMY (m)	Stack Ht. (m)	Stack Temp. (K)	Stack Vel. (m/s)	Stack Diam. (m)
BLKTNK	Bulk Storage Tank Room Exh.	585490.2	3968998.4	10.97	293.00	0.01	0.50
MIXTNK	Mix Tank -Bldg Ventilation	585492.4	3968977.1	10.97 ~	293.00	7.72	5.64
IMPLINE	Impreg. Lines 1&2 - current	585474.2	3969005.4	21.34 -	413.15	28.74	3.21
IMPLINE	Impreg. Lines 1&2 - future	585474.2	3969005.4	27.43	413.15	28.74	3.21
LINE34	New Impreg. Lines 3&4	585468.3	3969006.5	27.43	413.15	28.74	3.21

The formaldehyde emission rates for both modeled scenarios are presented in Table 5-2.

TABLE 5-2. MODELED EMISSION RATES

Scenario	Model ID	Emission Rate (g/s)	Requested NC Air Toxics Limit (lb/hr)
Current Actual Emissions (based on	BLKTNK	5.50E-04	4.36E-03
5,355 lb/hr of resin)	MIXTNK	2.43E-02	1.93E-01
o,ooo torm of reality	IMPLINE	1.10	8.76
Entern Determination	BLKTNK	1.96E-03	1.56E-02
Future Potential Emissions (maximized for NC air toxics	MIXTNK	3.55E-01	2.82
purposes to 98.9% of the AAL)	IMPLINE	7.15	56.76
P in p i i i i i i i i i i i i i i i i i	LINE34	7.15	56.76

Permit # 10012 APP# 8300104.69A



an affiliate of The GEL Group INC

problem solved

**Application for Air Permit To Construct/Operate - Wood Pellet Manufacturing Facility** 

Natures Earth Pellets NC, LLC 16900 Aberdeen Road Laurinburg, NC 28352

<u>June 2009</u>



# APPLICATION FOR AIR PERMIT TO CONSTRUCT/OPERATE - WOOD PELLET MANUFACTURING FACILITY

#### NATURES EARTH PELLETS NC, LLC LAURINBURG, NORTH CAROLINA

#### 1.0 INTRODUCTION

Natures Earth Pellets NC, LLC (Natures Earth) proposes to build and operate a wood pelletizing plant in Laurinburg, North Carolina. The location of the Natures Earth facility is shown on the topographic map included as Figure 1. Natures Earth is not currently permitted by the North Carolina Department of Environmental and Natural Resources (DENR).

The purpose of this application is to request an air permit to construct and operate the equipment associated with the pelletizing plant. As shown in the application, Natures Earth will comply with applicable air regulations.

#### 2.0 DESCRIPTION OF PROCESS AND EMISSIONS

The Natures Earth facility will be a pellet mill consisting of conveyance systems such as conveyors and pneumatic transfer, raw material and product storage, hammermills, pellet mills, pellet coolers, aspirators, and a direct-fired rotary dryer. Emissions from the conveyance systems, raw material and product storage, hammermills, pellet mills, pellet coolers and aspirators will be total suspended particulate (TSP) and particulates less than 10 microns (µm) in size (PM<sub>10</sub>). Emissions from the rotary dryer will consist of TSP, PM<sub>10</sub>, sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs) and various toxic air pollutants (TAPs) and hazardous air pollutants (HAPs). TSP and PM<sub>10</sub> emissions from the proposed sources will be controlled by bag filters or cyclones.

A detailed discussion of each emission source along with the actual and potential emissions is presented in the Assumption and Calculation I. A facility process flow diagram is presented in Figure 2.

June 2009 Page 3

where:

E = allowable emission limit for particulate matter (pounds per hour)

P = process weight rate (tons per hour)

For process weight rates greater than 30 tons per hour this standard requires that PM emissions from general industries be limited to the value obtained by the following equation:

$$E = F \times (55.0 \times P^{0.11} - 40)$$

where:

E = allowable emission rate in pounds per hour

P = process weight rate in tons per hour

F = effect factor (F = 0.25 for acid mists, F = 1.0 for all other pollutants)

Based on a comparison of the allowable PM emission and calculated maximum PM emission rates for each source as shown in Table 1, PM emissions from each process will comply with this standard.

#### 3.3 Sulfur Dioxide Emissions from Combustion Sources

The North Carolina Sulfur Dioxide Emissions from Combustion Sources Standard (15A NCAC 2D .0516) establishes sulfur dioxide limits for combustion sources. Emission of sulfur dioxide from any source of combustion shall not exceed 2.3 pounds of sulfur dioxide per million Btu (MMBtu) input. Based on a maximum fuel input of 5,100 pounds of wood per hour and a Btu rating of 6,700 Btu per pound of wood, the rotary dryer will have a rated heat input of 34.2 MMBtu/hr. Based on the calculated SO<sub>2</sub> emission rate of 0.85 pounds per hour presented in the Assumptions and Calculations I, SO<sub>2</sub> emissions from the rotary dryer will be 0.025 pounds per MMBtu. SO<sub>2</sub> emissions from the rotary dryer will comply with this standard.

#### 3.4 Control of Visible Emissions

The North Carolina Control of Visible Emissions Standard (15A NCAC 2D .0521) establishes visible emission limits for sources. This regulation establishes opacity limits for sources, either fuel burning or process, for which no other opacity emission standards are applicable. The opacity emission limits under the North Carolina Control of Visible Emissions Standard is 40 percent for sources constructed prior to July 1, 1971, and a 20 percent opacity limit for sources constructed after that date.

Each emissions source will comply with the 20 percent opacity limit.

Table 1

# 15A NCAC 2D .0515 - Process Particulate Matter

### Natures Earth Pellets NC, LLC

			!			
Source	Exhaust Pt #	Production Rate (lbs/hr)	Production Rate	Calculated Hourly PM	Allowable PM	Compliance
Truck Dump	ri#	300,000	(tons/hr) 150	(lbs/hr)	(lbs/hr)	Yes / No
Drag Conveyor No. 1		300,000	150		55	
Drag Conveyor No. 2		300,000	150		55	-
Bucket Elevator		300,000	150		55 55	
Silo Loading Conveyor		300,000	150		55 55	
Dryer Fuel Bin Loading Cyclone	·	6,900	3.5		9	
Silo Nos. 2-4		300,000	150.0		55	
Bagfilter No. 1	EP-1	300,000	150.0	0.41	342	<b>X</b> 7
Silo No. 1	EP-2	300,000	150	0.045	55	Yes
Hammermill Feed Cyclone Nos. 1-6	151 -2	78,000	39.0	0.043	42	Yes
Pellet Mill Feed Cyclone Nos. 1-3		39,000	19.5		30	
Softwood Packaging Aspirator		52,800	26.4		37	<del></del>
Hardwood Packaging Aspirator		52,800	26.4		37	
Bagfilter No. 2	EP-6	32,000	20.7	0.58	146	Yes
Hardwood Pellet Silo Feed Cyclone		28,500	14.3	0.56	24	1 68
Softwood Pellet Silo Feed Cyclone		37,000	18.5		29	<del></del>
Bagfilter No. 4	EP-10			0.09	53	Yes
Pellet Fines Feed Cyclone Nos. 1 and 2		13,000	6.5	0.05	14	1 65
Pellet Cooler Fines Cyclone Nos. 1-3		1,950	1.0		4	
Bagfilter No. 3	EP-12			0.58	18	Yes
Pellet Mill Feed Cyclone Nos. 4-6		39,000	19.5	0.00	30	103
Pellet Cooler Fines Cyclone Nos. 4-6		1,950	1.0		4	
Bagfilter No. 5	EP-13			0.39	34	Yes
Rotary Dryer	EP-5	36,800	18.4	(9.86)	29	Yes
Hammermill No. 7 Feed Cyclone	EP-4	55,100	27.6	0.14	38	Yes
Pellet Cooler Feed Cyclone No. 1	EP-7	13,000	6.5	1.46	14	Yes
Pellet Cooler Feed Cyclone No. 2	EP-8	13,000	6.5	1,46	14	Yes
Pellet Cooler Feed Cyclone No. 3	EP-9	13,000	6.5	1.46	14	Yes
Pellet Cooler Feed Cyclone No. 4	EP-14	13,000	6.5	1.46	14	Yes
Pellet Cooler Feed Cyclone No. 5	EP-15	13,000	6.5	1.46	14	Yes
Pellet Cooler Feed Cyclone No. 6	EP-16	13,000	6.5	1.46	14	Yes
7,777	101 10	15,000	O I D	1.70	17	1 63

10.995 11/12 2m

# FORM A1

# FACILITY (General Information)

REVISED 11/01/02 NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate	A1
NOTE-APPLICATION WILL NOT BE PROCESSED WITHOUT THE FOLLOWING:	
Local Zoning Consistency Determination (if required)  Facility Reduction & Recycling Survey Form (Form A4)	
Responsible Official/Authorized Contact Signature Appropriate Number of Copies of Application	;
GENERAL INFORMATION	\$153 BV 51 US
Legal Corporate/Owner Name: Natures Earth Pellets NC, LLC	
Site Name: Nature's Earth Products	<del></del>
Site Address (911 Address) Line 1: 16900 Aberdeen Road	<del></del> -
Site Address Line 2:	
City: Laurinburg State: North Carolina	<del></del>
Zin Code: 29352	<del></del>
CONTACT INFORMATION	
Parmit/Technical Contact	
r acmeyinispection Contact:	
Mailing Address line 1: 16900 Abordon Reed	
Mailing Address Line 1: 16500 Abertiden Road	
Sity: Laurinhurg State: NC 7in Code: 20070	<del>. ,</del>
The black of the control of the cont	e: 28352
Email Addrese: Shreeg@politicage.th.com	
Beconsible Official Authorized On the Control of Contro	
Avoid Contact.	·
Molling Address Line 4: 46000 Absolute David	· · · · · · · · · · · · · · · · · · ·
Walling Address Life 1. Topus Aperdeen Road	
City Laurinburg Clate NO TO Lauring Manager Lauring	
Oily. Lead in burg State. NC Zip Cod	28352
Email Address: Chrona@hot.usonath.eau Ju4-642-1106 Fax No. (area code)	
Linal Address. <u>Corangionaturesearn.com</u>	
New Non-permitted Equilibrational Application of the State of the Stat	
Telewal with Modification	
FACILITY CLASSIFICATION AFTER APPLICATION (Check Only One)	2 34 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Congred Small Backlister Co. 1	
General Small Prohibitory Small Synthetic Minor Title V  FACILITY (Plant Site) INFORMATION	No. of the last of
Describe nature of (plant site) operation(s): Facility ID No. : None	
Primary SIC/NAICS Code: 2499/321999 Current/Previous Air Pormit No. NA.	
Todility Coordinates No. NA Expiration	ate NA
Does this application contain confidential data?  PERSON OR FIRM THAT PREPARED APPLICATION	
A STATE OF THE PROPERTY OF THE	
Person Name: Keith McCullock Firm Name: GEL Engineering of NC, Inc.	
Mailing Address Line 1: P.O Box 14262 Mailing Address Line 2:	·
City: Research Triangle Park State: North Carolina Zip Code: 27709 County:	
Phone No. (area code ) 919-544-1100   Fax No. (area code ) 919-406-1807   Email Address:   keith.mccullock@gel.com   keith.mccullock@gel.com   SIGNATURE OF RESPONSIBLE OFFICIAL/AUTHORIZED CONTACT.	
Name (typed): Cliff Briagg Title:	
X Signature(Blue Ink):	
7/09/09	
Attach Additional Sheets As Necessary	· <del></del>
:	

# FORMs A2, A3

# EMISSION SOURCE LISTING FOR THIS APPLICATION - A2 112r APPLICABILITY INFORMATION - A3

REVISED 04/10/07 NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate						
E	MISSION SOURCE LISTING: New, Modifie	d, Previously Un	permitted, Replaced, Deleted			
EMISSION SOURCE		CONTROL DEVICE				
ID NO.	DESCRIPTION	ID NO.	DESCRIPTION			
Equi	ipment To Be ADDED By This Application	(New Previous		1 4504		
TD-1	Truck Dump	CD-BF-1	Bag Filter No. 1	I SEE		
DC-1 & DC-2	Drag Conveyors Nos. 1 & 2	CD-BF-1	Bag Filter No. 1			
BE-1	Bucket Elevator	CD-BF-1	Bag Filter No. 1			
SLC-1	Silo Loading Conveyor	CD-BF-1	Bag Filter No. 1			
DHS-1 (i)	SIIO NO. 1 ( Dry Harry word Side)	CD-BV-1	Bin Vent Filter No. 1			
SS-2 & SS-3	Silo Nos. 2&3 & Caftwood Silo)	CD-BF-1	Bag Filter No. 1			
GHS-4	Silo No. 4 Green handwood Silo	CD-BF-1	Bag Filter No. 1			
HFC-1 - HFC-6	Hammermill Feed Cyclones Nos. 1-6	CD-BF-2	Bag Filter No. 2			
PMFC-1 - PMFC-3	Pellet Mill Feed Cyclones No. 1-3	CD-BF-2	Bag Filter No. 2			
PMFC-4 - PMFC-6	Pellet Mill Feed Cyclones No. 4-6	CD-BF-5	Bag Filter No. 5			
PCFC-1 - PCFC-6	Pellet Cooler Feed Cyclone Nos. 1-6		N/A			
PCC-1 - PCC-3	Pellet Cooler Fines Cyclone Nos. 1-3	CD-BF-3	Bag Filter No. 3			
PCC-4 - PCC-6	Pellet Cooler Fines Cyclone Nos. 4-6	CD-BF-5	Bag Filter No. 5			
	Hardwood Pellet Silo Feed Cyclone and Softwood	00-01-0	Bag i niei No. 3	<del>-</del>		
HPSC-1 & SPSC-1	Pellet Silo Feed Cyclone	CD-BF-4	Bag Filter No. 4			
PFFC-1 & PFFC-2	Pellet Fines Feed Cyclone Nos. 1 and 2	CD-BF-3	Bag Filter No. 3			
	Softwood Packaging Aspirator and					
SPA-1 & HPA-1	Hardwood Packaging Aspirator		Bagfilter No. 2			
/ RD-1	Direct-fired rotary dryer	CD-HEC-1	High Efficiency Cyclones No. 1			
DFBC-1	Dryer Fuel Bin Loading Cyclone	CD-BF-1	Bagfilter No. 1			
HFC-7	Hammermill Feed Cyclones No. 7	None	N/A			
	Equipment ro Be DELE	TED By This A	pplication			
	to 40 CFR Part 68 "Prevention of Accidental Releases" - n detail how your facility avoided applicability:	- Section 112(r) of the		A 3		

B. Are you using administrative controls to subject your facility to a lesser 112(r) program standard?

If yes, please specify:

Yes 🖑 No 🤻

Specify required RMP submittal date: \_\_\_\_\_\_ If submitted, RMP submittal date: \_\_\_\_\_

REVISED 12/01/01 NCDENR/Division of	Air Quality -	Application (	for Air Permi	it to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Rotary Dryer		•••••	EMISSION	SOURCE ID I	NO:	RD-1	
			CONTROL	DEVICE ID N	O(S):	CD-HEC-1	
OPERATING SCENARIO 1 OF 1			EMISSION	POINT (STAC	K) ID NO(S):	EP-5	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE Direct-fired Rotary Dryer controlled by high efficiency of	•	FLOW DIAG	RAM):				
TYPE OF EMISSION SOURCE (CHECK AN	ID COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWI	NG PAGES):	
○ Coal,wood,oil, gas, other burner (Form B1)      □ Woodw				ct. of chemica			
☐ Int.combustion engine/generator (Form B2 ☐ Coating	/finishing/prin	tina (Form B5	_		-	,	
-	silos/bins (Fo		Other (F	,	,		
START CONSTRUCTION DATE Jul-09 OPERATION				UFACTURED	. Aug 06		
MANUFACTURER / MODEL NC Westec	N DATE.	<del>,</del>		ULE: 24 HR/D			
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	O NESHAD			T (SUBPART		VIN DZ VVIN/T	<u> </u>
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG		CED N	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760		ACK EMISSION					
CRITERIA AIR POLLUTA							
	SOURCE OF			T OK IIIK			·
	EMISSION		D ACTUAL	(DEFORE ACA!		EMSSIONS	
AIR POLLUTANT EMITTED	FACTOR	(AFTER CONTI		lb/hr	ROLS / LIMITS)	<del></del>	ROLS / LIMITS)
PARTICULATE MATTER (PM)	AP-42	9.86	tons/yr 37.9	49.3	tons/yr	1b/hr ( 9.86 )	tons/yr
PARTICULATE MATTER (FIN) PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	AP-42	9.86	37.9	49.3	216	9.86	43.2 43.2
PARTICULATE MATTER<10 MICRONS (PM <sub>2.5</sub> )	AP-42 AP-42	9.86	37.9	49.3	216 216	9.86	43.2
SULFUR DIOXIDE (SO2)	AP-42	0.85	3.7	0.85	3.7		3.7
NITROGEN OXIDES (NOx)	AP-42	25.76	99	25.76		0.85	112.8
CARBON MONOXIDE (CO)	AP-42	14.2	54.5	14.2	112.8 62.1	25.76 14.2	62.1
VOLATILE ORGANIC COMPOUNDS (VOC)	AP-42	23.92	91.9	23.92	104.8	23.92	104.8
LEAD	AF-42	23.92	91.9	23.82	104.6	23.92	104.0
OTHER	+						
HAZARDOUS AIR POLLUT	 =/NNEST= NNEST	CIONE INI	OBMATI	N EAD TH	ile calibr		
WILLIAM OF THE		EXPECTE				. EMSSIONS	
	EMISSION			/DEFADE 801/3		ı	
HAZADDONE AID DONE HTANT AND CAR NO	1		ROLS / LIMITS)		ROLS / LIMITS)		T
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr See A&C Ta	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
See Attached Tables	AP-42	See A&C Ta	DIE 3	See A&C Ta	DIE 3	See A&C Ta	Die 3
· · · · · · · · · · · · · · · · · · ·							
• • • • • • • • • • • • • • • • • • • •							
<del></del>		<u> </u>					
TOXIC AIR POLLUTAN	 TARMICCIA	MONNEAE	MATIONE	OD TUIC	SOUDE	<b>从</b> 的"表演"	
The state of the s	MARKON STATE	1207 [1009991] 120-0 230-0	417		700 A R R R R R R R R R R R R R R R R R R		
INDICATE EXPECTED							
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE		/hr		day		/yr
See Attached Tables	AP-42	See A&C Ta	ble 3	See A&C Ta	ble 3	See A&C Ta	ble 3
				<u> </u>			
	<u> </u>	<u> </u>					
		·					
Attachments: (1) emissions calculations and supporting documentation rates) and describe how these are monitored and with what frequency		all requested sta	ite and federal	enforceable per	mit limits (e.g. h	ours of operation	n, emission

# EMISSION SOURCE (WOOD, COAL, OIL, GAS, OTHER FUEL-FIRED BURNER)

REVISED 12/01/01	NCDENR/Division of	f Air Quality - Applica	tion for Air	Permit to Con	struct/Op	perate	B1
EMISSION SOURCE DESCRIF	TION:	<del>-</del>	EMIS	SION SOURCE	E ID NO:	RD-1	
Rotary Dryer			CON	TROL DEVICE	ID NO(S)	: CD-HEC-1	
OPERATING SCENARIO:	1 OF 1		EMIS	SION POINT (	STACK) II	D NO(S):	EP-5
DESCRIBE USE:	CESS HEAT 6	SPACE HEAT	in	₫ ELECTRI	CAL GEN	VERATION	
X con	TINUOUS US 6	STAND BY/EMERGE	ENCY	d OTHER (	DESCRIE	3E):	
HEATING MECHANISM:	d INDIRECT	X DIREC					
MAX. FIRING RATE (MMBTU/							
		WOOD-FIRE	) BURNE	<b>R</b> / <u>}</u>			
WOOD TYPE: ₫ BARK	( d WOOD/BARK		Хо	RY WOOD	•	OTHER (DESCRIB	E):
PERCENT MOISTURE OF FUE	L: <u>40%</u>						·
	X CONTROLL	ED WITH FLYASH RE	INJECTION	I	d con	TROLLED W/O REIN	JECTION
FUEL FEED METHOD:		HEAT TRANSFER ME	DIA:	STEAM	AIR X	OTHER	Direct-Fired
METHOD OF TUBE CLEANING		CLEANING SCHEDI	ULE: N/A				
		COAL-FIRED	BURNE	R			1.0
TYPE OF BOILER	IF OTHER DESC	RIBE:		•			
PULVERIZED OVERFEED ST	OKER UNDERFEEI	D STOKER	SPREADER	RSTOKER		FLUIDIZED BED	
☐ WET BED Ø UNCONTRO	OLLED 🛭 🖞 UNCONTRO	DLLED 🕴 UN	ICONTROLI	LED	ø	CIRCULATING	
☐ DRY BED Ø CONTROLL	.ED 🖟 CONTROLL	ED 🕙 FL	YASH REIN	JECTION	ø	RECIRCULATING	
		d NC	FLYASH R	EINJECTION			
METHOD OF LOADING:	CYCLONE d HAND	FIRED 🗗 1	<b>TRAVELING</b>	GRATE	OTHER	R (DESCRIBE):	
METHOD OF TUBE CLEANING			ING SCHE				
CARPAIN OF THE GOOD OF SATUR CHARLES BEING THE BUILDING THE BUILDING SATURES THE		OIL/GAS-FIRE	district the second second	Red ago, a service and the service of the			
THE OF BOILER.	ORMAL LEANGEN	_	_	_			
TYPE OF FIRING: ☐ N	ORMAL    TANGEN	TIAL    LOW NOX I	BUKNEKS	□ NO FOM I	NOX BUR	INER	
METHOD OF TUBE CLEANING			IING SCHEI				
The state of the s		OTHER FUELSHI	RED BUR	NER :	iliah ka		
TYPE OF FUEL:		PERCENT MOISTURE: AL LI COMMERCI		RESIDENTIA	71		
THE OF BOILER.		<del></del>					
TYPE OF FIRING:		ONTROL (IF ANY):				FUEL FEED METH	OD:
METHOD OF TUBE CLEANING			IING SCHEI		A Activity	via va i	
	FUELUSA	SE (INCLUDE ST)	Y.O.P. STREET,	alea: Medwidell (Skulys) (s	ELS)		
EUEL TVDE	10070		NUM DESIG			REQUESTED C	
FUEL TYPE	UNITS	1	ITY (UNIT/	1R)	+	LIMITATION (U	NIT/HR)
Wood	pounds	5,100 lbs/hr			NA		
W				•:·-			
	 	STICS (COMPLE	TE ALL T	HAT ARE /		ARLEY V	
		SPECIFIC	M. Control of the Con	SULFUR CO	diffe also completely also served the	ASH CO	NTENT
FUEL TY	PE	BTU CONTE		(% BY WE		(% BY W	
Wood		6,700 BTU/lb		NA NA		NA (70 B) V	Lioiti
¥¥00u		6,700 B ( O/ID		INA		INA	
<del></del>		<u> </u>	<del></del>	<del> </del>		*****	
SAMPLING PORTS, COMPLIAN	IT WITH EPA METHOD 1	WILL BE INSTALLED	ON THE ST	TACKS:	∮ YES	X NO	
COMMENTS:	- AMERICA CITY	THE DE INCIALLED	JIT THE S		V IEO	A NO	<del></del>
COMMENTS.							

REVISED 12/01/01 NCDENR/Division of	f Air Quality -	Application f	or Air Permi	t to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Truck Dump			EMISSION S	SOURCE ID N	TD-1		
			CONTROL	DEVICE ID NO	D(S):	CD-BF-1	
OPERATING SCENARIO 1 OF 1		,	<b>EMISSION</b>	POINT (STAC	K) ID NO(S):	EP-1	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC	ESS (ATTACH	FLOW DIAG	RAM):				
Dumping of wood chips from truck to hopper.							
TYPE OF EMISSION SOURCE (CHECK A	ND COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWI	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Woods	vorking (Form l	B4)	Manufac	ct. of chemica	ls/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2) ☐ Coatin	g/finishing/prini	ting (Form B5	🔲 Incinera	tion (Form B8	)		
☐ Liquid storage tanks (Form B3) ☐ Storag	e silos/bins (Fo	orm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	ON DATE:	Sep-09	DATE MAN	JFACTURED:	2009		
MANUFACTURER / MODEL NC Phelps / AX245MAB63	,	EXPECTED	OP. SCHED	ULE: 24 HR/D	AY 7 DAY/V	NK 52 WK/YI	₹
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):	No NESHAP	(SUBPART?):	: No MAC	T (SUBPART	?): No		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEE	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-NO	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760						0 % OPACITY	
CRITERIA AIR POLLUT	ANT EMISS	IONS INFO	PRMATION	I FOR THIS	SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
·	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							- 1 constituent a serie and the constituent of the
HAZARDOUS AIR POLLU			FORMATIC	ON FOR TH	IIS SOUR	2年 集 事 。	
	0011505.01	FYPECTE	D ACTUAL		POTENTIAL	L EMSSIONS	
	SOURCE OF	-\  -\  -\  -\  -\  -\  -\  -\  -\  -\					
	EMISSION		ROLS / LIMITS)	(BEFORE CON	ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.			ROLS / LIMITS) tons/yr	(BEFORE CONT	rrols / LIMITS) tons/yr	(AFTER CONTI	rols / LIMITS) tons/yr
HAZARDOUS AIR POLLUTANT AND CAS NO. NA	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
	EMISSION	(AFTER CONT		·	· ·	1	
NA	EMISSION FACTOR	(AFTER CONT	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA  TOXICAIR POBLUTA	EMISSION FACTOR	(AFTER CONT Ib/hr	tons/yr	ib/hr	tons/yr	lb/hr	tons/yr
NA  TOXIC AIR POLLUTA  INDICATE EXPECTED	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
NA  TOXIC AIR POLLUTA  INDICATE EXPECTED	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr
TOXIC AIR POLLUTA  INDICATE EXPECTED  TOXIC AIR POLLUTANT AND CAS NO.	EMISSION FACTOR	(AFTER CONT Ib/hr DNS INFOR	tons/yr  RMATION	ib/hr  FORTHIS  DLS / LIMITAT	tons/yr	lb/hr	tons/yr

REVISED: 12/01/01 NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate							
EMISSION SOURCE DESCRIPTION:	SION SOURCE DESCRIPTION: EMISSION SOURCE ID NO: TD-1						
Truck Dump		CONTROL DEVICE ID NO(S) CD-BF-1					
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID NO(S): EP-1					
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM	Л):						
Dumping of wood chips from truck to hopper							
·							
			DE OU FOTES	01010177			
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	<del>,</del>	MAX. DESIGN	REQUESTED				
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(	UNIT/FIK)			
	<del> </del>		<del> </del>				
	+						
	<u> </u>						
	<del> </del>		···				
	<del> </del>						
	†						
MATERIALS ENTERING PROCESS - BATCH OPERAT	ION	MAX. DESIGN	REQUESTED	CAPACITY			
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (U	NIT/BATCH)			
Wood Chips	tons/hr_	300,000	N/A				
	<u> </u>						
	ļ						
	<u> </u>						
	<u> </u>						
	<u> </u>						
	<u> </u>		<del></del>				
MAXIMUM DESIGN (BATCHES / HOUR):							
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/)	/R):					
FUEL USED:	1	IMUM FIRING RATE (MILLION					
MAX. CAPACITY HOURLY FUEL USE:	REQUESTE	D CAPACITY ANNUAL FUEL U	SE:				
COMMENTS:							

REVISED 12/01/01 NCDENR/Division of	Air Quality - A	Application fo	or Air Permit	to Construct	/Operate		B
EMISSION SOURCE DESCRIPTION: Drag Conveyor No	s. 1 and 2, B	ucket	EMISSION S	OURCE ID N	DC-1, DC-2,	BE-1, SLC-1	
Elevator, Silo Loading Conveyor			CONTROL D	EVICE ID NO	)(S):	CD-BF-1	
OPERATING SCENARIO 1 OF 1			EMISSION F	OINT (STAC	() ID NO(S):	EP-1	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAGE	RAM):				
Conveyance of wood chips to storage silos.							
•							
TYPE OF EMISSION SOURCE (CHECK AN	ID COMPLET	E APPROPRI	ATE FORM I	31-B9 ON TH	E FOLLOWI	NG PAGES):	
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woodw	orking (Form E	34)		t. of chemical	s/coatings/inl	ks (Form B7)	
 ☐ Int.combustion engine/generator (Form B2) ☐ Coating	/finishing/print	ing (Form B5)	Incinerat	ion (Form B8)	)		
	silos/bins (Fo		X Other (Fo				
START CONSTRUCTION DATE Jul-09 OPERATIO	N DATE:	Sep-09	DATE MANU	JFACTURED:	2009	·	
MANUFACTURER / MODEL NC Rapat - DS 6030		EXPECTED				VK 52 WK/Y	₹
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N		t		T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG	25%	SEP-NO	OV <b>25</b> %
EXPECTED ANNUAL HOURS OF OPERATION: 8.760	VISIBLE STA	ACK EMISSIC	ONS UNDER	NORMAL OP	ERATION: (	% OPACITY	
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	RMATION	FOR THIS	SOURCE		
	SOURCE OF				POTENTIAL	EMSSIONS	
	EMISSION			(BEFORE CONT	ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&G	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER						Part of the last o	
HAZARDOUS AIR POLLU	TANT EMIS			IN FOR IT			<u> </u>
The state of the s	SOURCE OF	EXPECTE	D ACTUAL			L EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)		TROLS / LIMITS)		
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA	•						
(177)							
IVO.							
IVA							
	VISELINOV	MCINEA			SOUDEE		
ŢOXIC AJR POLLUTAI	NT EMISSIC	DNS INFOR	RMATION	FOR THIS	SOURCE		
TOXIC AIR POLLUTAI	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	NT EMISSIC ACTUAL EM EF SOURCI	ISSIONS AFT	RMATION) ER CONTRO	DLS / LIMITAT	SOURCE:		/yr
TOXIC AIR POLLUTAI	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		
TOXIC AIR POLLUTAI INDICATE EXPECTED TOXIC AIR POLLUTANT AND CAS NO.	ACTUAL EM	ISSIONS AFT	ER CONTRO	DLS / LIMITAT	TIONS		

		E (UTHER)						
REVISED: 12/01/01 NCDENR/Division of Air Quality		T		B9				
EMISSION SOURCE DESCRIPT Drag Conveyor Nos. 1 and 2, E	Bucket	EMISSION SOURCE ID NO: DC-1, DC-2, BE-1, SLC-1						
Elevator, Silo Loading Conveyor		CONTROL DEVICE ID NO(S) CD-BF-1						
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-1</b>					
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM  Conveyance of woods chips to storage silos	<b>√I):</b>							
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX. DESIGN	REQUESTED	CAPACITY				
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(	JNIT/HR)				
			•					
		:						
			<del>,</del>					
MATERIALS ENTERING PROCESS - BATCH OPERAT	ION	MAX. DESIGN	REQUESTED	CAPACITY				
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UI	NIT/BATCH)				
Wood Chips	tons/hr	300,000	N/A					
				· · · · ·				
MAXIMUM DESIGN (BATCHES / HOUR):			-					
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	YR):		· · · · · · · · · · · · · · · · · · ·				
FUEL USED:	T	IMUM FIRING RATE (MILLION I	BTU/HR)					
MAX. CAPACITY HOURLY FUEL USE:	<del></del>	D CAPACITY ANNUAL FUEL US	•					
COMMENTS:	1	3 0.11 / 1011   / 1111   0.12   0.22   0.	-					

SPECIFIC EMISSIONS SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 12/01/01 NCDENR/Division of A	Air Quality	Application f	or Air Permi	t to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Dryer Fuel Bin Loa	ding Cyclon	е	EMISSION S	SOURCE ID N	DFBC-1		
			CONTROL	DEVICE ID NO	D(S):	CD-BF-1	
OPERATING SCENARIO 1 OF 1			EMISSION I	OINT (STAC	K) ID NO(S):	EP-1	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCES	S (ATTACH	FLOW DIAG		<del></del>	· · · · · · · · · · · · · · · · · · ·		
Feeds wood chips to rotary dryer fuel bin.	•		•				
TYPE OF EMISSION SOURCE (CHECK AN	D COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWI	NG PAGES):	
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woodwo	rking (Form E	34)	Manufac	t. of chemica	ls/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2 ☐ Coating/	finishing/print	ing (Form B5)	☐ Incinera	tion (Form B8	)		
☐ Liquid storage tanks (Form B3) ☐ Storage	silos/bins (Fo	rm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	I DATE:	Sep-09	DATE MANU	JFACTURED:	2009		
MANUFACTURER / MODEL NC Kice		EXPECTED	OP. SCHED	JLE: 24 HR/D	AY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): No	NESHAP (	SUBPART?):	No MAC	T (SUBPART	?): No		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-N	OV <b>25</b> %
EXPECTED ANNUAL HOURS OF OPERATION: 8,760						0 % OPACITY	
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	RMATION	FOR THIS	SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&0	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&0	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&0	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							_
OTHER						40000 to 1 po 400000 to 1	
HAZARDOUS AIR POLLŪT	ANT/EMIS	SIONS INF	-ORMATIC	NEORTH	iis sourc	<i>1</i> 5 (1) (1)	
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA					•		
					ANTERE	2 11161	C 19 5. 1
TOXIC AIR POLLUTAN		The state of the s				<b>*</b> 计图:	
INDICATE EXPECTED A							
-	EF SOURCE	lb/	/hr	lb/d	day	lb.	/yr
NA							
		****		<del></del>			
				ļ		<u> </u>	
Attachments: (1) emissions calculations and supporting documentation	(0) (1) (2)		4				m amelania -

rates) and describe how these are monitored and with what frequency; and (3) de

REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	В9
EMISSION SOURCE DESCRIPT	-	EMISSION SOURCE ID NO:	DFBC-1	
Dryer Fuel Bin Loading Cyclone		CONTROL DEVICE ID NO(S)	CD-BF-1	
OPERATING SCENARIO: 1 OF 1	_	EMISSION POINT (STACK) ID	NO(S): <b>EP-1</b>	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM Feeds wood chips to rotary dryer fuel bin	<b>Л):</b>			
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS UNITS	MAX. DESIGN CAPACITY (UNIT/HR)	REQUESTED LIMITATION(	
Wood Chips	lbs/hr	6,900	N/A	
MATERIALS ENTERING PROCESS - BATCH OPERAT	ION	MAX, DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (U	
MAXIMUM DESIGN (BATCHES / HOUR):	<u></u>			
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	YR):		
FUEL USED:	TOTAL MAX	KIMUM FIRING RATE (MILLION	BTU/HR):	
MAX. CAPACITY HOURLY FUEL USE:	<del>1</del>	D CAPACITY ANNUAL FUEL U	· · · · · · · · · · · · · · · · · · ·	
COMMENTS:	<u> </u>			

REVISED 12/01/01 NCDENR/Division of	of Air Quality - A	Application fo	or Air Permit	to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: On Hardwood'S				OURCE ID N			
				EVICE ID NO		CD-BV-1	
PERATING SCENARIO 1 OF 1			EMISSION F	OINT (STAC	K) ID NO(S):	EP-2	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC	ESS (ATTACH				•		
Storage of wood chips			•				
otologo or mood ompo							
TYPE OF EMISSION SOURCE (CHECK A	ND COMPLETI	E APPROPRI	ATE FORM	31-B9 ON TH	E FOLLOWII	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Wood			☐ Manufac	t. of chemical	s/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2) ☐ Coatir			_				
	ge silos/bins (Fo		X Other (Fo	rm B9)	,		
				JFACTURED:	2009		
START CONSTRUCTION DATE Jul-09 OPERATION	ON DATE:					NK 52 WK/Y	
MANUFACTURER / MODEL NC Laidg #543-30				T (SUBPART		VK 32 VVIVII	
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):						SED M	OV 25%
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FE	B <b>25</b> %	MAR-MAY	25%	JUN-AUG			
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE STA	CK EMISSIC	NS UNDER	NORMAL OF	EKATION:	U % OPACITI	Adola Co.
CRITERIA AIR POLLUT		-					
	SOURCE OF		D ACTUAL			LEMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(	ROLS / LIMITS)		
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	<del></del>	Refer to A&		Refer to A&		Refer to A&	
PARTICULATE MATTER<10 MICRONS (PM10)		Refer to A&		Refer to A&		Refer to A&	
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							ļ
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD						<u> </u>	
OTHER						A STATE OF THE STA	o recovered
HAZARDOUS AIR POLL	UTANT EMIS	SIONS IN	FORMATIO	ON FOR TH			
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIA	L EMSSIONS	<b>i</b>
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMIT
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/y
NA							
	i						
TOXIC AIR POLICUTA	NT EMISSIC	NS INFOR	RMATION	FOR THIS	SOURCE		
INDICATE EXPECTE							
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE		/hr	1	/day	<u> </u>	b/yr
					·		
NA	_						
	<del></del>			<del>†                                      </del>			-
	<del></del>			-	<u> </u>	†	
	<del></del>	<del>                                     </del>		<del> </del>		T	
	<del> </del>	<del> </del>	· · · · · ·	<del> </del>		†	
	_	<del>                                     </del>	·	<del> </del>		<del>                                     </del>	<del>-</del>
<b>\</b>				1			

# **EMISSION SOURCE (STORAGE SILO/BINS)**

REVISED 12/01/01	NCDENR/D	ivision of Air Qua	lity - Appl	ication fo	r Air Permit t	o Constru	uct/Opera	te	B6
EMISSION SOURCE DESCRIPTION Dry Hardwood Silo No. 1 \$ EMISSION SOURCE ID NO: DHS-1									
					CONTROL	DEVICE	ID NO(S)	CD-B	V-1
OPERATING SCENARIO:	1 OF 1				EMISSION	POINT(S	STACK) ID	NO(S):	EP-2
DESCRIBE IN DETAIL THE F	PROCESS (ATT	FACH FLOW DIAG	RAM):			<del></del>			
Storage of wood chips									
MATERIAL STORED: Wood	l chips			DEI	ISITY OF MA	TERIAL (L	.B/FT3):	22	
CAPACITY	CUBIC FEET	73,513		тоі	IS: 8	00			
DIMENSIONS (FEET)	HEIGHT:	104' DIAMETER:	30' (	OR) LEN	GTH:	WIDT	H:	HEIGH	т:
ANNUAL PRODUCT THRO			246,0		MAXIMUM				1,314,000
PNEUMATICALLY F	LLED ***	ME(	CHANICAL	LY FILLE	D: We			FILLE	DEROM
BLOWER		SCREW CC	NVEYOR				RAILCA	R	
		BELT CON\	/EYOR		MOTOR HP:	ම	TRUCK		
OTHER:		X BUCKET EL	EVATOR			e	STORA	GE PILE	
		d OTHER:				<b>│</b>	OTHE	R;	Conveyor
NO. FILL TUBES:						•	·		
MAXIMUM ACFM:									
BY WHAT METHOD IS MATE	ERIAL UNLOAD	DED FROM SILO?	Gravit	y feed t	o pneumat	ic conv	/eyance	) <b>.</b>	
MAXIMUM DESIGN FILLING									
MAXIMUM DESIGN UNLOAD	ING RATE OF	MATERIAL (TONS	5/HR):	19.5					
COMMENTS:									

REVISED 12/01/01 NCDENR/Division of			for Air Permi	it to Constru	ct/Operate		В
EMISSION SOURCE DESCRIPTION: Softwood Silo No	s. 2 and 3, G	reen	EMISSION	SOURCE ID I	SS-2, SS-3,	GHS-4	
Hardwood Silo No. 4			CONTROL	DEVICE ID N	O(S):	CD-BF-1	
OPERATING SCENARIO 1 OF 1				POINT (STAC	K) ID NO(S):	EP-1	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE Storage of wood chips	SS (ATTACH	FLOW DIAG	RAM):				
Storage of wood Chips							
TYPE OF EMISSION SOURCE (CHECK A	ND COMPLET	F APPROPR	IATE FORM	R1-R9 ON TH	IE FOLLOW!	NG PAGES):	
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woodw						ks (Form B7)	
☐ Int.combustion engine/generator (Form B2 ☐ Coating		•			-	( = . ,	
	silos/bins (Fo		X Other (Fo		· ·		
START CONSTRUCTION DATE Jul-09 OPERATIO			•	UFACTURED	2009	1	
MANUFACTURER / MODEL NC Laidg #543-30	NDATE.					/ // 52 WK/Y	В
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	lo NESHAP			T (SUBPART		IVIC 32 VVICT	<u> </u>
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG		SEP-N	OV <b>25%</b>
EXPECTED ANNUAL HOURS OF OPERATION: 8,760		ACK EMISSION					
CRITERIA AIR POLLUTA							
		EXPECTE	STACE WOLLD THE STATE OF THE ST	The second secon	M. Gallani C. Salari . 1994 V. 1997 V. 1997	L EMSSIONS	A - II SOCEOUDO - IN SOCIAL INSCIPLINA
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)	<u> </u>						
CARBON MONOXIDE (CO)	<u> </u>				<u> </u>		
VOLATILE ORGANIC COMPOUNDS (VOC)	ļ			'	1		
LEAD	<u> </u>						
OTHER HAZARDOUS AIR POLLU	I FARIT ERAIC	  SIONISINU	ODMATIC	NEAD TH	lie enlibi		
	SOURCE OF		D ACTUAL	44.0.0 - 40.W. J.		EMSSIONS	
	EMISSION	1		/BEEODE CONT	ROLS / LIMITS)	1	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA	17101011	15/111	torioryi	107111	(Olio/yi	107111	tonaryi
TOXIC AIR POLLUTAN	., .,						
INDICATE EXPECTED			ER CONTRO	LS / LIMITAT	IONS	· · · · · · · · · · · · · · · · · · ·	
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb/	hr	lb/d	day	lb.	/yr
NA							
	-			<del> </del>		ļ	· · · · · · · · · · · · · · · · · · ·
			:	<b> </b>			<del>.</del>
			·			-	
Attachments: (1) emissions calculations and supporting documentate	on: (2) indicate :	all requested etc	te and federal	Enforceable ser	mit limite /o a h	loure of aparatic	n emission
rates) and describe how these are manifered and with what fragment		an requested ste	and lederal	unorceanie per	uni minio (e.y. i	ioura oi operatio	ii, ciilissiuli

# **EMISSION SOURCE (STORAGE SILO/BINS)**

REVISED 12/01/01	NCDENR/DIVIS	on of Air Qualit	y - Applicatio	n for Air Permit to	Construct	/Operate		<u>B6</u>		
EMISSION SOURCE DESC	CRIPTION Softwood S	Silo Nos. 2 and :	3	EMISSION S	SOURCE II	D NO: SS-2, S	S-3, GHS-4			
Green Hardwood Silo No.	4	<del> </del>		CONTROL	DEVICE ID	NO(S): CD-B	F-1			
OPERATING SCENARIO:	1 OF 1			EMISSION F	POINT(STA	ACK) ID NO(S):	EP-1			
DESCRIBE IN DETAIL THE	PROCESS (ATTAC	FLOW DIAGRA	AM):		·					
Storage of wood chips										
MATERIAL STORED: Wo	od chine		· · · · · · · · · · · · · · · · · · ·	DENCITY OF MATE	DIAL (LD)	ET0\: 00				
CAPACITY		3,513		DENSITY OF MATE		FT3): <b>22</b>				
DIMENSIONS (FEET)	HEIGHT: 104'	DIAMETER:	30' (OR)	LENGTH:	WIDTH:	HEIGH1		<u>u.</u>		
ANNUAL PRODUCT THE		ACTUAL:	246,000	MAXIMUM D						
PNEUMATICALLY			246,000 ANICALLY F		ESIGN CA		1,314,00 FROM	00 111 / 71 /		
BLOWER		SCREW CON	4) 1,333,000			RAILCAR				
d COMPRESSOR	1 .			MOTOR LIP	-  -					
OTHER:	X	BELT CONVE		MOTOR HP:	1 .	RUCK				
V OTHER.	I ,	BUCKET ELE\	ATOR		┥	STORAGE PILE				
NO EUL TURES		OTHER:			<u> </u>	OTHER:	Conveyor			
NO. FILL TUBES:	<u> </u>									
MAXIMUM ACFM:										
MATERIAL IS FILLED TO:										
		·		·						
BY WHAT METHOD IS MA	TERIAL UNLOADED I	ROM SILO?	Gravity fee	d to pneumation	convey	rance.				
MAXIMUM DESIGN FILLING	G RATE OF MATERIA	L (TONS/HR): 1:	50		_					
MAXIMUM DESIGN UNLOA		* *		•						
COMMENTS:			/ 19.5							
DOMNIENTS.										
			•	•						
·										

REVISED 12/01/01 NCDENR/Division	of Air Quality -	Application f	or Air Permi	t to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Hammermill Fe	ed Cyclones No	s. 1-6	EMISSION S	OURCE ID N	HFC-1 - HFC	>-6	
			CONTROL I	DEVICE ID NO	D(S):	CD-BF-2	
OPERATING SCENARIO 1 OF 1			EMISSION F	POINT (STAC	K) ID NO(S):	EP-6	
DESCRIBE IN DETAILTHE EMISSION SOURCE PRO	CESS (ATTACH	FLOW DIAG	<u> </u>		· · · · · · · · · · · · · · · · · · ·		
Feeds wood chips to hammermills.	•		,				
. •••							
TYPE OF EMISSION SOURCE (CHECK	AND COMPLET	E APPROPRI	IATE FORM	B1-B9 ON TH	F FOLLOWI	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Wood				t. of chemica			
☐ Int.combustion engine/generator (Form B2) ☐ Coat						( , , , , , , , , , , , , , , , , , , ,	
<del></del>	age silos/bins (Fo		X Other (Fo		,		
		-					
START CONSTRUCTION DATE Jul-09 OPERAT	ION DATE:			JFACTURED:			
MANUFACTURER / MODEL NC Kice						NK 52 WK/YI	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?)			No MAC	T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FE		MAR-MAY	25%	JUN-AUG			OV <b>25</b> %
EXPECTED ANNUAL HOURS OF OPERATION: 8,760						0 % OPACITY	
CRITERIA AIR POLLU	TANT EMISS	IONS INFO	PRMATION	I FOR THIS	SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	L EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							
HAZARDOUS AIR POLL	UTANT EMIS	SIONS IN	FORMATIC	ON FOR TH	IIS SOUR	DE TOTAL	
	SOURCE OF		D ACTUAL			L EMSSIONS	
	EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA			·		<u> </u>		
				·	<u> </u>		
						[	
						i i	
		-					
				-			
							1
· · · · · · · · · · · · · · · · · · ·						1	
TOXIC AIR POLLUT	ANT EMISSIC	NS INFOR	RMATION	FORTHIS	SOURCE		
INDICATE EXPECTE							
· · · · · · · · · · · · · · · · · · ·	EF SOURCE		/hr		day	T Ir	o/γr
TOXIC AIR POLLUTANT AND CAS NO.	EF 300KC		71II	10/	- uay	<del></del>	<u>" y</u>
NA						+	
		<del>                                     </del>		-		<del>                                     </del>	
	<del></del>		<del></del>			<del>                                     </del>	
	<del></del>			<del> </del> -		+	
	<del>-   </del>	<del>                                      </del>				<del> </del>	
		<u> </u>				<del> </del>	
		<u> </u>	_				
Attachments: (1) emissions calculations and supporting docume	ntation; (2) indicate	all requested st	ate and federal	enforceable per	rmit limits (e.g.	nours of operation	on, emission

OPERATING SCENARIO: 1 OF 1 EMISSION POINT (STACK) ID NO(S): EP-6  DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):	9
OPEDATING COENADIO. 4 OF 4	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):	
· · · · · · · · · · · · · · · · · · ·	
Feeds wood chips to rotary dryer fuel bin	
	ļ
MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS MAX. DESIGN REQUESTED CAPACITY	TY
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/H	
Wood Chips   lbs/hr 78,000 N/A	
MATERIALS ENTERING PROCESS - BATCH OPERATION MAX. DESIGN REQUESTED CAPAC	ΤΥ
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BAT	;H)
MAXIMUM DESIGN (BATCHES / HOUR):	
REQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):	
FUEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):	
MAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:	
COMMENTS:	

REVISED 12/01/01 NCDENR/Division of A	Air Quality -	Application f	or Air Permi	to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Mill Feed Cy	clones Nos.	1-3	EMISSION S	OURCE ID N	PMFC-1 - PI	VIFC-3	
			CONTROL I	EVICE ID NO	D(S):	CD-BF-2	
OPERATING SCENARIO 1 OF 1			EMISSION F	OINT (STAC	K) ID NO(S):	EP-6	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCES	S (ATTACH	FLOW DIAG	RAM):		·		
Feeds ground wood to pellet mills.							
TYPE OF EMISSION SOURCE (CHECK AN	D COMPLET	E APPROPRI					
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woodwo	rking (Form E	34)	Manufac	t. of chemical	s/coatings/inl	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2) ☐ Coating/l	finishing/print	ing (Form B5)	Incinera	tion (Form B8)	)	•	
☐ Liquid storage tanks (Form B3) ☐ Storage	silos/bins (Fo	rm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	I DATE:	Sep-09	DATE MANU	JFACTURED:	2009		
MANUFACTURER / MODEL NC Kice		EXPECTED	OP. SCHEDI	JLE: 24 HR/D	AY 7 DAY/V	VK 52 WK/Y	₹
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): No	NESHAP (	SUBPART?):	No MAC	T (SUBPART	?): No		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-NO	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE STA					% OPACITY	
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	PRMATION	FOR THIS	SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	· · · · · · · · · · · · · · · · · · ·
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&C	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&0	C Table 4	Refer to A&0	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&G	C Table 4	Refer to A&G	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							_
OTHER				NECOTI	un noule		1 7
HAZARDOUS AIR POLLUT				N FOR IF			
·	SOURCE OF		D ACTUAL			_ EMSSIONS	
	EMISSION		ROLS / LIMITS)	(BEFORE CONT		<del>- : .</del>	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA			r <del>- · ·</del>				
				_			
						:	
						<u> </u>	
		<u> </u>					
TOXIC AIR POLLUTAN	T EMISSIO	NS INEOR	MATION	OR THIS	SOURCE	7 14 74 7	
INDICATE EXPECTED A		<del></del>					MINISTERNAL PROPERTY.
	EF SOURCE		/hr	_	day	Ih.	
NA	L1 000110L				,		· <u>)·</u>
	<del></del>				. <del>-</del> .		
	<u></u>						
	<u> </u>	-					
	··-						
						·	
Attachments: (1) emissions calculations and supporting documentation	on; (2) indicate	all requested st	ate and federal	enforceable per	mit limits (e.g. l	hours of operation	on, emission
rates) and describe how these are monitored and with what frequency	y; and (3) de			•	. •	•	

REVISED: 12/01/01 NCDENR/Division of Air Quality - Appl	cation for Air Permit to Construct/Operate	B9				
EMISSION SOURCE DESCRIPT	EMISSION SOURCE ID NO: SPA-1 & HPA-1					
Pellet Mill Feed Cyclone Nos. 1-3	CONTROL DEVICE ID NO(S) CD-BF-2					
DPERATING SCENARIO: 1 OF 1	EMISSION POINT (STACK) ID NO(S): EP-6					
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):  Removes fines from pellets.						
MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS	MAX. DESIGN REQUESTED	CAPACITY				
	NITS CAPACITY (UNIT/HR) LIMITATION					
· · · · · · · · · · · · · · · · · · ·	s/hr 52,800 N/A					
MATERIALS ENTERING PROCESS - BATCH OPERATION  TYPE UN	MAX. DESIGN REQUESTED  IITS CAPACITY (UNIT/BATCH) LIMITATION (U					
MAXIMUM DESIGN (BATCHES / HOUR):	CHECKD):					
	CHES/YR):					
	TAL MAXIMUM FIRING RATE (MILLION BTU/HR):					
	UESTED CAPACITY ANNUAL FUEL USE:	·				
COMMENTS:						

REVISED 12/01/01 NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate						В	
EMISSION SOURCE DESCRIPTION: Hardwood Pellet S	Silo Feed Cyclone and EMISSION SOURCE ID N HPSC-1 & SPSC-1						
Softwood Pellet Feed Cyclone			CONTROL	DEVICE ID N	D(S):	CD-BF-4	* 1
OPERATING SCENARIO 1 OF 1			EMISSION	POINT (STAC	K) ID NO(S):	EP-10	· • •
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAG	RAM):				
Transfer of hardwood and softwood pellets to storage	vessel.						
TYPE OF EMISSION SOURCE (CHECK AN	D COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	IE FOLLOWI	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Woodwi	orking (Form I	B4)	Manufa	ct. of chemica	ls/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2☐ Coating	finishing/print	ting (Form B5	🔲 Incinera	tion (Form B8	)		
☐ Liquid storage tanks (Form B3) ☐ Storage	silos/bins (Fo	orm B6)	X Other (Fo	m B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE:	Sep-09	DATE MAN	JFACTURED	2009		
MANUFACTURER / MODEL NC Kice EXPECTED OP, SCHEDULE: 24 HR/DAY 7 DAY/WK 52 WK/YR						R	
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): No NESHAP (SUBPART?): No MACT (SUBPART?): No						,	
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-NO	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE ST	ACK EMISSIO	ONS UNDER	NORMAL OF	ERATION:	0 % OPACITY	7
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	RMATION	FOR THIS	SOURCE		
	SOURCE OF	241-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	D ACTUAL		17 1600 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	EMSSIONS	
	EMISSION	l	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	<u> </u>	Refer to A&		Refer to A&G	<u>.</u>
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	<del></del>	Refer to A&		Refer to A&	C Table 4	Refer to A&C	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							•
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							
HAZARDOUS/AIR ROLLUI	ANT EMIS	SIONS IN	ORMATIC	ON FOR TH	IIS SOUR	SE THE	
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CONT	(ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA							
TOXIC AIR POLLUTAN	- m 14 5.40 Bearing	C. Maria	Mari year of the same		- years		
INDICATE EXPECTED	ACTUAL EMI	SSIONS AFT	ER CONTRO	LS / LIMITAT	IONS		
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb/	/hr	lb/e	day	lb.	/yr
NA		, ,					
				_			
Attachments: (1) emissions calculations and supporting documentation rates) and describe how these are monitored and with what frequency		all requested sta	ate and federal	enforceable per	mit limits (e.g. h	ours of operation	n, emission

EMISSION SOURCE DESCRIPT	ty - Application	for Air Permit to Construct/Op	erate B9		
LIMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: HPSC-1 & SPSC-1			
Hardwood Pellet Silo Feed Cyclone and Softwood Pellet Silo Feed Cy	clone	CONTROL DEVICE ID NO(S)	CD-BF-2		
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-10</b>		
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGR					
Transfer of hardwood and softwood pellets to s	orage vesse	<b>21.</b>			
MATERIALS ENTERING PROCESS - CONTINUOUS PR	ROCESS	MAX, DESIGN	REQUESTED CAPACITY		
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UNIT/HR)		
Pellets (Hardwood)	lbs/hr	28,500	N/A		
Pellets (Softwood)	lbs/hr	37,000	N/A		
		31,000			
			·		
MATERIALS ENTERING PROCESS - BATCH OPER.	 ATION	MAX. DESIGN	REQUESTED CAPACITY		
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNIT/BATCH)		
			·		
	· · · · · ·				
			·		
		<u> </u>			
IAVINI IIA DEGION DATOLIES (LIQUID).					
	(DATOLIE)	<b>(D)</b> :	·		
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/				
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	YR): IMUM FIRING RATE (MILLION E D CAPACITY ANNUAL FUEL US			

REVISED 12/01/01 NCDENR/Division of	Air Quality - A	Application for	or Air Permit	to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Fines Feed	Cyclone Nos.	1 and 2	EMISSION S	SOURCE ID N	PFFC-1 & P	FCC-2	
		CONTROL DEVICE ID NO(S): CD-BF-3				CD-BF-3	
OPERATING SCENARIO 1 OF 1			EMISSION F	POINT (STAC	K) ID NO(S):	EP-12	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAG	RAM):				
Transfer of fines to rotary dryer fuel bin transfer cyclon	•		·				
TYPE OF EMISSION SOURCE (CHECK AN	D COMPLET	E APPROPRI	ATE FORM I	B1-B9 ON TH	E FOLLOWII	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) 🔲 Woodw	orking (Form E	34)	☐ Manuface	t. of chemical	s/coatings/in	ks (Form B7)	
Int.combustion engine/generator (Form B2 🔲 Coating.	/finishing/print	ing (Form B5)	☐ Incinerat	tion (Form B8	)		
<del></del>	silos/bins (Fo		X Other (Fo				
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE.	Sen-09	DATE MANU	JFACTURED:	2009		
MANUFACTURER / MODEL NC Kice	T Drift.					VK 52 WK/YI	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	o NESHAP (			T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG		SEP-NO	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE STA					% OPACITY	,
CRITERIA AIR POLILUTA	NT EMISS	IONS INFO	RMATION	FOR THIS	SOURCE		# 714
	SOURCE OF					EMSSIONS	
	EMISSION	(AFTER CONTI		(BEFORE CONT	· -	(AFTER CONTI	
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)				Refer to A&	<u> </u>	Refer to A&C	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc			Refer to A&G	C Table 4	Refer to A&C	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&		Refer to A&	C Table 4	Refer to A&0	C Table 4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)	<u> </u>	-					
LEAD	<u> </u>						
OTHER							
HAZARDOUS AIR POLLU	ANT EMIS	SIONS IN	ORMATIC	N FOR TH	iis sour	Œ.	
	SOURCE OF		D ACTUAL			EMSSIONS	,
	EMISSION		ROLS / LIMITS)	(BEFORE CONT	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA							
			-		ļ		
					·		
		,					
TOXIC AIR POLLUTAN	IT EMISSIC	NS INFOR	RMATION	FORTHIS	SOURCE		
INDICATE EXPECTED							
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb	/hr	lb/	day	lb	o/yr
NA							
	1						
							<del>.</del>
Attachments: (1) emissions calculations and supporting documental	tion; (2) indicate	all requested st	ate and federal	enforceable pe	rmit limits (e.g.	hours of operati	on, emission

REVISED: 12/01/01 NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate						
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: PFFC-1 & PFCC-2				
Pellet Fines Feed Cyclone Nos. 1 and 2		CONTROL DEVICE ID NO(S)	CD-BF-3			
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): EP-12	<u> </u>		
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAG Transfer of fines to rotary dryer fuel bin transfe						
MATERIALS ENTERING PROCESS - CONTINUOUS	PROCESS	MAX. DESIGN	REQUESTED	CAPACITY		
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(			
Fines	lbs/hr	13,000	N/A	,		
MATERIALS ENTERING PROCESS - BATCH OPE	RATION	MAX. DESIGN	REQUESTED	CAPACITY		
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UN	IIT/BATCH)		
MANUALINA DECION (DATOLIES ( LIQUID).		<u></u>				
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	YR):				
		IMUM FIRING RATE (MILLION	DTI I/UD\-	******		
FUEL USED: MAX, CAPACITY HOURLY FUEL USE:		D CAPACITY ANNUAL FUEL U				
COMMENTS:	INEQUESTE	D CAFACITY ANNUAL POLL O	JL.			

REVISED 12/01/01 NCDENR/Division of	Air Quality -	Application f	ог Air Permi	t to Construc	:t/Operate		l B
EMISSION SOURCE DESCRIPTION: Pellet Cooler Fine	s Cyclone No	os. 1-3	EMISSION :	SOURCE ID N	PCC-1 - PC	C-3	•
			CONTROL	DEVICE ID NO	O(S):	CD-BF-3	
OPERATING SCENARIO 1 OF 1			EMISSION I	POINT (STAC	K) ID NO(S):	EP-12	=
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	•	FLOW DIAG	RAM):	<del>_</del>	•	•	
Transfer of fines to rotary dryer fuel bin transfer cyclor	1 <del>0</del> .						
						•	
TYPE OF EMISSION SOURCE (CHECK AN						-	
Coal,wood,oil, gas, other burner (Form B1) Woodw		-	<del></del>		<del>-</del>	ks (Form B7)	
Int.combustion engine/generator (Form B2) Coating				-	5)		
	silos/bins (Fo	<u> </u>	X Other (Fo				
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE:			JFACTURED:			
MANUFACTURER / MODEL NC Kice	=0	d				VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N		<del> </del>		T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG			OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760  CRITERIA AIR POLLUTA		ACK EMISSION					
CKI EKA AIK KULUIA				FURTHE			
		EXPECTE				EMSSIONS	
AID DOLL LITANT PRITTED	EMISSION	<u> </u>	ROLS / LIMITS)	-	TROLS / LIMITS)		ROLS / LIMITS)
PARTICULATE MATTER (PM)	FACTOR	lb/hr	tons/yr	lb/hr Refer to A&	tons/yr	lb/hr Refer to A&	tons/yr
PARTICULATE MATTER (PM)  PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )		Refer to A&		Refer to A&		Refer to A&	
PARTICULATE MATTER<2.5 MICRONS (PM/10)	Eng Calc	Refer to A&		Refer to A&		Refer to A&	
SULFUR DIOXIDE (SO2)	Lity Calc	IVEIGI TO YOU	C lable 4	IVEIGI CO ACC	C Table 4	Itelel to Au	J Table 4
NITROGEN OXIDES (NOx)		,					
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							
HAZARDOUS AIR POLLUI	ANT EMIS	SIONS IN	ORMATIC	N FOR TH	IIS SOUR	E .	
	SOURCE OF	EXPECTE	D ACTUAL	Vialities Control	POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	(ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA							
	<u> </u>						
		ļ					
				1			
	 	We wear	A A TUCKU			238 24 2	The state of the s
TOXIC AIR POLLUTAN	The transfer of the supplemental to the supple		177				· 是一樣 · 主義
INDICATE EXPECTED		T :					,
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	ID/	/hr	Ib/	day	. 10	/yr
NA				<u> </u>			
				<del>-</del>			
				<u> </u>		•	
	<del>                                     </del>	<del>                                     </del>					
	<del>                                     </del>			<del> </del>			
Attachments: (1) emissions calculations and supporting documentati	on: (2) indicate :	I all remiested sta	ate and federal	I enforceable por	mit limite /e.a. i	nours of operation	n emission
rates) and describe how these are monitored and with what frequence		an inducated at	and indicial	orinoineanic hei	minicə (c.y. I	vara ar aheran	zii, GiilloolUll

REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	В9		
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: PCC-1 - PCC-3				
Pellet Cooler Fines Cyclone Nos. 1-3		CONTROL DEVICE ID NO(S)	CD-BF-3			
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-12</b>			
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM  Transfer of fines to rotary dryer fuel bin transfer cy	•					
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX. DESIGN	REQUESTED	CADACITY		
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(I			
Fines	lbs/hr	1,950	N/A	2017/100		
MATERIALS ENTERING PROCESS - BATCH OPERAT TYPE	ION	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED LIMITATION (UN			
MAXIMUM DESIGN (BATCHES / HOUR):						
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/\	(R):				
FUEL USED:	TOTAL MAX	IMUM FIRING RATE (MILLION	BTU/HR):			
MAX. CAPACITY HOURLY FUEL USE:	REQUESTE	D CAPACITY ANNUAL FUEL US	SE:			
COMMENTS:						

D COMPLET rking (Form I inishing/print silos/bins (Fo DATE:  NESHAP ( 25% VISIBLE STA	E APPROPRIBLE SEPTIME B6)  SEP-09  EXPECTED  (SUBPART?):  MAR-MAY  ACK EMISSIC	CONTROL DEMISSION FRAM):  IATE FORM  Manufact Incineral X Other (Formation of the Manufact A Other (Formation of the Manufact DATE MANUFACT OP. SCHEDUNO MACCES	t. of chemical tion (Form B8 rm B9) JFACTURED:	E FOLLOWII s/coatings/ini )  2009 AY 7 DAY/V ?): No	CD-BF-5 EP-13 NG PAGES): ks (Form B7)	
D COMPLET rking (Form I inishing/print silos/bins (Fo DATE:  NESHAP ( 25% VISIBLE STA	E APPROPRI B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY	EMISSION FRAM):  ATE FORM  Manufact  Incinera  X Other (Fo  DATE MANU  OP. SCHEDU  No MACC  25%	B1-B9 ON TH ot. of chemical tion (Form B8 rm B9) UFACTURED: ULE: 24 HR/D T (SUBPART	E FOLLOWII ls/coatings/inl )  2009 AY 7 DAY/N ?): No	EP-13  NG PAGES): ks (Form B7)	
D COMPLET rking (Form I inishing/print silos/bins (Fo DATE:  NESHAP ( 25% VISIBLE STA	E APPROPRI B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY	IATE FORM  Manufact Incinera X Other (Fo DATE MANU OP. SCHEDU No MAC 25%	B1-B9 ON TH of. of chemical tion (Form B8 rm B9) JFACTURED: JLE: 24 HR/D T (SUBPART	E FOLLOWII s/coatings/inl ) 2009 AY 7 DAY/V ?): No	NG PAGES): ks (Form B7)	
D COMPLET rking (Form I inishing/print silos/bins (Fo DATE:  NESHAP ( 25% VISIBLE STA	E APPROPRI B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY	ATE FORM  Manufac  Incinera  X Other (Fo  DATE MANU  OP. SCHEDU  No MAC  25%	ot. of chemical tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V	ks (Form B7)	
rking (Form I inishing/print illos/bins (Fo DATE: NESHAP ( 25% VISIBLE ST/	B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	Manufact Incinera X Other (Fo DATE MANU OP. SCHEDU No MACC 25%	ot. of chemical tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V	ks (Form B7)	
rking (Form I inishing/print illos/bins (Fo DATE: NESHAP ( 25% VISIBLE ST/	B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	Manufact Incinera X Other (Fo DATE MANU OP. SCHEDU No MACC 25%	ot. of chemical tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V	ks (Form B7)	
rking (Form I inishing/print illos/bins (Fo DATE: NESHAP ( 25% VISIBLE ST/	B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	Manufact Incinera X Other (Fo DATE MANU OP. SCHEDU No MACC 25%	ot. of chemical tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V	ks (Form B7)	,
rking (Form I inishing/print illos/bins (Fo DATE: NESHAP ( 25% VISIBLE ST/	B4) ting (Form B5) orm B6) Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	Manufact Incinera X Other (Fo DATE MANU OP. SCHEDU No MACC 25%	ot. of chemical tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V	ks (Form B7)	
inishing/print silos/bins (Fo DATE: NESHAP ( 25% VISIBLE ST/	Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	X Other (Fo DATE MANU OP. SCHEDU No MAC 25%	tion (Form B8 rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V ?): No		
DATE:  NESHAP ( 25% VISIBLE ST/	Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIC	X Other (Fo DATE MANU OP. SCHEDU NO MAC 25%	rm B9) JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	2009 AY 7 DAY/V ?): No		<del>, -</del>
DATE:  NESHAP ( 25%  VISIBLE STA	Sep-09 EXPECTED (SUBPART?): MAR-MAY ACK EMISSIO	DATE MANU OP. SCHEDU NO MAC 25%	JFACTURED: JLE: <b>24 HR/D</b> T (SUBPART	AY 7 DAY/\ ?): No		
NESHAP ( 25% VISIBLE ST/ NT EMISS	EXPECTED (SUBPART?): MAR-MAY ACK EMISSIO	OP. SCHEDU No MAC 25%	JLE: <b>24 HR/D</b> T (SUBPART	AY 7 DAY/\ ?): No		
25% VISIBLE STA NT EMISS	(SUBPART?): MAR-MAY ACK EMISSIC	No MAC 25%	T (SUBPART	?): No	VK 52 WK/YI	
25% VISIBLE STA NT EMISS	MAR-MAY ACK EMISSIO	25%			•	₹
VISIBLE STA	ACK EMISSIC		JUN-AUG			
NT EMISS		NO LINDED		25%	SEP-NO	OV 25%
0.344	IONS INFO				% OPACITY	
COLIDATE OF		RMATION	FOR THIS	SOURCE		
SOUNCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
<b>EMISSION</b>	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Eng Calc	Refer to A&	C Table 4	Refer to A&C	C Table 4	Refer to A&0	Table 4
Eng Calc	Refer to A&	C Table 4	Refer to A&0	C Table 4	Refer to A&C	Table 4
Eng Calc	Refer to A&	C Table 4	Refer to A&0	C Table 4	Refer to A&C	Table 4
Avv. and all all a						
ANT EMIS			NEORIF			<b>加州</b>
		D ACTUAL		POTENTIAL	EMSSIONS	
	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONTI	ROLS / LIMITS)
FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
		***************************************				
ENICOLO	MONNEOVE	TV VALUE (COVERNING	AB TUR	SAUBAEI	ASVE M	
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F SOURCE	ומו .	nr	lb/c	lay	lb,	уг
			<u>.</u>			
	-				1	
						<del></del>
					<u> </u>	
	EMISSION FACTOR Eng Calc	SOURCE OF EMISSION (AFTER CONTINUED TO A SECTION 10 Market 10 Mark	EMISSION   CAPTER CONTROLS / LIMITS)	EMISSION FACTOR Ib/hr Eng Calc Refer to A&C Table 4 Refer to A&C Eng Calc Refer to A&C Table 4 Refer to A&C Eng Calc Refer to A&C Table 4 Refer to A&C Refer to A	SOURCE OF EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) (BEFORE CONTROLS / LIMITS) FACTOR   Ib/hr   tons/yr   Ib/hr   tons/yr   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to A&C Table 4   Eng Calc   Refer to A&C Table 4   Refer to	SOURCE OF EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) (AFTER CONTROLS / LIMITS) (BEFORE CONTROLS / LIMITS) (AFTER CONTROLS / LIMITATIONS  EMISSIONS INFORMATION FOR THIS SOURCE  CTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS  EF SOURCE   Ib/hr   Ib/day   Ib/day

EMISSION SOURCE DESCRIPT  Pellet Mill Feed Cyclone Nos. 4-6  CONTROL DEVICE ID NO(S) CD-BF-5  DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):  Feeds ground wood to pellet mills.  MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS  TYPE  UNITS  EMISSION SOURCE ID NO(S) CD-BF-5  CONTROL DEVICE ID NO(S) CD-BF-5  EMISSION POINT (STACK) ID NO(S): EP-13  EMISSION POINT (STACK) ID NO(S)			E (UTREK)		<del></del>		
Pelet MIII Feed Cyclone Nos. 4-6  CONTROL DEVICE ID NO(S) CD-BF-5  PERATING SCENARIO: 1 OF 1  EMISSION POINT (STACK) ID NO(S): EP-13  EP-14  EP-15  EP-15  EP-16  EP-16  EP-16  EP-16  EP-16  EP-16  EP-18  E	REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	cation for Air Permit to Construct/Operate B				
DESCRIBE IN DETAIL. THE PROCESS (ATTACH FLOW DIAGRAM):  Feeds ground wood to pellet mills.  MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS TYPE UNITS CAPACITY (UNITAR) LIMITATION(UNITAR)  Ines be/r 39,000 NIA  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNITAR) LIMITATION (UNITAR)  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNITAR) LIMITATION (UNITAR)  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNITAR)  MAX. DESIGN REQUESTED CAPACITY  CAPACITY (UNITARATCH)  LIMITATION (UNITARATCH)  MAX. DESIGN REQUESTED CAPACITY  CAPACITY (UNITARATCH)  CAPACITY (UNITARATCH)  LIMITATION (UNITARATCH)  MAX. DESIGN REQUESTED CAPACITY  CAPACITY (UNITARATCH)  CAPACITY (U	EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: PMFC-4 - PMFC-6				
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM):  Feeds ground wood to pellet mills.  MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ines Ibs/hr 39,000 N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANAL DESIGN CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  ANAL DESIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANAL DESIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANAL DESIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANAL DESIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMI	Pellet Mill Feed Cyclone Nos. 4-6		CONTROL DEVICE ID NO(S)	CD-BF-5			
MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS TYPE UNITS Ibe/hr 39,000 N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR) CAPACITY (UNIT/BATCH) LIMITATION (BATCHES / HOUR): EQUESTED LIMITATION (BATCHES / HOUR): EQUESTED LIMITATION (BATCHES / HOUR): CAPACITY HOURLY FUEL USE:  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR): LAX. CAPACITY HOURLY FUEL USE:	OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-13</b>			
MATERIALS ENTERING PROCESS - CONTINUOUS PROCESS TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ines Ibs/hr 39,000 NIA  MATERIALS ENTERING PROCESS - BATCH OPERATION MAX. DESIGN REQUESTED CAPACITY TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AXIMUM DESIGN (BATCHES / HOUR):  EQUESTED LIMITATION (BATCHES / HOUR):  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  MAX. DESIGN REQUESTED CAPACITY  LIMITATION (UNIT/BATCH)  LIMITATION (UN		M):	<del></del>				
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ibs/hr 39,000 N/A  N/A  N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANALOSSIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATI	Feeds ground wood to pellet mills.						
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ibs/hr 39,000 N/A  N/A  N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANALOSSIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATI							
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION(UNIT/HR)  libs/hr 39,000 N/A							
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION(UNIT/HR)  libs/hr 39,000 N/A		•					
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ibs/hr 39,000 N/A  N/A  N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANALOSSIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATI							
TYPE UNITS CAPACITY (UNIT/HR) LIMITATION (UNIT/HR)  Ibs/hr 39,000 N/A  N/A  N/A  MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  ANALOSSIGN CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  CAPACITY (UNIT/BATCH)  LIMITATION (UNIT/BATCH)  LIMITATI							
Ibs/hr 39,000 N/A    MATERIALS ENTERING PROCESS - BATCH OPERATION   MAX. DESIGN   REQUESTED CAPACITY	MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX. DESIGN	REQUESTED	CAPACITY		
MATERIALS ENTERING PROCESS - BATCH OPERATION TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (BATCHES / HOUR): EQUESTED LIMITATION (BATCHES / HOUR): UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR): REQUESTED CAPACITY ANNUAL FUEL USE:	TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(I	JNIT/HR)		
MATERIALS ENTERING PROCESS - BATCH OPERATION  TYPE  UNITS  CAPACITY (UNIT/BATCH)  LIMITATION (BATCHES / HOUR):  EQUESTED LIMITATION (BATCHES / HOUR):  UEL USED:  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE:	Fines	lbs/hr	39,000	N/A			
MATERIALS ENTERING PROCESS - BATCH OPERATION  TYPE  UNITS  CAPACITY (UNIT/BATCH)  LIMITATION (BATCHES / HOUR):  EQUESTED LIMITATION (BATCHES / HOUR):  UEL USED:  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE:							
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  IMAXIMUM DESIGN (BATCHES / HOUR):  EQUESTED LIMITATION (BATCHES / HOUR):  (BATCHES/YR):  UEL USED:  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  REQUESTED CAPACITY HOURLY FUEL USE:							
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)							
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)				-	<del> </del>		
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)					-		
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)							
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)							
TYPE UNITS CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH) LIMITATION (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  AND CAPACITY (UNIT/BATCH)  BUILD CAPACITY (UNIT/BATCH)	MATERIALS ENTERING PROCESS - BATCH OPERAT	TION	MAX. DESIGN	REQUESTED	CAPACITY		
IAXIMUM DESIGN (BATCHES / HOUR):  EQUESTED LIMITATION (BATCHES / HOUR):  UEL USED:  TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  REQUESTED CAPACITY HOURLY FUEL USE:  REQUESTED CAPACITY ANNUAL FUEL USE:		<del></del>	<b>⇒</b> '				
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:					<u> </u>		
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:							
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:		·- <del> </del>					
LEQUESTED LIMITATION (BATCHES / HOUR): (BATCHES/YR):  UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:	MAXIMUM DECICAL (DATCHEC (LICUD).						
UEL USED: TOTAL MAXIMUM FIRING RATE (MILLION BTU/HR):  IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:		/DATCHECA	/D):	<del> </del>			
IAX. CAPACITY HOURLY FUEL USE: REQUESTED CAPACITY ANNUAL FUEL USE:		T					
ONINE IN 15.		REQUESTE	D CAPACITY ANNUAL FUEL US	5E:			
	DOMINICIATO.						

REVISED 12/01/01 NCDENR/Division of	Air Quality -	Application f	or Air Permi	to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Cooler Fine	s Cyclone Nos. 4-6 EMISSION SOURCE ID N PCC-4 - PCC-6				<del>  </del>		
			CONTROL I	EVICE ID NO	D(S):	CD-BF-5	
OPERATING SCENARIO 1 OF 1			EMISSION I	POINT (STAC	K) ID NO(S):	EP-13	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAG	RAM):				
Transfer of fines to rotary dryer fuel bin transfer cyclor	ne.						
TYPE OF EMISSION SOURCE (CHECK AN	ID COMPLET	E APPROPR					
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woodw	orking (Form I	B4)	☐ Manufac	t. of chemica	ls/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2)☐ Coating	/finishing/print	ting (Form B5)	☐ Incinera	tion (Form B8	)	•	
☐ Liquid storage tanks (Form B3) ☐ Storage	silos/bins (Fo	rm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE:	Sep-09	DATE MANU	JFACTURED:	2009		
MANUFACTURER / MODEL NC Kice		EXPECTED	OP. SCHED	JLE: 24 HR/D	AY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	o NESHAP	(SUBPART?):	No MAC	T (SUBPART	?): No		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-NO	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760		ACK EMISSIC					
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	PRMATION	FOR THIS	SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	. EMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&	C Table 4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&G	C Table 4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	Refer to A&	C Table 4	Refer to A&	C Table 4	Refer to A&0	C Table 4
SULFUR DIOXIDE (SO2)	,			·			
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER						:	
HAZARDOUS AIR POLLU	ANT EMIS	SIONS IN	ORMATIC	N FOR TH	IIS SOUR	JE 🏃 🔭	
	SOURCE OF	EXPECTE	D ACTUAL	-	POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CONT	ROLS / LIMIT'S)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	ib/hr	tons/yr	lb/hr	tons/уг	lb/hr	tons/yr
NA							
			,				
						and the second	EST LL SE
TOXIC AIR POLLUTAN	CIANA ANAMANA ANAMA						
INDICATE EXPECTED	ACTUAL EMI	SSIONS AFT	ER CONTRO	LS / LIMITAT	IONS	,	
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb.	/hr	lb/	day	lb	/yr
NA							
			<del></del> :				
			<u> </u>				
						ļ	
						<u> </u>	
				<u> </u>			
Attachments: (1) emissions calculations and supporting documentat rates) and describe how these are monitored and with what frequence		all requested sta	ate and federal	enforceable per	mit limits (e.g. l	nours of operation	n, emission

REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	В9
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: I	PCC-4 - PCC-6	
Pellet Cooler Fines Cyclone Nos. 4-6		CONTROL DEVICE ID NO(S)	CD-BF-5	
OPERATING SCENARIO: 1 OF 1	•	EMISSION POINT (STACK) ID	NO(S): <b>EP-13</b>	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM	•			
Transfer of fines to rotary dryer fuel bin transfer c	yclone.			
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX. DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(I	JNIT/HR)
Fines	lbs/hr	1,950	N/A	
MATERIAL O ENTERINO PROCESS. DATOU OPERAT	<u> </u>	144V 25010V		0.4.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0
MATERIALS ENTERING PROCESS - BATCH OPERAT  TYPE	UNITS	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED LIMITATION (UN	
IIFL	ONITS	CAPACITI (GINITIBATOTI)	LIMITATION (OF	III/BATOII)
	1			<u> </u>
1.0.000.000.000.000.000.000.000.000.000				
MAXIMUM DESIGN (BATCHES / HOUR):	<u> </u>		//	
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	YR):		
FUEL USED:	<del>'''</del>	IMUM FIRING RATE (MILLION I	BTU/HR)·	
MAX. CAPACITY HOURLY FUEL USE:		D CAPACITY ANNUAL FUEL US	·	
COMMENTS:	1			

REVISED 12/01/01 NCDENR/Division of	f Air Quality -	Application t	for Air Permi	t to Construc	ct/Operate		В
EMISSION SOURCE DESCRIPTION: Hammermill No.	7 Feed Cyclon	ie	EMISSION S	SOURCE ID I	HFC-7		
	-			EVICE ID N		None	
OPERATING SCENARIO 1 OF 1		,			CK) ID NO(S):	EP-4	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC	ESS (ATTACH	FLOW DIAG	<u> </u>		,		
Transfer of ground wood to rotary dryer.							
TYPE OF EMISSION SOURCE (CHECK A	ND COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWI	NG PAGES):	
☐ Coal,wood,oil, gas, other burner (Form B1) ☐ Woody					ls/coatings/inl		
☐ Int.combustion engine/generator (Form B2: ☐ Coating		•	<del></del>		_	,	
	e silos/bins (Fo		X Other (Fo		••		
			· ·				
START CONSTRUCTION DATE Jul-09 OPERATION	ON DATE:		DATE MAN				
MANUFACTURER / MODEL NC Kice					AY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): I		<del></del>		T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEE	_	MAR-MAY	25%	JUN-AUG			OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760					PERATION: (		
CRITERIA AIR POLLUT	ANTEMISS	ions info	DRMATION	I FOR THI	SES(O)UR(O)E		0.0
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	0.14	0.61	0.7	0.31	0.14	0.61
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	0.14	0.61	0.7	0.31	0.14	0.61
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	0.14	0.61	0.7	0.31	0.14	0.61
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)			",				
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER	·   ·	,					
HAZARDOUS AIR POLLEU	TANT EMIS	SIONS IN	EORMATIC	N FOR TI	IIS SOURC	E	
The second section of the sect	SOURCE OF	1996	D ACTUAL			. EMSSIONS	
	EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	1	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA	17.0101	15/11/	1 10110731	127711	10.10.7	107111	10.10/ /1
	<u> </u>						
	<del>-</del>			<u></u>			
				<u> </u>			
				<del></del>			
					<del>                                     </del>		
							<del></del>
TOXIC AIR POLLUTAI	UTEMICOIA	NICHNIE (AL	I DANATIONII	   பெரப்ப	SOUDCE.	A STATE	
			The second secon			者 (語語)	*** **********************************
INDICATE EXPECTED						<u> </u>	
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	<u> </u>	/hr	ID/	'day	dl	/yr
NA							
				<u> </u>			
				_			
	<del></del>						
		<u></u>					
Attachments: (1) emissions calculations and supporting documenta		all requested st	ate and federal	enforceable pe	rmit limits (e.g. h	ours of operation	on, emission
rates) and describe how these are monitored and with what frequer	ncy; and (3) de						

REVISED: 12/01/01 NCDENR/Division of Air Qualit	ty - Application	for Air Permit to Construct/Op	erate	B9
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: I	HFC-7	
Hammermill No. 7 Feed Cyclone		CONTROL DEVICE ID NO(S)	None	
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): EP-4	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGR.  Transfer of ground wood to rotary dryer.	AM):			
MATERIALS ENTERING PROCESS - CONTINUOUS PR	OCESS	MAX. DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(	UNIT/HR)
Fines	lbs/hr	55,100	N/A	
	·			
MATERIALS ENTERING PROCESS - BATCH OPERA	ATION	MAX. DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UI	VIT/BATCH)
	1			
			w e	
MAXIMUM DESIGN (BATCHES / HOUR):	<u> </u>	<u> </u>		· · · · · · · · · · · · · · · · · · ·
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	/R):		
FUEL USED:	7	IMUM FIRING RATE (MILLION E	STU/HRY	
MAX. CAPACITY HOURLY FUEL USE:		D CAPACITY ANNUAL FUEL US	·	
COMMENTS:	I. 1-40-01 E	J. J. MOIT I MINORE I CEL CO	-	

REVISED 12/01/01 NCDENR/Division or	f Air Quality -	Application •	for Air Permi	t to Constru	ct/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Cooler Fee	d Cyclone No	. 1	EMISSION	SOURCE ID	PCFC-1		
			CONTROL	DEVICE ID N	O(S):	None	
OPERATING SCENARIO 1 OF 1			EMISSION	POINT (STAC	CK) ID NO(S):	EP-7	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE Transfer of pellets to pellet cooler.	ESS (ATTACH	FLOW DIAG	RAM):	<u>.</u>			
TYPE OF EMISSION SOURCE (CHECK A	ND COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWI	NG PAGES):	
☐ Coal,wood,cil, gas, other burner (Form B1) ☐ Woodw					ils/coatings/in		
☐ Int.combustion engine/generator (Form B2 ☐ Coating		•			-	,	
	e silos/bins (Fo		X Other (Fo		• •		
START CONSTRUCTION DATE Jul-09 OPERATIO			DATE MAN		2009		
MANUFACTURER / MODEL NC Kice	N DATE.				AY 7 DAY/V		D
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	NESHAP			T (SUBPART		VK 52 VVIVI	<u> </u>
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG		SED N	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760					PERATION: (		
CRITERIA AIR POLLUTA							
	SOURCE OF		D ACTUAL			. EMSSIONS	
	EMISSION		ROLS / LIMITS)	(BECODE CON	TROLS / LIMITS)		ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	Ib/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM2.5)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)	1 3					11.10	<b>U.</b> 7
NITROGEN OXIDES (NOx)			*********				
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)	-		1				
LEAD	<u> </u>						
OTHER							
HAZARDOUS AIR POLLU	TANT EMIS	SIONS INI	ORMATIC	N FOR TH	IIS SOURC	E	
	SOURCE OF	****	D ACTUAL	log ministrations on Manifestor was an 2 Ministration		EMSSIONS	
	EMISSION	(AFTER CONTI		(BEFORE CONT	(ROLS / LIMITS)	1	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA							
	<u> </u>						-
	1						
	<u> </u>				-		
TOXIC AIR POLLUTAN	T EMISSIO	NS INFOR	MATION F	ORTHIS	SOURCE		14 1 12
INDICATE EXPECTED						11.1.2	
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb/	/hr	lb/e	day	lb/	/yr
NA .							<del></del>
				· ·			
Attachments: (1) emissions calculations and supporting documentati rates) and describe how these are monitored and with what frequency	ion; (2) indicate a cy; and (3) de	all requested sta	ite and federal e	enforceable per	mit limits (e.g. h	ours of operatio	n, emission

			<u></u>	
REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	B9
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: F	PCFC-1	
Pellet Cooler Feed Cyclone No. 1		CONTROL DEVICE ID NO(S)	None	
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-7</b>	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRA	M):			
Transfer of pellets to pellet cooler.				
	•			
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX, DESIGN	REQUESTED C	APACITY
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(UI	
Fines	lbs/hr	13,000	N/A	,
	100/111	10,000	10/4	
				0
MATERIALS ENTERING PROCESS - BATCH OPERA		MAX. DESIGN	REQUESTED C	
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UNI	Т/ВАТСН)
	<del> </del>	1		
MAXIMUM DESIGN (BATCHES / HOUR):				
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/)	/R):		
	T		STU/HR):	
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED:	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX			
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR):	TOTAL MAX	IMUM FIRING RATE (MILLION E		
REQUESTED LIMITATION (BATCHES / HOUR): FUEL USED: MAX. CAPACITY HOURLY FUEL USE:	TOTAL MAX	IMUM FIRING RATE (MILLION E		

REVISED 12/01/01 NCDENR/Division of	Air Quality -	Application t	for Air Permi	t to Construc	t/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Cooler Fee	d Cyclone No	. 2	EMISSION S	SOURCE ID N	PCFC-2		
			CONTROL I	EVICE ID N	O(S):	None	
OPERATING SCENARIO 1 OF 1	•	111	EMISSION I	OINT (STAC	K) ID NO(S):	EP-8	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE Transfer of pellets to pellet cooler.	SS (ATTACH	FLOW DIAG	RAM):				
TYPE OF EMISSION SOURCE (CHECK AN	ND COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	E FOLLOWII	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Woodw					ls/coatings/inl	_	
☐ Int.combustion engine/generator (Form B2 ☐ Coating					-	(, 0,,,,,	
<u> </u>	e silos/bins (Fo	• (	X Other (Fo	•	·)		
START CONSTRUCTION DATE Jul-09 OPERATIO	N DATE:	Sep-09	DATE MANU	JFACTURED	2009		
MANUFACTURER / MODEL NC Kice		EXPECTED	OP. SCHED	JLE: 24 HR/C	AY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	O NESHAP	(SUBPART?):	: No MAC	T (SUBPART	?): <b>No</b>		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-N	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE ST	ACK EMISSION	ONS UNDER	NORMAL OF	PERATION: (	% OPACITY	,
CRITERIA AIR POLLUTA	NT EMISS	IONS INFO	PRMATION	FOR THIS	S SOURCE	<b>俊阳</b> 多子	
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)	i i						
NITROGEN OXIDES (NOx)		·					
CARBON MONOXIDE (CO)	<u>†                                      </u>						
VOLATILE ORGANIC COMPOUNDS (VOC)	1						
LEAD	†						
OTHER							
HAZARDOUS AJR POLLU	TANT EMIS	SIONS IN	ORMATIC	NEORTH	IS SOURC	<i>)E</i>	
E. All and the state of the sta		EXPECTE	Towns, 12		1300-11	EMSSIONS	
	EMISSION	l	ROLS / LIMITS)	(BEFORE CONT	TROLS / LIMITS)	1	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA	11131311	1-271111	1 10/10/31		40.1.0.37		10.10.7
	+						
	<u> </u>						
	-						
TOXICAIR POLLUTAN	TEMISSIC	NS INFOR	ΜΔΤΙΘΝΙ	OR THIS	SOURCE		M
INDICATE EXPECTED	7,000						To All Care To
						Ile	
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	ID.	/hr	ID/	day	10	/yr
NA	1						<del></del>
	<del>                                     </del>						
				_			
	<del> </del>			_			
	<del>                                     </del>						
	<u> </u>						
Attachments: (1) emissions calculations and supporting documentat rates) and describe how these are monitored and with what frequency		all requested sta	ate and federal	enforceable per	mit limits (e.g. h	ours of operation	n, emission

EMISSION SOURCE ID NO: CONTROL DEVICE ID NO(S) EMISSION POINT (STACK) ID	None
	• • • • • • • • • • • • • • • • • • • •
EMISSION POINT (STACK) II	O NO(S): <b>EP-8</b>
MAX DESIGN	REQUESTED CAPACITY
	LIMITATION(UNIT/HR)
· · · · · · · · · · · · · · · · · · ·	N/A
10,000	
MAX. DESIGN	REQUESTED CAPACITY LIMITATION (UNIT/BATCH)
CHES/YR):	
L MAXIMUM FIRING RATE (MILLION	BTU/HR):
JESTED CAPACITY ANNUAL FUEL U	SE:
	CHES/YR):

REVISED 12/01/01 NCDENR/Division of			for Air Permi	it to Constru	ct/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Cooler Fee	d Cyclone No	. 3	EMISSION	SOURCE ID	PCFC-3		
			CONTROL	DEVICE ID N	O(S):	None	
OPERATING SCENARIO 1 OF 1				POINT (STAC	CK) ID NO(S):	EP-9	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAG	RAM):				
Transfer of pellets to pellet cooler.							
TYPE OF EMISSION SOURCE (CHECK AN							
Coal,wood,oil, gas, other burner (Form B1) Woodw		•			ils/coatings/in	ks (Form B7)	
Int.combustion engine/generator (Form B2) Coating					3)		
Liquid storage tanks (Form B3) Storage	silos/bins (Fo	orm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE:	Sep-09	DATE MAN	JFACTURED	: 2009		
MANUFACTURER / MODEL NC Kice				ULE: 24 HR/0	OAY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N		(SUBPART?)	: No MAC	T (SUBPART	Γ?): No		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB		MAR-MAY	25%	JUN-AUG			OV <b>25%</b>
EXPECTED ANNUAL HOURS OF OPERATION: 8,760					PERATION: (		
CRITERIA AIR POLLUTA	NT EMISS	ions info	DRMATION	I FOR THI	S SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)	ļ <u>.</u>						
CARBON MONOXIDE (CO)	<del> </del>		<u> </u>				
VOLATILE ORGANIC COMPOUNDS (VOC) LEAD							
OTHER							
HAZARDOUS AIR POLLUT	ANT EMIS	SIONS INI	OPMATIC	NEGD TE	iie ealida		
STREET ST	SOURCE OF		D ACTUAL			EMSSIONS	64 A S
	EMISSION			(DEFORE CON	1	1	
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	ROLS / LIMITS) tons/yr	(BEFORE CONT	rols/LIMITS) tons/yr	(AFTER CONTE	
NA	17.0101		(Olia/yi	10/111	toriaryi	IO/III	tons/yr
							·
							· · · · · · · · · · · · · · · · · · ·
TOXIC AIR POLLUTAN	T/EMISSIO	NS INFOR	MATION	OR THIS	SOURCE		
INDICATE EXPECTED							
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb	hr .	lb/d	day	lb/	уг
NA							
		r					
Attachments: (1) emissions calculations and supporting documentation	n; (2) indicate a	II requested sta	te and federal e	enforceable pen	mit limits (e.g. h	ours of operation	n, emission

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EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: I	PCFC-3	· · · · · · · · · ·
Pellet Cooler Feed Cyclone No. 3		CONTROL DEVICE ID NO(S)	None	
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-9</b>	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAG	RAM):			
Transfer of pellets to pellet cooler.				
MATERIALS ENTERING PROCESS - CONTINUOUS P	ROCESS	MAX. DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(L	
Fines	lbs/hr	13,000	N/A	
	<del> </del>			
MATERIALS ENTERING PROCESS - BATCH OPER	MATION	MAY PEOLON		
TYPE	UNITS	MAX. DESIGN	REQUESTED	
·	OINITS	CAPACITY (UNIT/BATCH)	LIMITATION (UN	IT/BATCH)
				····
				·
				·
MANIALISA DECION (DATOLICO (LIQUID)				
MAXIMUM DESIGN (BATCHES / HOUR): REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	/P\·		
FUEL USED:		IMUM FIRING RATE (MILLION E	STI (UD).	
MAX. CAPACITY HOURLY FUEL USE:		D CAPACITY ANNUAL FUEL US		<del></del>
WAX. CAPACIT FOURLY FUEL USE:			· — ·	

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EMISSION SOURCE DESCRIPTION: Pellet Cooler Fed	SSION SOURCE DESCRIPTION: Pellet Cooler Feed Cyclone No. 4 EMISSION SOURCE ID N PCFC-4						
			CONTROL	DEVICE ID N	O(S):	None	
OPERATING SCENARIO 1 OF 1			EMISSION I	POINT (STAC	K) ID NO(S):	EP-14	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC	ESS (ATTACH	FLOW DIAG	RAM):				
Transfer of pellets to pellet cooler.							
		•					
TYPE OF EMISSION SOURCE (CHECK A			IATE FORM	B1-B9 ON TI	E FOLLOW	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Woods	working (Form l	B4)	☐ Manufad	ct. of chemica	ils/coatings/in	ks (Form B7)	
☐ Int.combustion engine/generator (Form B2) ☐ Coatin	g/finishing/print	ting (Form B5	🔲 Incinera	tion (Form B8	3)		
☐ Liquid storage tanks (Form B3) ☐ Storag	e silos/bins (Fo	orm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	ON DATE:	Sep-09	DATE MAN	JFACTURED	2009		
MANUFACTURER / MODEL NC Kice					AY 7 DAY/V	VK 52 WK/Y	 R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):	No NESHAP			T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEE		MAR-MAY	25%	JUN-AUG	25%	SEP-N	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE STA	ACK EMISSION	ONS UNDER	NORMAL OF	PERATION: (	% OPACITY	,
CRITERIA AIR POLLUT	ANT EMISS	IONS INFO	PRIMATION	FOR THE	S SOURCE	ing today and	
	SOURCE OF		D ACTUAL			EMSSIONS	
	EMISSION		ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							
HAZARDOUS AIR POLLU	ITANT EMIS	SIONS:INI	ORMATIC	N FOR TH	iis sourc	E	Mount by A
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA .							
			'				
the state of the course of the state of the		O. A	×-1			200 200 - 2 doi://800000000000000000000000000000000000	
TOXIC AIR POLLUTAI	ATTEMPT TO THE PROPERTY OF THE PARTY OF THE	T T TANK DESCRIPTION OF THE PARTY	A PARTY OF THE PAR	PERSONAL REPORT OF THE PERSON NAMED IN	KITTLE THE NAME OF THE PARTY OF		
INDICATE EXPECTED			ER CONTRO	LS / LIMITAT	IONS		
TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb,	/hr	lb/	day	lb	/yr
NA							
	<u> </u>						
				<u> </u>			
Attachments: (1) emissions calculations and supporting documenta rates) and describe how these are monitored and with what frequer		all requested sta	ite and federal	enforceable per	mit limits (e.g. h	ours of operation	n, emission

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EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO: I	PCFC-4		
Pellet Cooler Feed Cyclone No. 4		CONTROL DEVICE ID NO(S)	None		
PERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): <b>EP-14</b>	EP-14	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGF	RAM):				
MATERIALS ENTERING PROCESS - CONTINUOUS P	ROCESS	MAX. DESIGN	REQUESTED	CAPACITY	
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(L	JNIT/HR)	
ines	lbs/hr	13,000	N/A		
MATERIALS ENTERING PROCESS - BATCH OPER	ATION	MAX. DESIGN	REQUESTED	CAPACITY	
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UN	IT/BATCH)	
XIMUM DESIGN (BATCHES / HOUR): QUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/	/R):			
EL USED:	<del></del>	IMUM FIRING RATE (MILLION E	STUMR)		
		O CAPACITY ANNUAL FUEL US			
AX. CAPACITY HOURLY FUEL USE:		, / 1011 1 / 11 11 11 10 / L   ULL UL	f tour c		

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EMISSION SOURCE DESCRIPTION: Pellet Cooler Fe	ed Cyclone No	. 5	EMISSION	SOURCE ID	PCFC-5		·
			CONTROL	DEVICE ID N	O(S):	None	
OPERATING SCENARIO 1 OF 1				POINT (STAC	CK) ID NO(S):	EP-15	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROC	CESS (ATTACH	FLOW DIAG	RAM):				·
Transfer of pellets to pellet cooler.	•						
TYPE OF EMISSION SOURCE (OURS)							
TYPE OF EMISSION SOURCE (CHECK A						-	
Coal,wood,oil, gas, other burner (Form B1) Wood		•			ils/coatings/in	ks (Form B7)	
Int.combustion engine/generator (Form B2 Coatil					3)		
	ge silos/bins (Fo		X Other (Fo				
START CONSTRUCTION DATE Jul-09 OPERATI	ON DATE:		DATE MAN				
MANUFACTURER / MODEL NC Kice			OP. SCHED			VK 52 WK/Y	Ŕ
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):		·		T (SUBPART			
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FE		MAR-MAY	25%	JUN-AUG			OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760		ACK EMISSI	ONS UNDER	NORMAL OF	PERATION: (	0 % OPACITY	<u> </u>
CRITERIA AIR POLLUI	phoyenia and a control of the contro		ORMATION	I FOR THI	s sourge		
	SOURCE OF		D ACTUAL		POTENTIAL	EMSSIONS	1
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)	_						
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER HAZARDOUS AIR POLLU	I EAVISERUIS	CIONO M	 CODERTI				NAME OF THE
HAZAR DOUS AINPOINT				IN FOR IT			
	SOURCE OF		D ACTUAL			EMSSIONS	
	EMISSION		ROLS / LIMITS)	÷	ROLS / LIMITS)		ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA	+				ı		r
	-						
	+						
	-						<u>-</u> .
TOXIC AIR POLLUTA	NT EMISSIO	NOINEAE	I MATION E	OP THE	SOUDE	ovaciaties sugar in 1944	
INDICATE EXPECTED							世 集治法。
TOXIC AIR POLLUTANT AND CAS NO.							
NA	EF SOURCE	. IDa	/hr	ID/0	day	di	/yr
VA							
				<u> </u>			
			: - ·				
				_			

### Assumptions and Calculations I

### **Wood Pellet Manufacturing Facility**

#### Natures Earth Pellets NC, LLC Laurinburg, North Carolina

The following assumptions and calculations are presented for regulated pollutant emissions from a proposed wood pellet manufacturing facility in Laurinburg, North Carolina.

### 1.0 Emission Assumptions

- The facility will consist of conveyance systems such as conveyors and pneumatic transfer, storage silos, hammermills, pellet mills, pellet coolers, and a direct-fired rotary dryer. Total suspended particulate (TSP) and particulates with aerodynamic diameter less than 10 microns (PM<sub>10</sub>) will be controlled by cyclones or bag filters. TSP and PM<sub>10</sub> are assumed to be equal and therefore are referred to as PM in the remainder of this document. A detailed list of equipment is provided in Tables 1-5.
- The direct-fired rotary dryer will combust wood. PM emissions from the rotary dryer will be controlled by high efficiency cyclones. The maximum output of the rotary dryer is 36,800 pounds per hour (18.4 tons per hour). The maximum fuel input to the rotary dryer is 5,100 pounds per hour. The Btu rating of the wood is anticipated to be 6,700 Btu per pound.
- PM emissions from the rotary dryer were calculated using the EPA Compilation of Air Pollutant Emission Factors, AP-42, Section 10.6.2, Table 10.6.2-1, dated Feburary 2002. The uncontrolled emission factor for a rotary dryer, direct wood-fired, mixed species (35-60% softwood, 40-65% hardwood) was used in the calculations. Total PM is the summation of filterable PM and condensible PM.
- Based on vendor data and using a conservative estimate, cyclones used for control are expected to have a minimum efficiency of 80% for all PM including PM<sub>10</sub> emissions.
- Nitrogen oxide (NO<sub>x</sub>) and carbon monoxide (CO) emissions from the rotary dryer were calculated using the EPA Compilation of Air Pollutant Emission Factors, AP-42, Section 10.6.2, Table 10.6.2-2, dated February 2002. The uncontrolled emission factor for a rotary dryer, green, direct wood-fired, mixed species (40-60% softwood, 40-60% hardwood) was used in the calculations.
- Volatile organic compound (VOC), toxic air pollutant (TAP) and hazardous air pollutant (HAP) emissions from the rotary dryer were calculated using the EPA Compilation of Air Pollutant Emission Factors, AP-42, Section 10.6.2, Table

10.6.2-3, dated February 2002. The uncontrolled emission factor for a rotary dryer, green, direct wood-fired, mixed species (40-60% softwood, 40-60% hardwood) was used in the calculations.

- Sulfur dioxide (SO<sub>2</sub>) emissions from the rotary dryer were calculated using the EPA Compilation of Air Pollutant Emission Factors, AP-42, Section 1.6, Table 1.6-2, dated September 2003. The emission factor for dry wood-fired boilers was used in the calculations.
- Natures Earth requests an annual production limit of 141,450 tons per year for the rotary dryer to remain a synthetic minor facility.
- Based on information provided by Natures Earth, controlled PM emissions from each bag filter will be no greater than 0.002 grains per cubic foot. Uncontrolled PM emissions from each bag filter were calculated using the concentration of wood in the pneumatic stream and 5% dust content.
- PM emissions from the cyclones were calculated using a wood concentration of 234 parts per million and 20% dust content.

#### 2.0 Emission Calculations

2.1 Rotary Dryer - PM, NOx, CO, and VOCs

Using the above assumptions and the following sample equations, PM, NOx, CO, and VOC emission rates are shown in Table 1. The bold alpha codes in the equations refer to the appropriate columns in the table.

#### Potential Emissions (Before Controls)

**Hourly Uncontrolled Emissions** 

$$\boxed{\mathbf{A}} \frac{\text{tons of wood}}{\text{hour}} \times \boxed{\mathbf{B}} \frac{\text{lbs pollutant}}{\text{ton of wood}} = \boxed{\mathbf{C}} \frac{\text{lbs uncontrolled emissions}}{\text{hour}}$$

**Annual Uncontrolled Emissions** 

$$\begin{array}{c|c} \hline \textbf{C} & \frac{\text{lbs uncontrolled emissions}}{\text{hour}} & x \frac{8760 \text{ hour}}{\text{year}} & x \frac{\text{ton}}{2000 \text{ lbs}} \\ & & = \boxed{\textbf{D}} \frac{\text{tons uncontrolled emissions}}{\text{year}} \\ \end{array}$$

#### Potential Emissions (After Controls)

**Hourly Controlled PM Emissions** 

$$\boxed{\textbf{C}} \frac{\text{lbs uncontrolled emissions}}{\text{hour}} \quad \text{x [1-Control Efficiency (80\%)] = } \boxed{\textbf{E}} \frac{\text{lbs controlled emissions}}{\text{hour}}$$

Annual Controlled PM Emissions

#### **Actual Emissions**

**Hourly Controlled PM Emissions** 

$$\boxed{\mathbf{C}} \frac{\text{lbs uncontrolled emissions}}{\text{hour}} \quad \text{x [1-Control Efficiency (80\%)] = } \boxed{\mathbf{G}} \frac{\text{lbs controlled emissions}}{\text{hour}}$$

**Annual Controlled PM Emissions** 

$$\frac{141450}{\text{year}} \frac{\text{tons of wood}}{\text{year}} \times \mathbf{B} \frac{\text{lbs pollutant}}{\text{ton of wood}} \times [1-\text{Control Efficiency (80\%)}]$$

$$\times \frac{\text{ton}}{2000 \text{ lbs}} = \mathbf{H} \frac{\text{tons controlled emissions}}{\text{year}}$$

Annual NOx, CO and VOC Emissions

2.2 Rotary Dryer - SO<sub>2</sub>

Using the above assumptions and the following sample equations, SO<sub>2</sub> emission rates are shown in Table 2. The bold alpha codes in the equations refer to the appropriate columns in the table.

# Potential Emissions (Before Controls/After Controls) and Actual Emissions

### Hourly Uncontrolled Emissions

# Annual Uncontrolled Emissions

$$\frac{\text{lbs uncontrolled emissions}}{\text{hour}} \times \frac{8760 \text{ hour}}{\text{year}} \times \frac{\text{ton}}{2000 \text{ lbs}}$$

$$= \boxed{\mathbf{D}} \frac{\text{tons uncontrolled emissions}}{\text{year}}$$

2.3 Rotary Dryer - TAP/HAP Emissions

Using the above assumptions and the following sample equations, TAP/HAP emission rates are shown in Table 3. The bold alpha codes in the equations refer to the appropriate columns in the table.

# Potential Emissions (Before Controls/After Controls)

# Hourly Uncontrolled Emissions

# Annual Uncontrolled Emissions

		E (OTHER)	. I	DO
REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	1		B9
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO:		
Pellet Cooler Feed Cyclone No. 5  OPERATING SCENARIO: 1 OF 1		CONTROL DEVICE ID NO(S)		
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM	41.	EMISSION POINT (STACK) ID	NO(S): <b>EP-15</b>	
Transfer of peliets to peliet cooler.				
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CERR	MAY DECION	DEOLIECTED	CADACITY
TYPE	UNITS	MAX. DESIGN CAPACITY (UNIT/HR)	REQUESTED LIMITATION(	
Fines			*	
Lines	lbs/hr	13,000	N/A	
	<b>_</b>			
		<u> </u>		
MATERIALS ENTERING PROCESS - BATCH OPERAT		MAX. DESIGN	REQUESTED	
TYPE	UNITS	CAPACITY (UNIT/BATCH)	LIMITATION (UI	NIT/BATCH)
	ļ		•	
			·	
MAXIMUM DESIGN (BATCHES / HOUR):				
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/\	(R):		
FUEL USED:	TOTAL MAX	IMUM FIRING RATE (MILLION I	BTU/HR):	
MAX. CAPACITY HOURLY FUEL USE:	REQUESTE	D CAPACITY ANNUAL FUEL US	SE:	
COMMENTS:				

REVISED 12/01/01 NCDENR/Division of	Air Quality -	Application 1	for Air Permi	t to Constru	ct/Operate		В
EMISSION SOURCE DESCRIPTION: Pellet Cooler Feed	Cyclone No	. 6	EMISSION	SOURCE ID I	PCFC-6		
			CONTROL	DEVICE ID N	O(S):	None	<del></del>
OPERATING SCENARIO 1 OF 1		.,	EMISSION	POINT (STAC	CK) ID NO(S):	EP-16	
DESCRIBE IN DETAILTHE EMISSION SOURCE PROCE	SS (ATTACH	FLOW DIAG			<u> </u>		
Transfer of peliets to peliet cooler.							
TYPE OF EMISSION SOURCE (CHECK AN	ID COMPLET	E APPROPR	IATE FORM	B1-B9 ON TH	IE FOLLOWI	NG PAGES):	
Coal,wood,oil, gas, other burner (Form B1) Woodwo		•			ils/coatings/in	ks (Form B7)	
Int.combustion engine/generator (Form B2)	finishing/print/	ing (Form B5	🖰 Incinera	tion (Form B8	3)		
☐ Liquid storage tanks (Form B3) ☐ Storage	silos/bins (Fo	rm B6)	X Other (Fo	rm B9)			
START CONSTRUCTION DATE Jul-09 OPERATION	N DATE:	Sep-09	DATE MANU	JFACTURED	2009		
MANUFACTURER / MODEL NC Kice		EXPECTED	OP. SCHED	JLE: 24 HR/0	DAY 7 DAY/V	VK 52 WK/Y	R
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?): N	O NESHAP (	(SUBPART?)	: No MAC	T (SUBPART	Γ?): <b>No</b>		
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB	25%	MAR-MAY	25%	JUN-AUG	25%	SEP-N	OV 25%
EXPECTED ANNUAL HOURS OF OPERATION: 8,760	VISIBLE STA	ACK EMISSION	ONS UNDER	NORMAL OF	PERATION: (	% OPACITY	,
CRITERIA AIR POLLUTA	NT ENISS	IONS INFO	PRMATION	FOR THI	S SOURCE		
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONT	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
AIR POLLUTANT EMITTED	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
PARTICULATE MATTER (PM)	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<10 MICRONS (PM <sub>10</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
PARTICULATE MATTER<2.5 MICRONS (PM <sub>2.5</sub> )	Eng Calc	1.46	6.4	7.3	32	1.46	6.4
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)	Î						
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							
HAZARDOUS AIR POLLUT	ANT EMIS	SIONS INI	ORMATIC	N FOR TH	HS SOURC	E of	
	SOURCE OF	EXPECTE	D ACTUAL		POTENTIAL	EMSSIONS	
	EMISSION	(AFTER CONTI	ROLS / LIMITS)	(BEFORE CON	TROLS / LIMITS)	(AFTER CONT	ROLS / LIMITS)
HAZARDOUS AIR POLLUTANT AND CAS NO.	FACTOR	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
NA							
	,				. =		
TOXIC AIR POLLUTAN			D-22-14 11-1		C. V.S		
INDICATE EXPECTED A	ACTUAL EMIS	SSIONS AFT	ER CONTRO	LS / LIMITAT	IONS		
	EF SOURCE	lb/	/hr	lb/	day	lb.	/yr
NA							
		·					
		·					
Attachments: (1) emissions calculations and supporting documentation	on; (2) indicate a	ill requested sta	ite and federal e	enforceable per	mit limits (e.g. h	ours of operatio	n, emission

REVISED: 12/01/01 NCDENR/Division of Air Quality	- Application	for Air Permit to Construct/Op	erate	B9
EMISSION SOURCE DESCRIPT		EMISSION SOURCE ID NO:	PCFC-6	i
Pellet Cooler Feed Cyclone No. 6		CONTROL DEVICE ID NO(S)		
OPERATING SCENARIO: 1 OF 1		EMISSION POINT (STACK) ID	NO(S): EP-16	
DESCRIBE IN DETAIL THE PROCESS (ATTACH FLOW DIAGRAM  Transfer of peliets to peliet cooler.	A):			
MATERIALS ENTERING PROCESS - CONTINUOUS PRO	CESS	MAX, DESIGN	REQUESTED	CAPACITY
TYPE	UNITS	CAPACITY (UNIT/HR)	LIMITATION(	UNIT/HR)
Fines	lbs/hr	13,000	N/A	
MATERIALS ENTERING PROCESS - BATCH OPERATI	ON UNITS	MAX. DESIGN CAPACITY (UNIT/BATCH)	REQUESTED LIMITATION (UI	
MAXIMUM DESIGN (BATCHES / HOUR):			· · · · · · · · · · · · · · · · · · ·	
REQUESTED LIMITATION (BATCHES / HOUR):	(BATCHES/Y	'R):		
FUEL USED:	TOTAL MAXI	MUM FIRING RATE (MILLION	BTU/HR):	
MAX. CAPACITY HOURLY FUEL USE:	REQUESTE	CAPACITY ANNUAL FUEL US	SE:	
COMMENTS:				

REVISED 12/01/01	NCDENR/D	ivision of Air Quali	ity - Application f	or Air Permit to	Construct/Oper	ate	C1
CONTROL DEVICE ID NO:	CD-BF-1	CONTROLS EMIS	<del></del>				elow
EMISSION POINT (STACK) ID N	O(S): <b>EP-1</b>	POSITION IN SER			NC		1 UNITS
MANUFACTURER: Kice			MODEL NO:	CR344-12			
DATE MANUFACTURED:	2009		PROPOSED OP	ERATION DATE	Sept 200	9	
OPERA	ING SCENARIO	1/4	PROPOSED STA	ART CONSTRU	CTION DATE:	July 2009	
1	_OF1		P.E. SEAL REQU	JIRED (PER 2Q	.0112)?	X YES	₫ NO
DESCRIBE CONTROL SYSTEM	•						
Kice Bag Filter controlling PM f	iom source is nos. I	D-1, DC-1, DC-2, B	BE-1, SEG-1, DFB(	U-1			
POLLUTANT(S) COLLECTED:			PM				
BEFORE CONTROL EMISSION I	RATE (LB/HR):		17				_
CAPTURE EFFICIENCY:			100 %		%	- <del></del>	<del></del> %
CONTROL DEVICE EFFICIENCY	<u>′:</u>	•	 98 %		%	- <del></del> %	— %
CORRESPONDING OVERALL EI	FFICIENCY:	•	98 %	· · ·	%	- · · %	— ^ %
EFFICIENCY DETERMINATION (	CODE:	•	1			-~	<b>_</b> '`
TOTAL EMISSION RATE (LB/HR)			0.41				_
PRESSURE DROP (IN. H <sub>2</sub> 0): M		GAUGE?	▼ YES &	NO WA	DAINO ALABAS	4.450	
BULK PARTICLE DENSITY (LB/F	<del></del>		INLET TEMPERA		RNING ALARM? VIIN MA		₩ NO
POLLUTANT LOADING RATE:	0.002 <b>₫ LB/HR</b>		OUTLET TEMPE		MIN MAX		<del>- 1</del> 1.
INLET AIR FLOW RATE (ACFM):	23900	~	FILTER MAX OPE				
NO. OF COMPARTMENTS:	1 NO. OF BAGS I	PER COMPARTME	NT: 344		LENGTH OF BA	G (IN.): 14	14
DIAMETER OF BAG (IN.):	4.5 DRAFT:	₩ INDUCED/NEG	FORCED/		FILTER SURFAC		4902
AIR TO CLOTH RATIO: 4.88	FILTER MATER	IAL: 16 oz	z polyester		<b>∮</b> WOVE		
DESCRIBE CLEANING PROCED	URES:				PART	CLE SIZE DIS	RIBUTION -
∮ AIR PULSE		SONIC			SIZE	WEIGHT %	CUMULATIVE
REVERSE FLOW .		SIMPLE BAG CO	OLLAPSE		(MICRONS)	OF TOTAL	%
	R		DLLAPSE		0-1		
₫ OTHER					1-10		
DESCRIBE INCOMING AIR STRE					10-25	##	100
Dust from pellet manufactu	ring equipment				25-50		
					50-100		
					>100		
						ТО	TAL = 100
METHOD FOR DETERMINING WI SAUTOMATIC STIMES					•		
METHOD FOR DETERMINING W		IE BAGS:					
ALARM # INTER	NAL INSPECTION	∮ VISIBLE EMISSI	ON & OT	HER			
SPECIAL CONDITIONS:  MOISTURE BLINDING  EXPLAIN:	∳ CHEMICAL RESIS	ΓΙΛΙΤΑ	∳ OTHER		***		v- vv
DESCRIBE MAINTENANCE PROC	CEDURES:		<del></del>		<del></del>		··· W.4
N A SEPARATE PAGE ATTACK	A DIACBAM CHOM	NO THE DELATION	ICHID OF THE O	ONTROL DEVE	E TO 170 EL 110 C		· · · · · · · · · · · · · · · · · · ·

REVISED 12/01/01	NCDENR/D	livision of Air Quali	ity - Application	for Air Permit to	Construct/Oper	ate	C1
CONTROL DEVICE ID NO: CD-E	3V-1	CONTROLS EMIS	SIONS FROM W	HICH EMISSION	SOURCE ID NO	(S): DHS-1	
EMISSION POINT (STACK) ID NO(S):	EP-2	POSITION IN SER	IES OF CONTRO	DLS	NC	). 1 OF	1 UNITS
MANUFACTURER: Kice			MODEL NO:	VR32-10			· · · · · · · · · · · · · · · · · · ·
DATE MANUFACTURED:	2009		PROPOSED OF	PERATION DAT	E: Sept 200	9	
OPERATING SO	CENARIO:		PROPOSED ST	ART CONSTRU	CTION DATE:	July 2009	
10F_	_1	· · · · · · · · · · · · · · · · · · ·	P.E. SEAL REQ	UIRED (PER 20	.0112)?	X YES	₫ NO
DESCRIBE CONTROL SYSTEM:							
Kice Bin Vent Filter							
POLLUTANT(S) COLLECTED:		<del></del>	PM				
BEFORE CONTROL EMISSION RATE (I	LB/HR):		7.8		·		- -
CAPTURE EFFICIENCY:			100 %		_%	_%	_%
CONTROL DEVICE EFFICIENCY:			99_%		%	_%	_%
CORRESPONDING OVERALL EFFICIEN	NCY:		99 %		%		_%
EFFICIENCY DETERMINATION CODE:			11				_
TOTAL EMISSION RATE (LB/HR):			0.045			<b>-</b>	_
PRESSURE DROP (IN. H <sub>2</sub> 0): MIN: 2	MAX: 4	GAUGE?	∢ YES d	NO W/	ARNING ALARM?	∮YES ₹	NO
BULK PARTICLE DENSITY (LB/FT³):			INLET TEMPER	ATURE (°F):	MIN MA	x	
POLLUTANT LOADING RATE: 0.002	₫ LB/HR		OUTLET TEMPE	RATURE (°F):	MIN MAX	χ	
INLET AIR FLOW RATE (ACFM):	5200		FILTER MAX OF	ERATING TEMP	P. (°F):		
NO. OF COMPARTMENTS: 1	NO. OF BAGS	PER COMPARTME	NT: 126		LENGTH OF BA	G (IN.): 108	
DIAMETER OF BAG (IN.): 6	DRAFT:	■ INDUCED/NEG	. d FORCED	/POS.	FILTER SURFAC	CE AREA (FT <sup>2</sup> ):	1780
AIR TO CLOTH RATIO: 2.92	FILTER MATER	RIAL: 16 o	z polyester		₫ WOVE		
DESCRIBE CLEANING PROCEDURES:					PART	CLE SIZE DISTR	RIBUTION
₩ AIR PULSE		SONIC			SIZE	WEIGHT %	CUMULATIVE
REVERSE FLOW		SIMPLE BAG CO			(MICRONS)	OF TOTAL	%
			LLAPSE		0-1		
d OTHER		<del></del> ,			1-10		
DESCRIBE INCOMING AIR STREAM:	<b>t</b>				10-25	##	100
Dust from pellet manufacturing e	quipment				25-50	ļ	
					50-100		
					>100	TOT.	AL = 100
METHOD FOR DETERMINING WHEN TO	O CLEAN		****			101	AL = 100
	MANUAL						
METHOD FOR DETERMINING WHEN TO	O REPLACE TI	HE BAGS:					
d ALARM INTERNAL IN	SPECTION	VISIBLE EMISSI	ON & 01	THER			;
SPECIAL CONDITIONS:  MOISTURE BLINDING CHE EXPLAIN:	EMICAL RESIS	TIVITY	∮ OTHER				
DESCRIBE MAINTENANCE PROCEDUR	RES:			-		<del></del>	· ·
	•						
							ļ
							ĺ
NA OFDADATE DADE ATTACK	00440000	**************************************			·		
ON A SEPARATE PAGE, ATTACH A DIA	GRAM SHOW	ING THE RELATION	NSHIP OF THE C	CONTROL DEVA	:F TO ITS FMICS	ION COHDODIC	۱. I

REVISED 12/01/01 NCDENR/Division	of Air Qualit	y - Application for Air Pe	ermit to	Construct/Opera	ate	C1
CONTROL DEVICE ID NO: CD-BF-2 CONTR	ROLS EMISS	SIONS FROM WHICH EM	AISSION	SOURCE ID NO	(s): See be	elow
		ES OF CONTROLS	•	NO		1 UNITS
MANUFACTURER: Kice	[	MODEL NO: CR344	4-12		· · · · · · · · · · · · · · · · · · ·	
DATE MANUFACTURED: 2009	I	PROPOSED OPERATIO	N DATE	: Sept 2009		
OPERATING SCENARIO	4.8¥EF	PROPOSED START CO	NSTRU	CTION DATE:	July 2009	
1OF1	<u></u>	P.E. SEAL REQUIRED (F	PER 2Q	.0112)?	X YES	₫ NO
DESCRIBE CONTROL SYSTEM:						
Kice Bag Filter controlling PM from Source ID Nos. HFC-1 - I	HFC-6, PMF0	C-1 - PMFC-3, SPA-1, Hi	PA-1			
POLLUTANT(S) COLLECTED:		PM	<del></del>		<u> </u>	
BEFORE CONTROL EMISSION RATE (LB/HR):		24				
CAPTURE EFFICIENCY:	_	 100 %		%	%	- %
CONTROL DEVICE EFFICIENCY:	_	98 %		%	%	<del>-</del> _%
CORRESPONDING OVERALL EFFICIENCY:	_	98 %		%	%	_%
EFFICIENCY DETERMINATION CODE:	_	1				_
TOTAL EMISSION RATE (LB/HR):	_	0.58	<del></del>			
PRESSURE DROP (IN. H <sub>2</sub> 0): MIN: 2 MAX: 4	GAUGE?	◀ YES ₫ NO	WA	RNING ALARM?	∮YES 8	6 NO
BULK PARTICLE DENSITY (LB/FT³):	ii ii	NLET TEMPERATURE (	°F): 1	AIN MIN	······································	
POLLUTANT LOADING RATE: 0.002 € LB/HR	GR/FT <sup>3</sup>	DUTLET TEMPERATURE	E (°F):	MIN MAX		-
INLET AIR FLOW RATE (ACFM): 34100	F	ILTER MAX OPERATING	G TEMP	. (°F):	<del></del>	
NO. OF COMPARTMENTS: 1 NO. OF BAGS PER CO	MONDACA	T. 044		LENOTU OF DAG	2 (1812)	
	INITAR HINEIN	IT: 344		LENGTH OF BAC	3 (IN.): 144	7
		. d FORCED/POS.	i	FILTER SURFAC		4902
DIAMETER OF BAG (IN.): 4.5 DRAFT: ★ IND	UCED/NEG.				E AREA (FT <sup>2</sup> ):	4902
DIAMETER OF BAG (IN.): 4.5 DRAFT: ¥ IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL: DESCRIBE CLEANING PROCEDURES:	UCED/NEG.	. Ø FORCED/POS.		FILTER SURFAC	E AREA (FT <sup>2</sup> ):	4902 ED
DIAMETER OF BAG (IN.): 4.5 DRAFT:  IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL: DESCRIBE CLEANING PROCEDURES:	16 oz	FORCED/POS.  polyester		FILTER SURFAC WOVE PARTION SIZE	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE
DIAMETER OF BAG (IN.): 4.5 DRAFT: # IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL: DESCRIBE CLEANING PROCEDURES: # AIR PULSE # SON # REVERSE FLOW # SIME	16 oz IIC PLE BAG CO	FORCED/POS. polyester		FILTER SURFACE  WOVE  PARTIC  SIZE  (MICRONS)	E AREA (FT²): N ※ FELT CLE SIZE DISTI	4902 ED RIBUTION
DIAMETER OF BAG (IN.): 4.5 DRAFT: ¥ IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON  # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIN	16 oz	FORCED/POS. polyester		FILTER SURFACE WOVE PARTIC SIZE (MICRONS) 0-1	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE
DIAMETER OF BAG (IN.): 4.5 DRAFT:  IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE  # SON  # REVERSE FLOW  # SIMF  # MECHANICAL/SHAKER  # RIM  # OTHER	16 oz IIC PLE BAG CO	FORCED/POS. polyester		FILTER SURFACE WOVE PARTIC SIZE (MICRONS) 0-1 1-10	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE %
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM:	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE
DIAMETER OF BAG (IN.): 4.5 DRAFT:  IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE  # SON  # REVERSE FLOW  # SIMF  # MECHANICAL/SHAKER  # RIM  # OTHER	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVEL PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION SUMULATIVE %
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM:	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION SUMULATIVE %
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM:	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVEL PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE  # REVERSE FLOW  # MECHANICAL/SHAKER  # OTHER  DESCRIBE INCOMING AIR STREAM:  Dust from pellet manufacturing equipment	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION SUMULATIVE %
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN:	16 oz IIC PLE BAG CO	FORCED/POS. polyester		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT:	IIC PLE BAG CO	FORCED/POS. polyester		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN:	IIC PLE BAG COL	polyester  PLLAPSE  LAPSE		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  REVERSE FLOW  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM:  Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN:  AUTOMATIC  TIMED  METHOD FOR DETERMINING WHEN TO REPLACE THE BAGG	IIC PLE BAG COL	polyester  PLLAPSE  LAPSE		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL: DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIN # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG. # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	polyester  PLLAPSE  LAPSE		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIM # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG: # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS: # MOISTURE BLINDING # CHEMICAL RESISTIVITY  EXPLAIN:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	PLLAPSE LAPSE  ON & OTHER		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.):  AIR TO CLOTH RATIO: 6.96  FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  AIR PULSE  AIR PULSE  MECHANICAL/SHAKER  OTHER  DESCRIBE INCOMING AIR STREAM:  Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN:  AUTOMATIC  TIMED  MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG:  ALARM  MINTERNAL INSPECTION  VISIE  SPECIAL CONDITIONS:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	PLLAPSE LAPSE  ON & OTHER		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIM # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG: # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS: # MOISTURE BLINDING # CHEMICAL RESISTIVITY  EXPLAIN:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	PLLAPSE LAPSE  ON & OTHER		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIM # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG: # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS: # MOISTURE BLINDING # CHEMICAL RESISTIVITY  EXPLAIN:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	PLLAPSE LAPSE  ON & OTHER		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIM # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG: # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS: # MOISTURE BLINDING # CHEMICAL RESISTIVITY  EXPLAIN:	DUCED/NEG.  16 oz  IIC  PLE BAG COL  NG BAG COL  S:  S:	PLLAPSE LAPSE  ON & OTHER		WOVE PARTIC SIZE (MICRONS) 0-1 1-10 10-25 25-50 50-100	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100
DIAMETER OF BAG (IN.): 4.5 DRAFT: IND AIR TO CLOTH RATIO: 6.96 FILTER MATERIAL:  DESCRIBE CLEANING PROCEDURES:  # AIR PULSE # SON # REVERSE FLOW # SIME # MECHANICAL/SHAKER # RIM # OTHER  DESCRIBE INCOMING AIR STREAM: Dust from pellet manufacturing equipment  METHOD FOR DETERMINING WHEN TO CLEAN: # AUTOMATIC # TIMED # MANUAL  METHOD FOR DETERMINING WHEN TO REPLACE THE BAG: # ALARM # INTERNAL INSPECTION # VISIE  SPECIAL CONDITIONS: # MOISTURE BLINDING # CHEMICAL RESISTIVITY  EXPLAIN:	DUCED/NEG.  16 oz  HIC  PLE BAG CO  NG BAG COL  S:  BLE EMISSIO	PORCED/POS.  polyester  PLLAPSE  LAPSE  ON & OTHER		FILTER SURFACE WOVE   PARTIC   SIZE (MICRONS)   0-1	E AREA (FT <sup>2</sup> ):  N	4902 ED RIBUTION CUMULATIVE % 100 AL = 100

REVISED 12/01/01 NCDENR/D	lvision of Air Quali	ty - Application for A	ir Permit to	Construct/Oper	ate	C1
CONTROL DEVICE ID NO: CD-BF-3	CONTROLS EMIS	SIONS FROM WHICH	H EMISSION	SOURCE ID NO	(S): See b	elow
EMISSION POINT (STACK) ID NO(S): EP-12		IES OF CONTROLS		NO		1 UNITS
MANUFACTURER: Kice		MODEL NO: CF	₹344-12			
DATE MANUFACTURED: 2009		PROPOSED OPERA	TION DATE	Sept 2009	)	<del>-</del>
OPERATING SCENARIO:		PROPOSED START	CONSTRU	CTION DATE:	July 2009	
1OF_1		P.E. SEAL REQUIRE	D (PER 2Q	.0112)?	X YES	∮ NO
DESCRIBE CONTROL SYSTEM: Kice Bag Filter controlling PM from Source ID Nos. I	PFFC-1, PFFC-2, PC	CC-1, PCC-2, PCC-3				
POLLUTANT(S) COLLECTED:		PM				
BEFORE CONTROL EMISSION RATE (LB/HR):		24				_
CAPTURE EFFICIENCY:		<u>100</u> %		%	%	%
CONTROL DEVICE EFFICIENCY:		98%		%	%	%
CORRESPONDING OVERALL EFFICIENCY:		98 %	-	%	%	— %
EFFICIENCY DETERMINATION CODE:		1				_
TOTAL EMISSION RATE (LB/HR):		0.58		n-	<u> </u>	_
PRESSURE DROP (IN. H <sub>2</sub> 0): MIN: 2 MAX: 4	GAUGE?	◀ YES & NO	) WA	RNING ALARM?	d YES	<b>⊉ NO</b>
BULK PARTICLE DENSITY (LB/FT³):		INLET TEMPERATUR	RE (°F):	MIN MA	x	
POLLUTANT LOADING RATE: 0.002 d LB/HR	₩ GR/FT³	OUTLET TEMPERAT	URE (°F):	MIN MAX	(	
INLET AIR FLOW RATE (ACFM): 34000		FILTER MAX OPERA	TING TEMP	. (°F):		
NO. OF COMPARTMENTS: 1 NO. OF BAGS	PER COMPARTME	NT: 344		LENGTH OF BAC	G (IN.): 14	4
DIAMETER OF BAG (IN.): 4.5 DRAFT:	₩ INDUCED/NEG	. d FORCED/POS	3.	FILTER SURFAC	E AREA (FT <sup>2</sup> ):	4902
AIR TO CLOTH RATIO: 6.94 FILTER MATER	RIAL: 16 oz	z polyester		₫ WOVE		
DESCRIBE CLEANING PROCEDURES:				THE ACT OF THE PARTY OF THE PAR	CLE SIZE DIST	RIBUTION WAR
AIR PULSE	SONIC			SIZE	WEIGHT %	CUMULATIVE
₩ REVERSE FLOW	SIMPLE BAG CO			(MICRONS)	OF TOTAL	%
	d RING BAG CO	LLAPSE		0-1		
₫ OTHER				1-10		
DESCRIBE INCOMING AIR STREAM:			ļ	10-25	##	100
Dust from pellet manufacturing equipment				25-50		
			!	50-100		
				>100		
					TO	TAL = 100
METHOD FOR DETERMINING WHEN TO CLEAN:						
METHOD FOR DETERMINING WHEN TO REPLACE TO	HE BAGS:	· · · · · · · · · · · · · · · · · · ·				
		ON Ø OTHER	₹			
SPECIAL CONDITIONS: Ø MOISTURE BLINDING Ø CHEMICAL RESIS EXPLAIN:	TIVITY	∮ OTHER				
DESCRIBE MAINTENANCE PROCEDURES:					,	
ON A SEPARATE PAGE ATTACH A DIAGRAM SHOW	INC THE BELATION	ISHID OF THE CONT	BOL DEVE	E TO ITO 51400	ION COURSE	0):

REVISED 12/01/01 NCDE	NR/Division of Air Qual	ity - Application for Air Perm	it to Construct/Oper	ate	C1
CONTROL DEVICE ID NO: CD-BF-4	CONTROLS EMIS	SIONS FROM WHICH EMISS	ION SOURCE ID NO	(S): HPSC-	1 SPSC-1
EMISSION POINT (STACK) ID NO(S): EP-10		RIES OF CONTROLS	NO.		UNITS
MANUFACTURER: Kice		MODEL NO:			<del></del>
	2009	PROPOSED OPERATION D	ATE: Sept 2009	)	•
OPERATING SCENARIO		PROPOSED START CONST	RUCTION DATE:	July 2009	
10F1		P.E. SEAL REQUIRED (PER	2Q .0112)?	X YES	₫ NO
DESCRIBE CONTROL SYSTEM:	<del>-</del> "	· · · · · · · · · · · · · · · · · · ·			
Kice Bag Filter					
POLLUTANT(S) COLLECTED:	<del>.</del>	PM			-
BEFORE CONTROL EMISSION RATE (LB/HR):		16		м	_
CAPTURE EFFICIENCY:		100_%	%	%	_%
CONTROL DEVICE EFFICIENCY:		98%	%	%	%
CORRESPONDING OVERALL EFFICIENCY:		98 %	%		%
EFFICIENCY DETERMINATION CODE:					_
TOTAL EMISSION RATE (LB/HR):		0.09			_
PRESSURE DROP (IN. H <sub>2</sub> 0): MIN: 2 MA	X: 4 GAUGE?	◆ YES Ø NO	WARNING ALARM?	<b>∮</b> YES ¥	NO
BULK PARTICLE DENSITY (LB/FT³):		INLET TEMPERATURE (°F):	MIN MA	х	
POLLUTANT LOADING RATE: 0.002 🖞 LB/	HR <b>ቜ GR/FT</b> ³	OUTLET TEMPERATURE (°F	): MIN MAX	(	
INLET AIR FLOW RATE (ACFM): 5	200	FILTER MAX OPERATING TE	EMP. (°F):		
NO. OF COMPARTMENTS: 1 NO. OF BA	AGS PER COMPARTME	NT: 126	LENGTH OF BA	G (IN.): 110	
DIAMETER OF BAG (IN.): 6 DRAFT:	₩ INDUCED/NEC	. FORCED/POS.	FILTER SURFAC	E AREA (FT <sup>2</sup> ):	1814
AIR TO CLOTH RATIO: 2.87 FILTER MA	ATERIAL: 16 o	z polyester	∮ WOVE	N # FELTE	D
DESCRIBE CLEANING PROCEDURES:			PARTI	CLE SIZE DISTR	IBUTION
M AIR PULSE	<b>₫</b> SONIC		SIZE	WEIGHT %	CUMULATIVE
	∮ SIMPLE BAG C	OLLAPSE	(MICRONS)	OF TOTAL	%
		DLLAPSE	0-1		
₫ OTHER			1-10		
DESCRIBE INCOMING AIR STREAM:			10-25	##	100
Dust from pellet manufacturing equipmen	rt		25-50		
			50-100		
			>100		
				TOTA	AL = 100
METHOD FOR DETERMINING WHEN TO CLEAN: d AUTOMATIC de TIMED ★ MANUA		· · · · · ·			
METHOD FOR DETERMINING WHEN TO REPLACE		· ····································			
ALARM *INTERNAL INSPECTIO		ON OTHER			
SPECIAL CONDITIONS:				<u> </u>	
	ESISTIVITY	OTHER			
DESCRIBE MAINTENANCE PROCEDURES:					
SESS. MEETER MALE PROCEDURES.					
					J
ON A SEPARATE PAGE, ATTACH A DIAGRAM SH	OWING THE RELATION	NSHID OF THE CONTROL DE	VICE TO ITS ENICS	ION COLIDOTIO	

REVISED 12/01/01 NCDENR	Division of Air Qual	ity - Appilcation	for Air Permit t	o Construct/Oper	rate	C1
CONTROL DEVICE ID NO: CD-BF-5	CONTROLS EMIS	SIONS FROM W	HICH EMISSIO	N SOURCE ID NO	(S): See be	elow
EMISSION POINT (STACK) ID NO(S): EP-13	POSITION IN SEF	RIES OF CONTR	OLS	NC	). 1 OF	1 UNITS
MANUFACTURER: Kice		MODEL NO:	CR288-12			
DATE MANUFACTURED: 200	<u> </u>	PROPOSED O	PERATION DAT	E: Sept 200	9	
OPERATING SCENARIO	Lander Francisco	PROPOSED S	TART CONSTRU	ICTION DATE:	July 2009	
1OF1		P.E. SEAL REC	UIRED (PER 20	?.0112)?	X YES	e NO
DESCRIBE CONTROL SYSTEM: Kice Bag Filter: Source ID Nos. PMFC-4 - PMFC-6,	PCC-4 - PCC-6.					
POLLUTANT(S) COLLECTED:		PM				· · · · · · · · · · · · · · · · · · ·
BEFORE CONTROL EMISSION RATE (LB/HR):		16			<del>-</del>	_
CAPTURE EFFICIENCY:		100 %		- <del></del>	 %	<b>-</b> %
CONTROL DEVICE EFFICIENCY:		98 %		- ^°	<del>-</del>	-
CORRESPONDING OVERALL EFFICIENCY:		98 %	<del>-</del>	-^ <del></del>	_%	<u></u> %
EFFICIENCY DETERMINATION CODE:		1		-^-	_%	_%
TOTAL EMISSION RATE (LB/HR):		0.39	W-100	<del>-</del>		-
PRESSURE DROP (IN. H <sub>2</sub> 0): MIN: 2 MAX:	4 GAUGE?					
BULK PARTICLE DENSITY (LB/FT³):		◆ YES		ARNING ALARM? MIN MA		NO
POLLUTANT LOADING RATE: 0.002 & LB/HR	∯ GR/FT³	-			··	
INLET AIR FLOW RATE (ACFM): 22500		OUTLET TEMPS FILTER MAX OF		MIN MAX	<u> </u>	
	PER COMPARTME	· · · · · · · · · · · · · · · · · · ·	ENATING TEM	<del>)                                    </del>	0 (151)	<del></del>
DIAMETER OF BAG (IN.): 4.5 DRAFT:	₩ INDUCED/NEC		V/DOC	LENGTH OF BAC	<del></del>	
AIR TO CLOTH RATIO: 5.48 FILTER MATE		z polyester	#FU3.	FILTER SURFAC		1404
DESCRIBE CLEANING PROCEDURES:	10 O.	z poryester		PARTI		
	& SONIC			SIZE	WEIGHT %	CUMULATIVE
₩ REVERSE FLOW	₫ SIMPLE BAG C	OLLAPSE		(MICRONS)	OF TOTAL	%
₫ MECHANICAL/SHAKER	RING BAG CO	LLAPSE		0-1		
<b>∂</b> OTHER				1-10		
DESCRIBE INCOMING AIR STREAM:			151	10-25	##	100
Dust from pellet manufacturing equipment				25-50		·
				50-100		
				>100		
					TOTA	AL = 100
METHOD FOR DETERMINING WHEN TO CLEAN:			· · · · · · · · · · · · · · · · · · ·	····		
METHOD FOR DETERMINING WHEN TO REPLACE T				· · · · · · · · · · · · · · · · · · ·		
		UN Ø OI	HER			
Ø MOISTURE BLINDING Ø CHEMICAL RESI EXPLAIN:	BTIVITY	<b>∮</b> OTHER				
DESCRIBE MAINTENANCE PROCEDURES:					<del>-</del>	
	<del></del>	•			-	
ON A SEPARATE PAGE, ATTACH A DIAGRAM SHOW					ION SOURCE(S	):
-	took Additions	ol Chasta As	Necessary	,		

# CONTROL DEVICE (CYCLONE, MULTICYCLONE, OR OTHER MECHANICAL)

REVISED 12/01/01	NCDENR/D	ivision of Air C	Quality - Ap	plication for Air F	ermit to Constru	ct/Operate	C4
CONTROL DEVICE ID NO:	CD-HEC-1		S EMISSIONS FROM WHICH EMISSION SOURCE ID NO(S): RD-1				
EMISSION POINT (STACK) ID N	IO(S):			F CONTROLS	NO.	1 oF 1	UNITS
MANUFACTURER: Westec	1		MODEL	<del>,</del> _	<del></del>		
DATE MANUFACTURED:	200	9	PROPOS	ED OPERATION (	DATE:	Sept 2009	
<b>OPERATIN</b>	NG SCENARIO: .		PROPOS	ED START CONS	TRUCTION DATE	: "July 2009	
1111	OF1		P.E. SEA	L REQUIRED (PEI	R 2Q .0112)?	X YES	∉ NO
DESCRIBE CONTROL SYSTEM	: Twin High Efficien	cy Cyclones					
POLLUTANT(S) COLLECTED:		<u>.</u>	PM				
BEFORE CONTROL EMISSION	RATE (LB/HR):		49.3	<u> </u>			<del></del>
CAPTURE EFFICIENCY:			100		%	%	%
CONTROL DEVICE EFFICIENCY	<i>t</i> :		80	%	%	%	%
CORRESPONDING OVERALL EFFICIENCY:			80	%	. %	.%	%
EFFICIENCY DETERMINATION		1	<u></u>	<del></del>		_	
TOTAL EMISSION RATE (LB/HR	):	<u></u>	9.86	<u> </u>	<u> </u>		
PRESSURE DROP (IN. H <sub>2</sub> 0):	MIN 8 MAX	10	WARNING	ALARI d YES	X NO		
INLET TEMPERATURE (°F):	MIN MAX 18	32 F		OUTLET TEMPE	RATURE (°F):	MIN MAX	182 F
INLET AIR FLOW RATE (ACFM):	48000 (24)	per cyclon	ie)	BULK PARTICLE	DENSITY (LB/FT	<sup>3</sup> ):	
POLLUTANT LOADING RATE (G		E. C. Samuel State Victoria a construction	2.30	(Value on the second of the se	Maria Jakana Maria ( Papara na		
SETTLING CHAMBER			CYCLONE			N	ULTICYCLONE L
LENGTH (INCHES):	INLET VELOCITY (I			E CIRCULAR :	RECTANGLE	NO. TUBES:	
WIDTH (INCHES):	DIMENSIONS (INC	T***		IF WET SPRA	AY UTILIZED	DIAMETER OF	<del></del>
HEIGHT (INCHES):	H: 46	Dd:	36	LIQUID USED:			ATION SYSTEM?
VELOCITY (FT/SEC.):	W: 15	Lb:	264	FLOW RATE (GP	<del></del>	e YES	₫ NO
NO. TRAYS: NO. BAFFLES:	De: 45	Lc: S:	238	MAKE UP RATE	(GPM):	LOUVERS?	1
NO. BAFFLES.	D: 120  TYPE OF CYCLONE		192	<b>8</b> UICU	EFFICIENCY	∜ YES	<b>∅</b> NO
DESCRIBE MAINTENANCE PRO		, & CONVEN	IONAL	₩ nign	AGE WOOD STREET	Ø OTHER PARTICLE SIZE (	DISTRIBUTION
Visual Inspection					SIZE	WEIGHT %	CUMULATIVE
1997					(MICRONS)	OF TOTAL	%
DESCRIBE INCOMING AIR STRE	EAM:				0-1		
Filtrania III		•			1-10		
Exhaust from direct-fired ro	tary dryer				10-25		
					25-50	<del></del>	- <u></u> .
					50-100		
					>100		TOTAL 100
DESCRIBE ANY MONITORING D	EVICES CAUCES T	EST DODTS F	TC:			*****	TOTAL = 100
ON A SEPARATE PAGE, ATTACK			N	CONTROL DEV		CION COLUMN	

**Attach Additional Sheets As Necessary** 

Engineering Manufacturing



Skilled Air for Industry

May 5, 2009

Mr. Jason Kessler Kesco, Inc. 857 Savile Lane Fort Mill, SC 29715

Dear Jason,

This is in reply to your request on the efficiency of cyclone-type dust collectors. Frankly, this is a subject that is difficult to discuss because there are so many angles to be considered that even when we try to give a straight answer, it sounds like we are trying to beat around the bush.

One basic problem is that the numerous poorly designed and poorly made cyclones in use have given a black eye to all cyclones. Even though a cyclone may be well designed and well made, it can still give poor results if not properly applied - size to match the air volume, etc.

Another basic problem is that the efficiency of a cyclone varies, depending on the character of the dust involved...and dust variables are infinite. Dust particles from the same plant may have extreme differences in density, size, shape, moisture content, etc. Consider a feed mill, for example. At the intake point where grain is being moved from truck to storage bin, the particulate may be a mixture of sandy dust from the field and flakes of chaff from the grain - along with broken particles of grain, weed seeds, etc. At the loadout end of the same plant, the dust is primarily the smaller particles of ground grain, or chips that have broken off of pellets. In between - the various processes produce still more different types of small particles, some of which may escape and become dust.

The point is that cyclone efficiency will be practically 100% for the large, heavy, spherical-shaped particles. At the other extreme, it may be less than 80% efficient for flaky and small size, light density particles. So any statement regarding cyclone efficiency must specify the dust characteristics. This would theoretically include size analysis coordinated with particle density and shape in each size range, but in view of the complications necessary to coordinate all three factors; we usually confine the analysis to the range of particle size. For example - assume we have dust with particle size distribution as listed in the first column below (which happens to be typical for commercial hard wheat flour.)

Corporate Headquarters and Plant 5500 N. Mill Heights Drive Wichita, KS 67219 (316) 744-7151 Fax: (316) 744-7355

South Plant 2040 S. Mead Wichita, KS 67211 (316) 744-7151 Fax: (316) 744-7355 Branch Office 3343 Southgate Court S.W. Suites 107 & 108 Cedar Rapids, IA 52404 (319) 364-5221 Fax: (319) 364-4860 Kice-type cyclones have been used in grain mills for more than fifty years. On the basis of our experience with literally thousands of cyclones in milling applications, we find that a 72" cyclone will collect practically 100% of all particles above 20 microns, approximately 90% of the 10-20 micron size, and 80% of the minus 10 range. The smaller particles are collected by agglomerations, in other words by attachment to larger particles. It is interesting to note that although a 20 micron particle is smaller than most human eyes can see, it contains (20/2) cubed or 1000 times the mass of a 2-micron particle.

Example assumes we have 1,000 lbs. of typical flour (dust) in which the particle sizes vary in the following ratio:

	Particle Size distr. Pounds	Percent in	pounds in	Efficien	су
	Micron Size Range retained	this range	this range	<u>for</u>	size range
	Above 100 microns 120	12%	120#	100%	
Typical	80 - 100 microns 120	12%	120#	100%	
Flour	60-100 microns 200	20%	200#	100%	
Particle	40-60 microns 240	24%	240#	100%	
Sizes	20-40 microns 200	20%	200#	100%	
72	10-20 microns	8%	80#	90%	
3 <u>2</u>	2-10 microns	4%	40#	80%	
_	984 LBS	TOTAL	POUNDS	FLOUR	RETAINED
		FLOUR IN- FLOUR RE	-1000 LBS TAINED - 984		
		CYCLONE	EFFICIENCY	<u>984</u> 1000 =	= 98.4%

Since most dusts in flour and feed mills are coarser and/or heavier densities than flour, we would anticipate better than the 98.4% efficiency estimated for flour. We would also estimate better efficiency for smaller systems, because smaller cyclones collect smaller particles. For example, where we would expect the above 72" diameter cyclone to collect 100% of the plus 20-micron particles, we would expect a 48" diameter cyclone to collect 100% of the plus 10 micron particles. This is because the greater number of revolutions per second produced at a given inlet velocity produces much greater centrifugal forces acting like gravity on the dust particles within the small collector. Based on the above, feed mill cyclone efficiencies on the order of 97 to 99% (depending on cyclone size and particle characteristics) can be anticipated where the cyclones are properly designed and applied - and in good condition. We have tested small diameter spun cyclones handling heavy loads of flourmill stocks with efficiencies above 99.8% on numerous occasions.

The above estimate is intended to point up how important dust characteristics are in any statement of cyclone efficiency. The same cyclone might be very low efficiency when handling dust containing a majority of particles below 3-micron size, for example - but could be 100% efficient if the particles were all comparatively large and heavy (like marbles or B-B's).

The ultimate answer is scientific testing of the actual system handling the specific dust under field conditions. Unfortunately, such tests are very expensive, difficult to control and the results apply only to the dust that was tested under the conditions of the test. We know of a series of cyclone tests conducted by Midwest Research Institute for the Alfalfa Dehydrators Association in several Midwest plants. One test involving a Kice cyclone handling dehydrated alfalfa from a dryer required a full week for four men to take measurements and another week of work to summarize the results and the cost exceeded \$10,000. In this case, the test results indicated that the amount of effluent was less than the allowable to comply with the Bay Area Standards - a key criteria for Federal inspection.

Although the test report did not publish the efficiency of the cyclone, the fact that the emissions were below the Bay Area Standard indicated that the cyclone efficiency must have been considerably better than 98%. This is about all the information available to us from these tests because the Association considers the details to be confidential, but I have referred to the tests because professionals in accordance with Federal rules conducted them. They confirm our own observations and lab tests over many years of cyclone development.

In conclusion, we recognize that there are many cyclones operating at very low efficiency due to such factors as poor design, application, installation and maintenance, and there are some types of dust that cannot be handled efficiently in a cyclone. In spite of this, we can assure you that you can expect efficiencies (based on weight of dust retained/weight of entering dust) better than 98% with Kice cyclones in good condition when properly applied and installed handling most types of dust encountered in feed mills. We can make this statement rather broadly but must acknowledge difficulty in predicting exactly how much better than 98% can be expected.

I'm sorry this has become such a long letter but hope it answers the question. If more positive predictable results are necessary, cloth filters are probably your best answer.

Very truly yours,

Drew Kice KICE INDUSTRIES, INC.

Cyclone efficiency



**Dustex Corporation** 12034 Googlich Dive (28273)

REF. NO.

PROPOSAL NO.

PAGE: 1

DATE:

TO Industrial Sheet Metal & Mechanical Corp. P. O. Box 1376

Rockingham, NC 28379

The Vendor proposes to sell to the Purchaser the equipment and/or services herein specified, under the terms, conditions and at the prices stated. No equipment, materials, or services other than those specified in this proposal will be supplied by the Dustex Corp. Prices subject to controlled/limited escalation clause.

#### **DUSTEX FABRIC FILTER COLLECTOR**

#### **SYSTEM AND DESIGN CONDITIONS**

Application Grinding

plume in CPM 12,000

Temp. Amb. oF

Load unknown,/Ft3

rubber Type Dust

Inlet Pressure

"Negative

"Positive.

Quantity

AT A TEXT SERVICE

.. One

Model

.. 3439-9-14

Ratio

.. 6.74:1

Casing Design

Pres.

.. + 15" W.G.

Hopper Type

.. pyramidal

Valley Angle . . 55<sup>0</sup>

Weight.

.. 7,300# est.

Compressed Air

Requirements .

12.6 SCFM @ 85 psig .

Construction

12 ga. carbon steel

**Paint** 

(1) prime coat of red

oxide

Design - Dwg.

D63-8003

Bags: Number

.. 126

Material

16 oz./sq. yd. polyester

felt

Nominal Size

.. 6" dia. X 9'-0"

CLOTH AREA = 12,000/6.74 = 1,780 FT2

@ 5200 ACFM 5200/1780

AIR: CLOTH = 2.92

#### FORM D1

#### **FACILITY-WIDE EMISSIONS SUMMARY**

**REVISED 12/01/01** NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate D1 CRITERIA AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE EXPECTED ACTUAL EMISSIONS POTENTIAL EMISSIONS POTENTIAL EMISSIONS (AFTER CONTROLS / (BEFORE CONTROLS / (AFTER CONTROLS / LIMITATIONS) LIMITATIONS) LIMITATIONS) AIR POLLUTANT EMITTED tons/yr tons/yr tons/yr PARTICULATE MATTER (PM) 86.1 865.5 91.4 PARTICULATE MATTER < 10 MICRONS (PM10) 86.1 865.5 91.4 PARTICULATE MATTER < 2.5 MICRONS (PM2.5) 86.1 865.5 91.4 SULFUR DIOXIDE (SO2) 3.7 3.7 3.7 NITROGEN OXIDES (NOx) 99 112.8 112.8 CARBON MONOXIDE (CO) 54.5 62.1 62.1 VOLATILE ORGANIC COMPOUNDS (VOC) 91.9 104.8 104.8 LEAD OTHER HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE EXPECTED ACTUAL EMISSIONS POTENTIAL EMISSIONS POTENTIAL EMISSIONS (AFTER CONTROLS / (BEFORE CONTROLS / (AFTER CONTROLS / LIMITATIONS) LIMITATIONS) LIMITATIONS) HAZARDOUS AIR POLLUTANT EMITTED CAS NO. tons/yr tons/yr tons/yr Acetaldehyde 75-07-0 4.2 4.8 4.8 Acrolein 107-02-8 1.06 1.21 1.21 Benzene 71-43-2 0.33 0.38 0.38 Formaldehyde 50-00-0 6.8 7.7 7.7 Methanol 67-56-1 4.2 4.8 4.8 Methyl Ethyl Ketone 78-93-3 0.2 0.27 0.27 Methylene Chloride 75-09-2 0.1 0.11 0.11 Phenol 108-95-2 0.6 0.64 0.64 Propionaldehyde 123-38-6 0.3 0.34 0.34 Styrene 100-42-5 0.04 0.05 0.05 Toluene 108-88-3 0.4 0.48 0.48 Xylene 1330-20-7 0.45 0.51 0.51 TOXIC AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE INDICATE REQUESTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS. EMISSIONS ABOVE THE TOXIC PERMIT EMISSION RATE (TPER) IN 15A NCAC 2Q .0711 MAY REQUIRE AIR DISPERSION MODELING. USE NETTING FORM D2 IF NECESSARY. Modeling Required? TOXIC AIR POLLUTANT EMITTED CAS NO. lb/hr ib/day ib/year Yes No Acetaldehyde 75-07-0 1.09 26.1 8346 Χ Acrolein 107-02-8 0.28 6.6 2122 Х Benzene 71-43-2 0.09 2.08 665 Х Formaldehyde 50-00-0 1.77 42.4 13579 Х Methyl Ethyl Ketone 78-93-3 0.06 1.5 481 Х Methylene Chloride 75-09-2 0.03 0.62 198 Х Phenol 108-95-2 0.15 3.49 1117 Х Styrene 100-42-5 0.01 0.25 81 Х Toluene 108-88-3 0.11 2.61 835 Χ Xylene 1330-20-7 0.12 2.82 902 Х COMMENTS:

# North Carolina Toxics Modeling Protocol Checklist

Any permit application requiring a modeling compliance demonstration *must* be preceded by a modeling plan or protocol. As identified in 15A NCAC 2D 0.1106(f), The owner or operator of the facility (or facility consultant) shall submit a modeling plan to the [AQAB] and shall have received approval of that plan from the [AQAB] before submitting a modeling demonstration to the [AQAB]. The North Carolina Toxics Modeling Protocol Checklist may be used in lieu of developing the traditional written modeling plan for North Carolina toxics modeling. The protocol checklist has been designed to provide the same level of information as requested in a modeling protocol as discussed in chapter 3 of the *Guideline for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina*.

Although most of the information requested in the modeling protocol checklist is self explanatory, additional comments are provided, where applicable, and are discussed in greater detail in the modeling guidelines referenced above. References to sections, tables, figures, appendices, etc., in the protocol checklist are found in the modeling guidelines.

**INSTRUCTIONS:** The modeling report supporting the compliance demonstration should include most of the information listed below. As appropriate, answer the following questions or indicate by check mark the information provided or action taken and reflected in your report. The modeling protocol checklist is submitted with the modeling analysis.

	ACILITY INFORMATION				
Name / Address: Natures Earth Pellets NC, LLC 16900 Aberdeen Road Laurinburg, North Carolina 28352	Consultant (if applicable): GEL Engineering of NC, Inc. P.O. Box 14262 Research Triangle Park, NC 27709				
Contact Name: Cliff Bragg	Contact Name: Keith D. McCullock				
Phone Number: 304-642-1156	Phone Number: 919-544-1100	<b>~</b> :			
	GENERAL	· · · · · · · · · · · · · · · · · · ·			
Description of New Source or Source / modified source(s) and a brief discussion of how	<b>Process Modification:</b> provide a short description of the new or this change affects facility production or process operation.	1			
Source / Pollutant Identification: provid source type (point, area, or volume), maximum p for point sources, if the stack is capped or non-ve	e a table of the affected pollutants, by source, which identifies the ollutant emission rates over the applicable averaging period(s), and, ortical (C/N).	<b>√</b>			
Pollutant Emission Rate Calculations: mass balance, etc.) and, where applicable, provid	indicate how the pollutant emission rates were derived (e.g., AP-42, e the calculations.	<b>√</b>			
sources, buildings or structures, and public right-	or drawing showing the location of all existing and proposed emission of-ways, and the facility property (toxics) / fence line (criteria include a scale, true north indicator, and the UTM or	<b>√</b>			
Certified Plat or Signed Survey: a certifi must be submitted to validate property boundarie	ed plat (map) from the County Register of Deeds or a signed survey s modeled.	<b>√</b>			
Topographic Map: if any terrain within 3 mm height, a topographic map must be submitted.	iles of the facility is greater than 50% of the shortest non-fugitive stack	✓			
of influence extending to one or more sources mo	alysis must be conducted for all buildings or structures with a region deled to determine if cavity regions extend off property (toxics) or parate cavity analysis is required if using AERMOD. See section 4.2	AERMOD used			

GENERAL (continued)	
Background Concentrations (criteria pollutant analyses only): Background concentrations must be determined for each pollutant for each averaging period evaluated. The averaged background value used (e.g., high, high-second-high, high-third-high, etc.) is based on the pollutant and averaging period evaluated. The background concentrations are added to the modeled concentrations, which are then compared to the applicable air quality standard to determine compliance.	NA
Offsite Source Inventories (criteria pollutant analyses only): Offsite source inventories must be developed and modeled for all pollutants for which onsite sources emissions are modeled in excess of the specific pollutant significant impact levels (SILs) as defined in the PSD New Source Review Workshop Manual. The DAQ AQAB must approve the inventories. An initial working inventory can be requested from the AQAB.	NA

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SCREEN LEVEL MODELING	
<b>Model</b> : the latest version of the SCREEN3 model or ISCST3 (screening mode) model must be used. See DAQ/AQAB web page. The use of other screening models should be approved by NCDAQ prior to submitting the modeling report.	NA
<b>Source / Source emission parameters</b> : provide a table listing the sources modeled and the applicable source emission parameters. <i>See NC Form 3 - appendix B</i> .	NA
Merged Sources: identify merged sources and show all appropriate calculations. See section 4.4	NA
<b>GEP Analysis:</b> SCREEN3 - for each source modeled, show all calculations identifying the critical structure used in the model run. See section 4.3 and NC Form 1 - appendix B. ISCST3 - use the EPA BPIP program to determine point source direction specific building dimensions.	NA
Cavity Impact Analysis: for each source or group of sources modeled, a cavity impact analysis must be conducted to evaluate critical structure cavity impacts. See section 5.1	NA
<b>Terrain</b> : indicate the terrain modeled - simple (section 5.2), intermediate (section 5.3), complex (section 5.3 and NC Form 5 - appendix B). If complex terrain is within 3 miles of the facility, intermediate and complex terrain must be evaluated. Simple terrain must include terrain elevations if terrain is higher than 50% of the shortest non-fugitive stack height.	
Simple: Complex:	
Meteorology: SCREEN3 - select full meteorology; ISCST3 - use SCREEN3 meteorology (See Table 5-2).	NA
<b>Receptors:</b> SCREEN3 - use shortest distance to property boundary for each source modeled and use sufficient range to find maximum (See section 5.2.1. (i) and (j)); ISCST3 - use property boundary and Cartesian (rectangular) receptors with sufficient number and resolution (100 meters or less) to find maximum (See section 5.2.2.3). Terrain must be evaluated.	NA
<b>Modeling Results</b> : for each affected pollutant, modeling results should be summarized, converted to the applicable averaging period (see Table 5-1), and presented in tabular format indicating compliance status with the applicable AAL. See NC Form S6/R6 – appendix B.	NA
Modeling Files: the following modeling files should be submitted on diskette: SCREEN3 - output; ISCST3 - input, output, BPIP (if applicable).	NA

REFINED LEVEL MODELING	
Model: the latest version of the AERMOD model should be used and may be found at <a href="http://www.epa.gov/scram001/dispersion_prefrec.htm">http://www.epa.gov/scram001/dispersion_prefrec.htm</a> . The use of other refined models must be approved by NCDAQ prior to submitting the modeling report.	~
Source / Source emission parameters: provide a table listing the sources modeled and the applicable source emission parameters.	See Tables 1 - 3
GEP Analysis: Use BPIP-Prime with AERMOD.	1
Cavity Impact Analysis: No separate cavity analysis is required when using AERMOD as long as receptors are placed in cavity susceptible areas.	<b>✓</b>
<b>Terrain</b> : Receptors should be assigned terrain elevations using USGS digital elevation data. Use of other sources of terrain elevations or the non-regulatory Flat Terrain option will require prior approval from DAQ AQAB.	<b>√</b>
Receptors: The receptor grid should be of sufficient size and resolution to identify the maximum pollutant impact.	<b>V</b>
<b>Meteorology</b> : indicate the AQAB, pre processed, 5 year data set used in the modeling demonstration (See section 5.5 Appendix B):	
AERMOD: <u>One-year data set used</u> , since results <50% of AAL - 1992 Raleigh-Durham (surface) 1992 Greensboro (upper air)	
If processing your own raw meteorology, then pre-approval from AQAB is required. Additional documentation files (e.g. AERMET stage processing files) will also be necessary.  For NC toxics, the modeling demonstration requires only the last year of the standard 5 year data set (e.g., 2005) provided the maximum impacts are less than 50% of the applicable AAL(s).	
Modeling Results: For each affected pollutant and averaging period, modeling results should be summarized and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS.	See Table 4
Modeling Files: Submit input and output file for AERMOD. Also include BPIP-Prime files, AERMAP files, DEM files, and any AERMET input and output files, including raw meteorology data.	<b>√</b>

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#### AIR DISPERSION MODELING RESULTS

#### NATURES EARTH PELLETS NC, LLC LAURINBURG, NORTH CAROLINA

#### 1.0 INTRODUCTION

Natures Earth Pellets NC, LLC (Natures Earth) proposes to build and operate a wood pelletizing plant in Laurinburg, North Carolina. The Natures Earth facility will be a pellet mill consisting of conveyance systems such as conveyors and pneumatic transfer, raw material and product storage, hammermills, pellet mills, pellet coolers, aspirators, and a direct-fired rotary dryer. Emissions from the conveyance systems, raw material and product storage, hammermills, pellet mills, pellet coolers and aspirators will be total suspended particulate (TSP) and particulates less than 10 microns (µm) in size (PM<sub>10</sub>). Emissions from the rotary dryer will consist of TSP, PM<sub>10</sub>, sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs) and various toxic air pollutants (TAPs) and hazardous air pollutants (HAPs).

Table 1 provides a summary of TAPs that will be emitted from the rotary dryer and a comparison to the respective deminimis rates found in NCDENR regulation 15A NCAC 2Q.0711. An air dispersion model was conducted to demonstrate compliance with the Acceptable Ambient Levels (AALs) for acrolein, benzene and formaldehyde from the Natures Earth facility.

#### 2.0 MODELING DATA

The air dispersion modeling analysis was conducted using the U.S. Environmental Protection Agency AERMOD air dispersion model and Raleigh-Durham (surface) and Greensboro (upper air) meteorological data. Since the results of the air dispersion analysis were less than 50 percent of the AAL, only one year (1992) of meteorological data was used. The procedures used for the model are outlined in the August 2007 document entitled *Guidelines for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina*. The emission rates used to run the model are shown in Table 1. The stack description and stack parameters are provided in Tables 2 and 3, respectively.

Cavity concentrations are incorporated into the AERMOD model. All model options were chosen in accordance with the NCDENR modeling guidelines. A receptor grid was generated around the facility using 100 meter spacing from the fenceline out to 1,500 meters and 250 meter spacing from 1,500 meters to 5,000 meters. Discrete receptors were placed every 50 meters or less along the facility property boundary.

A figure showing the site boundary for modeling purposes and building locations is included as Figure 3. The terrain data required to run the AERMAP subprogram was obtained from <a href="http://data.geocomm.com">http://data.geocomm.com</a>. Terrain elevations were calculated within the AERMAP subprogram.

#### 3.0 MODELING RESULTS

#### 3.1 North Carolina Toxic Air Pollutant Guidelines

This latest air dispersion modeling was used to demonstrate compliance from acrolein, benzene and formaldehyde emissions from the Natures Earth facility with the allowable impact as referenced from the North Carolina Toxic Air Pollutant Guidelines (15A NCAC 2D.1104). Acrolein and formaldehyde were modeled using a 1 hour averaging period while benzene was modeled using an annual averaging period. Emissions from the Natures Earth facility will comply with the standards as shown in Table 4.

Table 1

TAP/HAP Emissions from the Rotary Dryer- Comparison to TPERs
Natures Earth Pellets NC, LLC - Laurinburg, NC

			7	Actual Emissions	S		TPERS	ts.	
									Air
			Hourly	Daily	Annual	Hourly	Daily	Annual	Disperson
			Emissions	Emissions	Emissions	Emissions	Emissions	Emissions	Modeling
Pollutant	HAP	TAP	(lbs/hr)	(lbs/day)	(lbs/yr)	(Ibs/hr)	(Ibs/day)	(Ibs/yr)	Required?
Acetaldehyde	×	X	1.09	26.1	8,346	8.9		_	°N
Acrolein	×	×	0.28	9.9	2,122	0.02			Yes
Benzene	X	X	0.09	2.1	599		1	8.1	Yes
Formaldehyde	×	X	1.77	42.4	13,579	0.04		-	Yes
Methanol	X		1.09	26.1	8,346	1			No
Methyl ethyl ketone	×	X	90.0	1.5	481	22.4	78		No
Metylene chloride	Х	X	0.03	0.62	198	0.39	1	1,600	°Z
Phenol	×	×	0.15	3.49	1,117	0.24	ļ		No
Propionaldehyde	X		0.08	1.85	594	,	1	,	Š
Styrene	X	X	0.01	0.25	81	2.7			No
Toluene	×	×	0.11	2.61	835	•	86	,	No
Xylene	×	X	0.12	2.82	902	16.4	57		No

Table 3: Stack Parameters (Point Source)
Natures Earth Pellets NC, LLC
Laurinburg, North Carolina

		EP-5
Stack Number	Stack Number and Description	Rotary Dryer
Stack H	Stack Height (ft) <sup>a</sup>	30.0
Stack Heig	Stack Height (meters) <sup>a</sup>	9.1
Stack Diz	Stack Diameter (ft) <sup>b</sup>	4.4
Stack Cross	Stack Cross Section (ft²)	N/A
Stack Diam	Stack Diameter (meters) <sup>b</sup>	1.34
Stack Tem	Stack Temperature (°F)	182
Stack Tem	Stack Temperature (°R)	642
Stack Tem	Stack Temperature (°K)	1357
Stack Vol	Stack Volume (acfm)	48000
Stack Exit Velocity	Actual (ft/sec)	53.3
	Actual (m/sec)	16.26
	Use in modeling (m/sec) <sup>c</sup>	53.3
UTM Coordinates (m)	Horizontal (E)	
	Vertical (N)	
Stack Base Elevat	Stack Base Elevation Above MSL(ft) <sup>d</sup>	
Stack Base Elevati	Stack Base Elevation Above MSL(m) <sup>d</sup>	0

<sup>&</sup>lt;sup>a</sup>Stack height above ground level

<sup>&</sup>lt;sup>b</sup>Stack inside diameter measured at point of discharge (or equivalent diameter if rectangular stack)

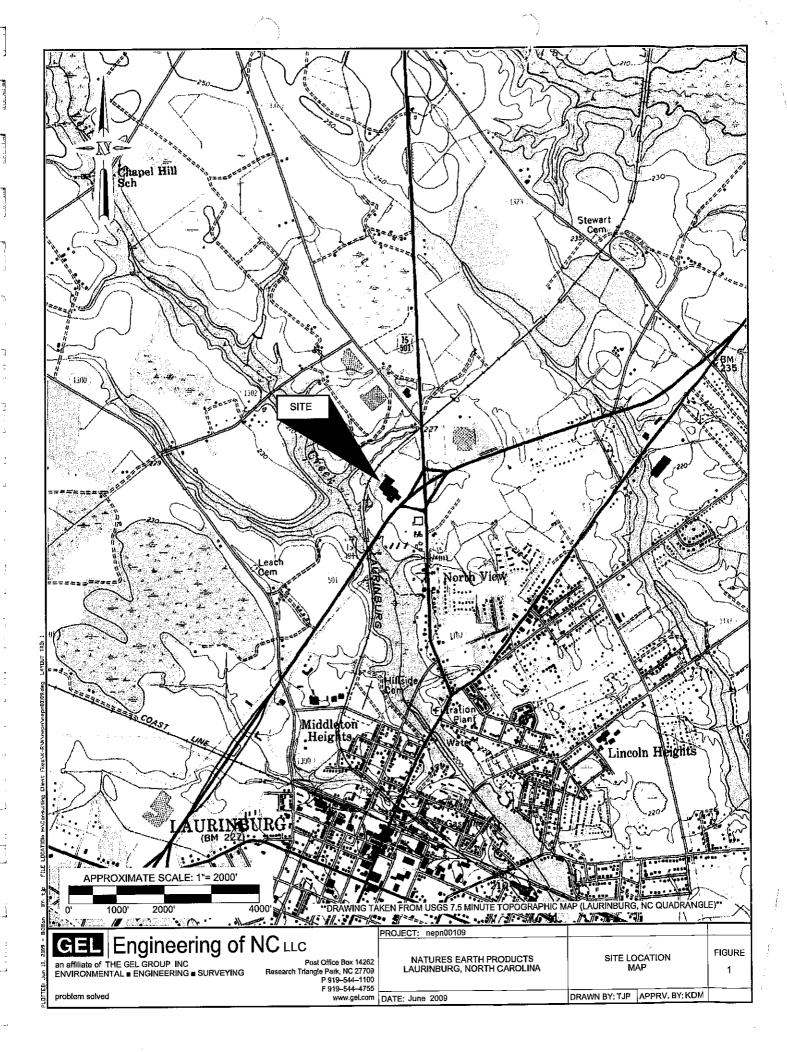
<sup>&</sup>lt;sup>c</sup>Stack exit velocity of 0.01 m/sec used to account for horizontal discharge or rain cap, if applicable

<sup>&</sup>lt;sup>d</sup>MSL = mean sea level

Table 4: Modeling Results and Comparison with Standards
Natures Earth Pellets NC, LLC
Laurinburg, North Carolina

Maximu Averaging Re	Maximum Model		!
		Acceptable Ambient	Shows
	Result	Level	Compliance
Pollutant Period µg	µg/m³	$\mu \mathrm{g/m}^3$	(X/N)
Acrolein 1-hr 1.	1.82	08	YES
Benzene Annual 0.	10.0	0.120	YES
Formaldehyde 1-hr	11.5	150	YES

1



NORTH CAROLINA D AIR QUALITY	IVISION OF		Region: Fayetteville Regional Office County: Scotland	
/ <b></b>	Air Permit Review	W	NC Facility ID: 8300104	
			Inspector's Name:	
Permit Issue Date: 11/1	2/2009		Date of Last Inspection:	
1 crimit issue Date. 1 17			Compliance Code:	
	Facility Data		Permit Applicability (this application of	only)
Applicant (Facility's Na	me): Natures Earth Pellets N	IC, LLC	SIP:	
		,	NSPS:	
Facility Address:			NESHAP:	
Natures Farth	Pellets NC, LLC		PSD:	
16900 Aberdeen Road	E ORIVED LIVE BLEE		PSD Avoidance:	
Laurinburg, NC 28352	<b>,</b>		NC Toxics:	
Laurinourg, 14C 2000.			112(r):	
SIC: 2499 / Wood Products, Nec NAICS: 321999 / All Other Miscellaneous Wood Product Manufacturing Facility Classification: Before: New After: Synthetic Minor			Other:	
			GREENFIELD	
Fee Classification: Before	e: New After: Synthe!	tic Minor		
	Contact Data		Application Data	
Facility Contact	Authorized Contact	Technical	Contact Application Number: 8300104.09A	
Cliff Dasses	Cliff Dance	Culter Days	<b>Date Received:</b> 07/10/2009	
	Cliff Bragg Cliff Bragg Cliff Bragg Plant Manager Plant Manager (304) 642-1156 (304) 642-1156 (304) 642-1156		_ Application Type: Greenfield Facility	
(304) 642-1156				
16900 Aberdeen Road	16900 Aberdeen Road	16900 Aberde	en Road Existing Permit Data	
Laurinburg, NC 28352	Laurinburg, NC 28352	Laurinburg, N	Existing Permit Number: New	
		<b>B</b>	Existing Permit Issue Date: New	
n i n i mi	<u> </u>	<u> </u>	Existing Permit Expiration Date: New	
Review Engineer: Tien	nguyen		Comments / Recommendations:	
Review Engineer's Sign	ature: Date:		Issue <new number="" permit=""></new>	
rection engineer a sign	ature. Date.		Permit Issue Date: 11/12/2009	
			- · - · · - 40/31/3014	

# 1. Purpose of Application (executive summary):

Tien Noymy 5- 11/12/2009

Natures Earth Pellets NC, a greenfield facility, located in Laurinburg, NC, Scotland County has requested an air permit to construct and operate a wood pellet plant. The pellets are made from clean and untreated wood chips and sawdust (40-60% softwood, 40-60% hardwood), which are generated from Edwards Wood Products. Edwards is located in Scotland County. The facility is paying between \$25 to \$35 per ton for the wood chips and sawdust. A portion of the raw materials will be used as the fuel for the dryer burner. This will minimize the cost of drying. The raw materials ship to the facility as virgin wood chips and saw dust without any additives. The pellets will be marketed primarily for use in commercial and residential stoves. Pellets are made without added adhesives, thus the process as it has developed today requires no additives, but rather uses the natural adhesives present in the wood to bind the pellet together.

Permit Expiration Date: 10/31/2014

The raw material that is larger than 1/4" will be broken down in the hammer mill to a smaller particle size and then the raw fiber will be heated by a direct-fired rotary dryer to remove the moisture content from the wood chips. When the wood chips reach to 11% of the moisture, it's drawn out of the dryer and will be conveyed into storage silo. Sawdust and wood chips are blown into a suspension burner to generate heat for the rotary dryer. The products of combustion are blown from the burner through the dryer and come into direct contact with the raw material. The emissions from the dryer stack include both process and combustion gases.

The raw material recordkeeping stipulation was added to the permit. This stipulation only allows the facility to burn clean, untreated, and unadulterated wood chips and sawdust. The facility is required to maintain the records of the sawdust and wood chips supplier certification on-site for each batch received to demonstrate in compliance. Per DAQ guidance, Natures Earth Pellets is not subject to the Commercial and Industrial Solid Waste Incineration NSPS Subpart CCCC because it does not combust solid waste. The DAQ has considered that the wood chips and sawdust for this facility are not a solid waste.

The facility will operate a conveyance system, storage silos, hammermills, pellet mills, pellet coolers, aspirators and one triple pass direct-fired rotary dryer. Heat input to the rotary dryer is rated at approximate 34 million Btu per hour depending on type and condition of wood. The maximum material throughput of the rotary dryer rated at 18.4tons per hour.

The facility-wide PM<sub>10</sub>, NO<sub>x</sub> and VOC potential emissions exceed the 100 tons per year threshold. However, the facility has taken an annual production limit of 141,450 tons per year to maintain actual emissions at levels below the Title V threshold. This facility will be classified as a synthetic minor.

The facility's estimated actual emissions for Acrolein, Benzene and Formaldehyde exceed the TPER limitation; therefore, the facility conducted an AERMOD modeling analysis for toxics. The modeling analysis indicates that the modeled emission rates in compliance with the Acceptable Ambient Level (AAL). According to modeling analysis review, the high efficiency cyclones (HEC-1) shall be located no closer than 108 feet from the nearest property line or easement.

Keith McCullock, GEL Engineering of NC Inc., assisted with the application on behalf of Natures Earth Pellets NC, LLC, Keith's contact number is 919-544-1100.

#### 2. Zoning:

A zoning consistency determination is required and was included with the application. The Zoning Consistency Determination was approved by Bill Peele of the Laurinburg-Scotland County Planning and Development Department.

PDO accessing a construction of the second s

#### 3. Facility and Application Chronology:

July 10, 2009	FRO received a copy of the permit application and dispersion modeling analysis. The application included a letter for zoning consistency and \$400 fees.
July 14, 2009	FRO sent a copy of the permit application and dispersion modeling analysis to Mr. Jim Roller, AQAB.
July 16, 2009	Jim Roller notified this office that he received a copy of the permit application and dispersion modeling analysis.
July 22, 2009	Tien Nguyen sent the facility information to Ms. Gladys Woods via email to create an account for Natures Earth Pellets NC.
July 27, 2009	Tom Anderson, AQAB, completed his review of the dispersion modeling analysis for toxics.
August 3, 2009	FRO received the dispersion modeling analysis memo from Tom Anderson, AQAB. The modeling analysis indicates that the modeled emission rates in compliance with the Acceptable Ambient Level (AAL).

August 10, 2009	Tien Nguyen contacted Mr. Cliff Bragg, Plant Manager, to request the material safety data sheet and information on the wood chips and sawdust. Mr. Bragg stated that he would submit the MSDS to FRO upon receipt.
August 13, 2009	Steven Vozzo discussed with Keith Overcash, William Wallets and Don Vandervarrt about the Commercial or Industrial Solid Waste Incinerator regulations for this facility. William Wallets stated that they are working with the Division of Waste Management (DWM) to make determinations of whether a specific biomass fuel would be considered a waste that would subject the combustor to the requirements of the Commercial or Industrial Solid Waste Incinerator regulations.
September 8, 2009	Tien Nguyen contacted McCullock to request the vendor's data for the emission calculations. McCullock forwarded vendor's email that contained the information requested. The vendor's data indicates that 234 ppm of wood concentration with a maximum of 20% dust content is delivered into the cyclones.
September 17, 2009	FRO received the material safety data sheet for the raw materials via email from Mr, Bragg.
<u>September 28, 2009</u>	Marc Bernstein sent an advisory memorandum to Keith Overcash. Keith distributed the memo to the regional offices. The memo contained several questions needed to evaluate if a fuel is considered a solid waste. It also had case histories to provide guidance to the DAQ and the DWM in making a determination.
September 30, 2009	FRO sent Mr. Bragg of Natural Earth Pellets a PAI letter and enclosed questionnaire for non-fossil fuel waste classification determination. The letter stating that the Division of Air Quality has been working with the Division of Waste Management and the Attorney General Office on addressing the use of wood as fuel source. Mr. Bragg was advised at that time that the permit would be put on hold until the Division of Air Quality could make a determination on the classification of the wood chips and sawdust.
October 2, 2009	Tien Nguyen and Jim Moser called Mr. Bragg to explain to him about the questionnaire for the solid waste determination. We asked him to complete the questionnaire and return it to this office as soon as possible. Mr. Bragg stated that he would submit it to this office for determination.
October 7, 2009	FRO received additional information from Mr. Bragg and forwarded it to RCO
October 15, 2009	FRO received a message from Donald Vandervaart and stated that the facility is not subject to the Commercial and Industrial Solid Waste Incineration NSPS Subpart CCCC because the sawdust at this facility is not considered waste.
October 20, 2009	Steven Vozzo, Jim Moser, and Tien Nguyen of the Fayetteville Regional Office spoke with Cliff Bragg to obtain more information on the process flow diagram. Mr. Bragg provided some of the cyclone specifications. In a phone conversation, FRO explained to Mr. Bragg that the PE seal needed to be resubmitted because the PE seal was submitted with the permit application that certified for a Cashew Cleaning Line, but not for the Natures Earth Pellets. FRO received the PE seal for the Natures Earth Pellets the same day.
October 23, 2009	FRO sent a copy of the draft permit to Cliff Bragg for review and FRO also asked him to confirm the cyclone specifications since it was not clear identified in the permit application submittal.
October 28, 2009	In the email, Donald Vandervaart stated that the DAQ needs to know the price of the wood chips and any additives in the pelletizing process from the facility to determine whether this material was solid waste under Section 129 of the Clean Air Act. This office contacted Mr. Bragg to collect this information. In a phone conversation, Mr. Bragg

stated that they are paying between \$25 to \$35 per ton for the wood chips and sawdust and there are no additives in the wood pelletizing process. Mr. Bragg said that they could not sell any pellets that have additives; This standard set by the Pellet Fuel Institute. Mr. Bragg also stated that the raw materials are coming from Edwards Wood Products. Edwards is also located in Scotland County. FRO received the cyclone specifications requested from the facility.

November 10, 2009

Don Vandervaart issued a memo and stated that the Natures Earth Pellets is not subject to the Commercial and Industrial Solid Waste Incineration NSPS Subpart CCCC because it does not combust solid waste.

# 4. Changes in Equipment, Emissions, and Regulations:

The permitted equipment list for Natures Earth Pellets NC, LLC is shown below:

Emission Source ID	Emission Source Description	Control System ID	Control System Description
	Hamme	rmill Operation	
HM-1	Hammermill Feed Operation No.1	HMFC-1, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-2	Hammermill Feed Operation No.2	HMFC-2, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-3	Hammermill Feed Operation No.3	HMFC-3, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-4	Hammermill Feed Operation No.4	HMFC-4, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)
HM-5	Hammermill Feed Operation No.5	HMFC-5, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-6	Hammermill Feed Operation No.6	HMFC-6, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
FWHM	Fuel Wood Hammermill Operation	FWHC-1	Cyclone (78 inches diameter)
	Pellet I	Mill Operation	
PM-1	Pellet Mill Feed Operation No.1	PMFC-1, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)
PM-2	Pellet Mill Feed Operation No.2	PMFC-2, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft² filter area)
PM-3	Pellet Mill Feed Operation No.3	PMFC-3, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)
PM-4	Pellet Mill Feed Operation No.4	PMFC-4, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404ft <sup>2</sup> filter area)
PM-5	Pellet Mill Feed Operation No.5	PMFC-5, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404 ft <sup>2</sup> filter area)
PM-6	Pellet Mill Feed Operation No.6	PMFC-6, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404 ft² filter area)
	Tru	ck Loadout	
TD-1	Truck Dump (300,000 tons per hour capacity)	BF-1	Bagfilter (4902 ft² filter area)
	Dry	ing System	
DFBC-1	Dryer Fuel Bin Loading Operation	DFBC-1, BF-1	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)

Emission Source ID	Emission Source Description	Control System ID	Control System Description
RD-1	Direct Wood-fired Rotary Dryer (maximum output of the rotary dryer is 18.4 tons per hour)	HEC-1	Twin High Efficiency Cyclones (120 inches diameter)
	Conveyi	ng Operation	
BE-1	Bucket Elevator		
DC-1	Drag Conveyor No.1 ( (300,000 tons per hour capacity)	BF-1	Bagfilter (4902 ft <sup>2</sup> filter area)
DC-2	Drag Conveyor No.2 ( (300,000 tons per hour capacity)		
SLC-1	Silo Loading Conveyor		
	Stor	age Silos	
DHS-1	Dry Hardwood Silo No.1 (800 tons capacity)	BV-I	Bin Vent Filter (1780 ft <sup>2</sup> filter area)
SS-2	Softwood Silo No.2 (800 tons capacity)		
SS-3	Softwood Silo No.3 (800 tons capacity)	BF-1	Bagfilter (4902 ft <sup>2</sup> filter area)
GHS-4	Green Hardwood Silo No.4 (800 tons capacity)		
HPS-1	Hardwood Pellet Silo	HPC-1, BF-4	Cyclone (42 inches diameter) in Series with a bagfilter (1814 ft² filter area)
SPS-1	Softwood Pellet Silo	SPC-1, BF-4	Cyclone (42 inches diameter) in Series with a bagfilter (1814 ft² filter area)
	Aspirat	or Operation	
AF-1	Aspirator Feed Operation No.1	AFC-1, BF-2	Cyclone (42 inches diameter) in Series with a bagfilter (4902 ft² filter area)
A-I	Aspirator No.1	PFFC-1, BF-3	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft² filter area)
AF-2	Aspirator Feed Operation No.2	AFC-2, BF-2	Cyclone (42 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)
A-2	Aspirator No.2	PFFC-2, BF-3	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft² filter area)
	Pellet Co	oler Operation	
PCF-1	Pellet Cooler Feed Operation No.1	PCFC-1	Cyclone (42 inches diameter)
PCF-2	Pellet Cooler Feed Operation No.2	PCFC-2	Cyclone (42 inches diameter)
PCF-3	Pellet Cooler Feed Operation No.3	PCFC-3	Cyclone (42 inches diameter)
PCF-4	Pellet Cooler Feed Operation No.4	PCFC-4	Cyclone (42 inches diameter)
PCF-5	Pellet Cooler Feed Operation No.5	PCFC-5	Cyclone (42 inches diameter)
PCF-6	Pellet Cooler Feed Operation No.6	PCFC-6	Cyclone (42 inches diameter)
PC-1	Pellet Cooler No.1	PCC-1, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft² filter area)
PC-2	Pellet Cooler No.2	PCC-2, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft² filter area)
PC-3	Pellet Cooler No.3	PCC-3, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)
PC-4	Pellet Cooler No.4	PCC-4, BF-5	Cyclone (66 inches diameter) in Series

Emission Source ID	Emission Source Description	Control System ID	Control System Description
			with a bagfilter (1404 ft² filter area)
PC-5	Pellet Cooler No.5	PCC-5, BF-5	Cyclone (66 inches diameter) in Series with a bagfilter (1404 ft² filter area)
PC-6	Pellet Cooler No.6	PCC-6, BF-5	Cyclone (66 inches diameter) in Series with a bagfilter (1404 ft² filter area)

This is a Greenfield facility so all emission sources are considered new. The applicable regulations are outlined in detail below:

- A. <u>Control of Visible Emissions (2D.0521):</u> Visible emissions from all sources shall be less than 20% opacity. Each emission source will need to comply with 20% opacity limit.
- B. Particulates from Miscellaneous Industrial Processes (2D.0515): The particulate emissions cannot exceed those calculated using throughput rates. The allowable emission rates are, as defined in 15A NCAC 2D.0515, a function of the process weight rate and shall be determined by the following equation(s), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr).

$$E = 4.10 * (P)^{0.67}$$
 for  $P \le 30$  tons/hr, or  $E = 55 * (P)^{0.11} - 40$  for  $P \ge 30$  tons/hr Allowable emissions =  $4.1*(18.4 \text{ tons/hr})^{0.67} = 28.85 \text{ lbs/hr}$ 

The facility maximum process throughput is 18.4 tons per hour and allowable rate is 28.85 pounds per hour. Based on the calculated maximum emission rates, PM emissions from each process are in compliance with the emission standard.

- C. <u>Fugitive Dust Control (2D.0540)</u>: The Permittee shall not cause or allow fugitive dust emissions to cause complaints or excess VE beyond the property boundary. The facility will need to comply with this standard.
- D. 15A NCAC 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources"

  This regulation applies to sulfur dioxide emissions from any source of combustion that is discharged from any stack. The allowable sulfur dioxide emission rate is 2.3 lb/million Btu at maximum firing. The rotary dryer will have a rated heat input of 34.2 MMBtu/hr based on a maximum fuel input of 5,100 pounds of wood per hour and a heat content rating of 6,700 Btu per pound of wood. SO<sub>2</sub> emissions are calculated based on AP-42 emission factor for wood-fired boilers (0.85 lbs/hr). The SO<sub>2</sub> emissions from the rotary dryer will be 0.025 lb/million Btu. Therefore, compliance is indicated.
- E. <u>Bagfilter Requirements (2D.0611)</u>: The Permittee must perform I&M, as recommended by the manufacturer, and at least one annual internal inspection on all bagfilters. Results must be maintained in a logbook to demonstrate in compliance with this standard.
- F. <u>Cyclone Requirements (2D.0611):</u> The Permittee must perform I&M, as recommended by the manufacturer, and at least one annual internal inspection on all cyclones. Results must be maintained in a logbook to demonstrate in compliance with this standard.
- G. Toxic Air Pollutant Emissions Limitation and Reporting Requirement (2D,1100): The Permittee shall not exceed the emissions limits listed in this section. Annual production shall not exceed 141,450 tons. The facility must maintain monthly records of production and calculate 12-month rolling averages. The facility must submit this information to our office on an annual basis.
- H. LIMITATION TO AVOID 15A NCAC 2Q .0501 and Reporting Requirement Pursuant to 15A NCAC 2Q .0315 "Synthetic Minor Facilities," to avoid the applicability of 15A NCAC 2Q .0501 "Purpose of

Section and Requirement for a Permit," as requested by the Permittee, facility-wide PM<sub>10</sub>, NO<sub>x</sub> and VOC emissions shall not exceed 100 tons per year. Annual production shall not exceed 141,450 tons. The facility must maintain monthly records of production and calculate 12-month rolling averages. The facility must submit this information to this office on an annual basis.

- Control and Prohibition of Odorous Emissions (2D.,1806): The Permittee shall install and operate odor control equipment to prevent odorous emissions from causing objectionable odors beyond the facility boundaries. The facility will need to comply with this standard.
- J. <u>Toxic Air Pollutant Emissions Limitations Requirement (20.0711):</u> The facility shall ensure that emissions from the listed toxic pollutants do not exceed limits in the permit.
- K. <u>Prevention of Significant Deterioration (2Q .0317)</u>: The facility shall ensure that PM<sub>10</sub> emissions do not exceed limit in the permit. These conditions will ensure that the facility does not exceed PSD significance level. The facility complies with this standard by complying with Limitation to Avoid 15A NCAC 2Q .0501.
- L. Adhoc Recordkeeping Requirement for Wood Chips and Sawdust.
- M. Adhoc-Initial Start-up Reporting Requirement In accordance with 15A NCAC 2D .0601
- 5. PSD, NSPS, NESHAPs, Attainment Status, and Chemical Accident Prevention (112r):
  - PSD The potential PM-10emissions exceed PSD threshold limits; therefore, this facility does trigger PSD avoidance. The facility has taken limit to maintain actual emissions below 100 tpy.
  - NSPS The facility is not subject to NSPS requirements. The facility is not subject to the Commercial and Industrial Solid Waste Incineration NSPS Subpart CCCC because it does not combust solid waste.
  - Attainment Status Scotland County is a designated attainment area for all criteria pollutants.
  - NESHAP There are no MACT/GACT conditions applicable to the facility at this time.
  - Chemical Accident Prevention (112r) The facility does not store any 112(r) chemicals and is not required to maintain a written Risk Management Plan.

#### 6. Facility-Wide Air Toxics Review:

The facility's estimated actual emissions for Acrolein, Benzene and Formaldehyde exceed the TPER limitation; therefore, the facility conducted an AERMOD modeling analysis for toxics. The modeling was reviewed by Mr. Tom Anderson on July27, 2009. The following table shows the maximum impact for each pollutant:

Pollutant	Averaging Period   % of AAL	
Acrolein	1-hour 2%	
Benzene	annual 8%	
Formaldehyde	1-hour 8%	

The facility will have an annual wood throughput limit of 141,450 tons per year and will have to maintain records documenting compliance. Other toxic pollutants emitted from the dryer will be included in the TPER stipulation, 2Q .0711. Twin high efficiency cyclones (ID No. HEC-1) shall be located no closer than 108 feet from the nearest property line or easement.

#### 7. Facility Compliance Status:

The facility has not yet constructed; therefore, the facility does not have any negative compliance history.

#### 8. Facility Emissions Review:

The actual and potential emissions listed below were obtained from the permit application forms. PM emissions were calculated based on 80% control efficiency of the cyclones. According to the vendor data, cyclones are expected to have a minimum of 80% control efficiency for PM emissions. The emissions from the rotary dryer were

calculated using the EPA, AP-42 emission factors in section 10.6.2 (35-60% softwood, 40-65% hardwood). Controlled PM emission factor for each bag filter is 0.002 grains per cubic foot. Uncontrolled PM emissions from each bag filter are calculated using the concentration of wood in the pneumatic stream and 5% dust content. PM and PM10 are assumed to be the same. This should be a very conservative estimate since most captured from the wood pellets process has a large particle size. The actual and potential emissions with control were calculated based on an annual production of 141,450 tons per year. The potential emissions without permit limitation (or without controls) were calculated based on 8760 hours of operation per year.

Pollutant	Expected Actual Emissions (TPY)	Potential Emissions With Permit Limitations (TPY)	Potential Emissions <u>Without</u> Permit Limitations(TPY)
PM	86	86	865
PM-10	86	86	865
$SO_2$	3.7	3.7	3.7
$NO_X$	99	99*	113
CO	55	55	62
VOC	92	92	105

### 9. Stipulation Review:

The following regulations are applicable to this facility:

Regulation	Affected Sources	Emission Limits or Requirements
15A NCAC 2D .0515	Facility-wide	Limits as calculated in permit
15A NCAC 2D .0521	Facility-wide	Opacity < 20 %
15A NCAC 2D ,0611	Baghouse	I&M as requested by manufacturer, annual internal inspection, and recordkeeping
15A NCAC 2D .0611	Cyclones	I&M as requested by manufacturer, annual internal inspection, and recordkeeping
15A NCAC 2D .0711	Facility-wide	TPER Limitations
15A NCAC 2D .1100	Facility-wide	Toxic Limits, Recordkeeping, Reporting
15A NCAC 2D .1806	Facility-wide	Odors
15A NCAC 2D .0540	Facility-wide	Particulate from Fugitive Sources
15A NCAC 2D .0535	Facility-wide	Notification requirement
15A NCAC 2Q .0315	Facility-wide	PM, NOx & VOC < 100 TPY, production limits, recordkeeping, and annual reporting
Adhoc	Facility -wide	Wood chips and sawdust recordkeeping requirements
15A NCAC 2Q .0317	Facility-wide	SO2 < 250 TPY, production limits, recordkeeping, and annual reporting

#### 10. Conclusions, Comments, and Recommendations:

I recommend that permit no. 09919R00 be issued to Natures Earth Pellets NC, LLC with the following:

- a. Modifications to the Permit Writer output:
  - Emission source table: adjusted column widths, highlighted column heading, merged cells;
  - Adjusted column widths and merged cells in the toxic tables;
  - Added "fabric filter" in 11.b;
  - Added adhoc-Initial Start-up Reporting Requirement
  - Added adhoe "Wood chips and sawdust recordkeeping requirements"
  - Bolded and formatted as needed throughout the document; and
  - Added spaces as needed throughout the document.

## b. Note to inspector:

- Recommend inspector check distance to verify the high efficiency cyclones (ID No. HEC-1) located no closer than 108 feet from the nearest property line or easement.
- Verity the cyclone specifications.

Review Engineer:

Permit Coordinator:

DAQ Supervisor:

\txn cc:

RCO Files FRO Files

Date: ///12/2809

Date: 11-12-2009



# North Carolina Department of Environment and Natural Resources Division of Air Quality

Beverly Eaves Perdue Governor

B. Keith Overcash, P.E. Director

Dee Freeman Secretary

November 12, 2009

Mr. Cliff Bragg Plant Manager Natures Earth Pellets NC, LLC 16900 Aberdeen Road Laurinburg, NC 28352

Subject: Air Permit No. 10012R00

Natures Earth Pellets NC, LLC

Laurinburg, Scotland County, North Carolina

Permit Class: Synthetic Minor

Facility ID# 8300104

Dear Mr. Bragg:

In accordance with your completed application received July 10, 2009 and further information received October 28, 2009, we are forwarding herewith Permit No. 10012R00 to Natures Earth Pellets NC, LLC, Laurinburg, Scotland County, North Carolina for the construction and operation of air emissions sources or air cleaning devices and appurtenances. Please note the records retention requirements are contained in General Condition 2 of the General Conditions and Limitations.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. Such a request will stay the effectiveness of the entire permit. This hearing request must be in the form of a written petition, conforming to G.S. 150B-23 of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Unless a request for a hearing is made pursuant to G.S. 150B-23, this air permit shall be final and binding.

You may request modification of your air permit through informal means pursuant to G.S. 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that the permit will become



Phone: (910) 433-3300 \ FAX: (910) 485-7467 \ Internet: www.ncair.org/

Cliff Bragg November 12, 2009 Page 2

final and binding regardless of a request for informal modification unless a request for a hearing is also made under G.S. 150B-23.

Unless exempted by a condition of this permit or the regulations, construction of new air pollution sources or air cleaning devices, or modifications to the sources or air cleaning devices described in this permit must be covered under a permit issued by the Division of Air Quality prior to construction. Failure to do so is a violation of G.S. 143-215.108 and may subject the Permittee to civil or criminal penalties as described in G.S. 143-215.114A and 143-215.114B.

This permit shall be effective from November 12, 2009 until October 31, 2014, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Changes have been made to the permit stipulations. The Permittee is responsible for carefully reading the entire permit and evaluating the requirements of each permit stipulation. The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. Should you have any questions concerning this matter, please contact Tien Nguyen at (910) 433-3300.

Sincerely,

Steven F. Vozzo

Regional Air Quality Supervisor

txn Enclosures

c: Central Files

Fayetteville Regional Office

# NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

# DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

# DIVISION OF AIR QUALITY

# AIR PERMIT NO. 10012R00

Issue Date: November 12, 2009 Expiration Date: October 31, 2014

Effective Date: November 12, 2009

Replaces Permit: (new)

To construct and operate air emission source(s) and/or air cleaning device(s), and for the discharge of the associated air contaminants into the atmosphere in accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina (NCGS) as amended, and other applicable Laws, Rules and Regulations,

Natures Earth Pellets NC, LLC 16900 Aberdeen Road Laurinburg, Scotland County, North Carolina Permit Class: Synthetic Minor Facility ID# 8300104

(the Permittee) is hereby authorized to construct and operate the air emissions sources and/or air cleaning devices and appurtenances described below:

Emission Source ID	Emission Source Description	Control System ID	Control System Description
	Hammeri	nill Operation	
HM-1	Hammermill Feed Operation No.1	HMFC-1, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-2	Hammermill Feed Operation No.2	HMFC-2, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-3	Hammermill Feed Operation No.3	HMFC-3, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)
HM-4	Hammermill Feed Opeartion No.4	HMFC-4, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)
HM-5	Hammermill Feed Operation No.5	HMFC-5, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft² filter area)
HM-6	Hammermill Feed Operation No.6	HMFC-6, BF-2	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)
FWHM	Fuel Wood Hammermill Operation	FWHC-1	Cyclone (78 inches diameter)

Emission Source ID	Emission Source Description	Control System ID	Control System Description	
	Pellet Mill	Operation		
PM-1	Pellet Mill Feed Operation No.1	PMFC-1, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)	
PM-2	Pellet Mill Feed Operation No.2	PMFC-2, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)	
PM-3	Pellet Mill Feed Operation No.3	PMFC-3, BF-2	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft² filter area)	
PM-4	Pellet Mill Feed Operation No.4	PMFC-4, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404ft² filter area)	
PM-5	Pellet Mill Feed Operation No.5	PMFC-5, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404 ft² filter area)	
PM-6	Pellet Mill Feed Operation No.6	PMFC-6, BF-5	Cyclone (72 inches diameter) in Series with a bagfilter (1404 ft² filter area)	
	Truck I	_oadout		
TD-1	Truck Dump (300,000 tons per hour capacity)	BF-1	Bagfilter (4902 ft² filter area)	
A,	Drying	System		
DFBC-1	Dryer Fuel Bin Loading Operation	DFBC-1, BF-1	Cyclone (42 inches diameter) in series with a bagfilter (4902 ft <sup>2</sup> filter area)	
RD-1	Direct Wood-fired Rotary Dryer (maximum output of the rotary dryer is 18.4 tons per hour)	HEC-1	Twin High Efficiency Cyclones ( 120 inches diameter)	
and the second s	Conveying	Operation		
BE-I	Bucket Elevator		Managara and the control of the cont	
DC-1	Drag Conveyor No.1 ( (300,000 tons per hour capacity)	BF-1	Bagfilter (4902 ft² filter area)	
DC-2	Drag Conveyor No.2 ( (300,000 tons per hour capacity)		2 agricus (1792 it litter arou)	
SLC-1	Silo Loading Conveyor	my////////////////////////////////////		
	Storag	e Silos		
DHS-1	Dry Hardwood Silo No.1 (800 tons capacity)	BV-1	Bin Vent Filter (1780 ft <sup>2</sup> filter area)	
SS-2	Softwood Silo No.2 (800 tons capacity)	The second secon		
SS-3	Softwood Silo No.3 (800 tons capacity)	BF-1	Bagfilter (4902 ft <sup>2</sup> filter area)	
GHS-4	Green Hardwood Silo No.4 (800 tons capacity)	104 1 1 1 6 6 6 4 1		
HPS-1	Hardwood Pellet Silo	HPC-1, BF-4	Cyclone (42 inches diameter) in Series with a bagfilter (1814 ft² filter area)	
SPS-1	Softwood Pellet Silo	SPC-1, BF-4	PC-1, BF-4 Cyclone (42 inches diameter) in Serie with a bagfilter (1814 ft² filter area)	
	Aspirator (	Operation		
AF-1	Aspirator Feed Operation No.1	AFC-1, BF-2 Cyclone (42 inches diameter) with a bagfilter (4902 ft <sup>2</sup> filter		
A-1	Aspirator No.1	PFFC-1, BF-3	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)	

Emission Source ID	Emission Source Description	Control System ID	Control System Description		
AF-2 Aspirator Feed Operation No.2		AFC-2, BF-2	Cyclone (42 inches diameter) in Series with a bagfilter (4902 ft² filter area)		
A-2 Aspirator No.2		PFFC-2, BF-3	Cyclone (72 inches diameter) in Series with a bagfilter (4902 ft² filter area)		
t de la companya del companya de la companya del companya de la companya del la companya de la c	Pellet Coo	ler Operation			
PCF-1	Pellet Cooler Feed Operation No.1	PCFC-1	Cyclone (42 inches diameter)		
PCF-2	Pellet Cooler Feed Operation No.2	PCFC-2	Cyclone (42 inches diameter)		
PCF-3	Pellet Cooler Feed Operation No.3	PCFC-3	Cyclone (42 inches diameter)		
PCF-4	Pellet Cooler Feed Operation No.4	PCFC-4	Cyclone (42 inches diameter)		
PCF-5	Pellet Cooler Feed Operation No.5	PCFC-5	Cyclone (42 inches diameter)		
PCF-6	Pellet Cooler Feed Operation No.6	PCFC-6	Cyclone (42 inches diameter)		
PC-1	Pellet Cooler No.1	PCC-1, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft <sup>2</sup> filter area)		
PC-2	Pellet Cooler No.2	PCC-2, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft² filter area)		
PC-3	Pellet Cooler No.3	PCC-3, BF-3	Cyclone (66 inches diameter) in Series with a bagfilter (4902 ft² filter area)		
PC-4	Pellet Cooler No.4	PCC-4, BF-5	Cyclone (66 inches diameter) in Series with a bagfilter (1404 ft² filter area)		
PC-5	Pellet Cooler No.5	PCC-5, BF-5	Cyclone (66 inches diameter) in Series with a bagfilter (1404 ft² filter area)		
PC-6	Pellet Cooler No.6	PCC-6, BF-5	Cyclone (66 inches diameter) in Series with a bagfilter (1404 ft² filter area)		

in accordance with the completed application 8300104.09A received July 10, 2009 and information received October 28, 2009 including any plans, specifications, previous applications, and other supporting data, all of which are filed with the Department of Environment and Natural Resources, Division of Air Quality (DAQ) and are incorporated as part of this permit.

This permit is subject to the following specified conditions and limitations including any TESTING, REPORTING, OR MONITORING REQUIREMENTS:

# A. SPECIFIC CONDITIONS AND LIMITATIONS

 Any air emission sources or control devices authorized to construct and operate above must be operated and maintained in accordance with the provisions contained herein. The Permittee shall comply with applicable Environmental Management Commission Regulations, including Title 15A North Carolina Administrative Code (NCAC), Subchapter 2D .0200, 2D .0202, 2D .0515, 2D .0516, 2D .0521, 2D .0535, 2D .0540, 2D .0611, 2D .1100, 2D .1806, 2Q .0315, 2Q .0317 (Avoidance) and 2Q .0711.

- 2. RECORDKEEPING REQUIREMENTS FOR SAWDUST AND WOOD CHIPS The Permittee shall combust only clean, untreated, and unadulterated greenwood chips and sawdust from the sawmill in the direct wood-fired rotary dryer (RD-1). The Permittee shall maintain the records of the sawdust and wood chips supplier certification on-site for each batch received. All records required under this section shall be maintained for a period of two years and made available to DAQ personnel upon request. The Permittee shall be deemed in noncompliance if recordkeeping requirements are not maintained.
- 3. **Initial Start-up Reporting Requirement** In accordance with 15A NCAC 2D .0601, the Permittee is required to NOTIFY the Regional Supervisor, DAQ, in WRITING, of the actual date of initial start-up of the affected emission source(s) and/or air cleaning device(s), postmarked within 15 days after such date.
- 4. PERMIT RENEWAL AND EMISSION INVENTORY REQUIREMENT The Permittee, at least 90 days prior to the expiration date of this permit, shall request permit renewal by letter in accordance with 15A NCAC 2Q .0304(d) and (f). Pursuant to 15A NCAC 2Q .0203(i), no permit application fee is required for renewal of an existing air permit(without a modification request). The renewal request(with AA application form) should be submitted to the Regional Supervisor, DAQ. Also, at least 90 days prior to the expiration date of this permit, the Permittee shall submit the air pollution emission inventory report(with Certification Sheet) in accordance with 15A NCAC 2D .0202, pursuant to N.C. General Statute 143 215.65. The report shall be submitted to the Regional Supervisor, DAQ and shall document air pollutants emitted for the 2013 calendar year.
- 5. PARTICULATE CONTROL REQUIREMENT As required by 15A NCAC 2D .0515 "Particulates from Miscellaneous Industrial Processes," particulate matter emissions from the emission sources shall not exceed allowable emission rates. The allowable emission rates are, as defined in 15A NCAC 2D .0515, a function of the process weight rate and shall be determined by the following equation(s), where P is the process throughput rate in tons per hour (tons/hr) and E is the allowable emission rate in pounds per hour (lbs/hr).

E = 
$$4.10 * (P)^{0.67}$$
 for P <= 30 tons/hr, or  
E =  $55 * (P)^{0.11}$  - 40 for P >30 tons/hr

- 6. <u>SULFUR DIOXIDE CONTROL REQUIREMENT</u> As required by 15A NCAC 2D .0516 "Sulfur Dioxide Emissions from Combustion Sources," sulfur dioxide emissions from Direct Wood-fired Rotary Dryer (maximum output of the rotary dryer is 18.4 tons per hour) (ID No. RD-1) shall not exceed 2.3 pounds per million Btu heat input.
- 7. <u>VISIBLE EMISSIONS CONTROL REQUIREMENT</u> As required by 15A NCAC 2D .0521 "Control of Visible Emissions," visible emissions from the emission sources, manufactured after July 1, 1971, shall not be more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. However, sources which must comply with 15A NCAC 2D .0524 "New Source Performance Standards" or .1110 "National Emission Standards for Hazardous Air Pollutants" must comply with applicable visible emissions requirements contained therein.

- 8. <u>NOTIFICATION REQUIREMENT</u> As required by 15A NCAC 2D .0535, the Permittee of a source of excess emissions that last for more than four hours and that results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, shall:
  - a. Notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Division's next business day of becoming aware of the occurrence and describe:
    - i. the name and location of the facility,
    - ii. the nature and cause of the malfunction or breakdown,
    - iii. the time when the malfunction or breakdown is first observed,
    - iv. the expected duration, and
    - v. an estimated rate of emissions.
  - b. Notify the Director or his designee immediately when the corrective measures have been accomplished.

This reporting requirement does not allow the operation of the facility in excess of Environmental Management Commission Regulations.

9. FUGITIVE DUST CONTROL REQUIREMENT - As required by 15A NCAC 2D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 2D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

- 10. <u>CYCLONE REQUIREMENTS</u> As required by 15A NCAC 2D .0611, particulate matter emissions shall be controlled as described in the permitted equipment list.
  - a. <u>Inspection and Maintenance Requirements</u> The inspection, maintenance and record keeping requirements shall become effective. To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform an annual (for each 12 month period following the initial inspection) inspection of the cyclone system. In addition, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer.

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- b. Recordkeeping Requirements The results of all inspections and any variance from the manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a cyclone logbook. Records of all maintenance activities shall be recorded in the logbook. The cyclone logbook (in written or electronic format) shall be kept on-site and made available to DAQ personnel upon request.
- 11. <u>FABRIC FILTER REQUIREMENTS</u> including cartridge filters, baghouses, and other dry <u>filter particulate collection devices</u> As required by 15A NCAC 2D .0611, particulate matter emissions shall be controlled as described in the permitted equipment list.
  - a. <u>Inspection and Maintenance Requirements</u> The inspection, maintenance and record keeping requirements shall become effective. To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform, at a minimum, an annual (for each 12 month period following the initial inspection) internal inspection of each bagfilter system. In addition, the Permittee shall perform periodic inspections and maintenance as recommended by the equipment manufacturer.
  - b. Recordkeeping Requirements The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit (when applicable) shall be investigated with corrections made and dates of actions recorded in a fabric filter logbook. Records of all maintenance activities shall be recorded in the logbook. The logbook (in written or electronic format) shall be kept on-site and made available to DAQ personnel upon request.
- 12. TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING
  REQUIREMENT Pursuant to 15A NCAC 2D .1100 "Control of Toxic Air Pollutants," and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

Affected Source(s)	Toxic Air Pollutant	Emission Limit
Direct wood-fired rotary dryer	Acrolein (107-02-8)	0.28 lb/hr
(ID No.RD-1)	Benzene (71-43-2)	665 lbs/yr
	Formaldehyde (50-00-0)	1.77 lbs/hr

- a. <u>Restrictions</u> To ensure compliance with the above limits, the following restrictions shall apply:
  - i. The amount of wood pellet production at the facility shall not exceed 141,450 tons per 12-month period.
  - ii. The wood pellet production shall not exceed 18.4 tons per hour, and
  - iii. The twin high efficiency cyclone structure (ID No. HEC-1) shall be located **no closer than 108 feet** from the nearest property line or easement.

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- b. Reporting Requirements For compliance purposes, within 30 days after each calendar year, regardless of the actual emissions, the following shall be reported to the Regional Supervisor, DAQ:
  - i. The monthly and annual total tons of wood pellet production at the facility for the previous 12 months.
  - ii. The maximum daily wood pellet production for the previous 12 months.
- c. Recordkeeping Requirements The following recordkeeping requirements apply:
  - i. The Permittee shall record the daily, monthly, and annual wood pellet production, in tons, for the previous 12 month period.
- 13. <u>CONTROL AND PROHIBITION OF ODOROUS EMISSIONS</u> As required by 15A NCAC 2D .1806 "Control and Prohibition of Odorous Emissions" the Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.
- 14. <u>LIMITATION TO AVOID 15A NCAC 2Q .0501</u> Pursuant to 15A NCAC 2Q .0315 "Synthetic Minor Facilities," to avoid the applicability of 15A NCAC 2Q .0501 "Purpose of Section and Requirement for a Permit," as requested by the Permittee, facility-wide emissions shall be less than the following:

Pollutant	Emission Limit (Tons per consecutive 12-month period)
$PM_{10}$	100
$NO_x$	100
VOC	100

- a. <u>Operations Restrictions</u> To ensure emissions do not exceed the limitations above, the following restrictions shall apply:
  - i. The annual wood pellet production shall not exceed 141,450 tons per consecutive 12-month period.
- b. <u>Recordkeeping Requirements</u>-The Permittee shall record monthly and total annually the following:
  - i. The amount of wood pellet production for the previous 12 months;
  - ii.  $NO_x$ ,  $PM_{10}$  and VOC emissions for the previous 12 months. The annual emissions must be calculated for each of the 12-month periods over the previous 14 months and;
  - iii. A logbook, in electronic or paper format, indicating the amount of wood pellet production and NO<sub>x</sub>, PM<sub>10</sub>, and VOC emissions shall be kept on site

- and made available to DAQ personnel upon request. The Permittee shall be deemed in noncompliance if recordkeeping requirements are not maintained.
- c. <u>Reporting Requirements</u> Within 30 days after each calendar year, regardless of the actual emissions, the Permittee shall submit the following:
  - i. The monthly and annual total tons of wood pellet production for the previous 12 months;
  - ii. The monthly and total annually NO<sub>x</sub>, PM<sub>10</sub> and VOC emissions for the previous 12 months. The annual emissions must be calculated for each of the 12-month periods over the previous 14 months.
- 15. <u>LIMITATION TO AVOID 15A NCAC 2D .0530 "PREVENTION OF SIGNIFICANT DETERIORATION"</u> In accordance with 15A NCAC 2Q .0317, to comply with this permit and avoid the applicability of 15A NCAC 2D .0530 "Prevention of Significant Deterioration," as requested by the Permittee, emissions shall be limited as follows:

 Affected Source(s)	Pollutant	Emission Limit (Tons Per Consecutive 12-month Period)
Facility Wide	PM <sub>10</sub>	250

- a. <u>Operations Restrictions</u> To ensure emissions do not exceed the limitations above, the following restrictions shall apply:
  - By complying with the operational restrictions listed in stipulation 15A NCAC 2Q .0315, Limitation to Avoid 15A NCAC 2Q .0501 (Permit Condition 14), the Permittee shall have also complied with the operational requirements for 15A NCAC 2Q .0317, Limitation to Avoid 15A NCAC 2D .0530
- 16. TOXIC AIR POLLUTANT EMISSIONS LIMITATION REQUIREMENT Pursuant to 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit," for each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.
  - a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
  - b. <u>PRIOR</u> to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".

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c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

Pollutant	Carcinogens (lb/yr)	Chronic Toxicants (lb/day)	Acute Systemic Toxicants (lb/hr)	Acute Irritants (lb/hr)
Acetaldehyde (75-07-0)		en majam ni jagang majajang ng pagang ng pagang ng pagang ng ng paga pinina, niven,		6.8
MEK (78-93-3)		78	The state of the s	22.4
Methylene chloride (75-09-2)	1600		0.39	and the second s
Phenol (108-95-2)		armagamurhad ugan ng meropamgaga, nopamban ng game game gamenga	0.24	an malay at the first paying contributed and an analysis and an analysis and an anti-
Styrene (100-42-5)		en er fil fall med general fall fall franchen general fall general fall fall fall fall fall fall fall f	2.7	a mailine dimensione a destrice construir de l'estre de
Toluene (108-88-3)		98		14.4
Xylene (1330-20-7)		57	The state of the s	16.4

#### **B. GENERAL CONDITIONS AND LIMITATIONS**

1. TWO COPIES OF ALL DOCUMENTS, REPORTS, TEST DATA, MONITORING DATA, NOTIFICATIONS, REQUESTS FOR RENEWAL, AND ANY OTHER INFORMATION REQUIRED BY THIS PERMIT shall be submitted to the:

Regional Air Quality Supervisor North Carolina Division of Air Quality Fayetteville Regional Office Systel Building 225 Green Street, Suite 714 Fayetteville, NC 28301-5094 (910) 433-3300

- 2. <u>RECORDS RETENTION REQUIREMENT</u> Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. These records must be kept on site for a minimum of 2 years, unless another time period is otherwise specified.
- 3. <u>ANNUAL FEE PAYMENT</u> Pursuant to 15A NCAC 2Q .0203(a), the Permittee shall pay the annual permit fee within 30 days of being billed by the DAQ. Failure to pay the fee in a timely manner will cause the DAQ to initiate action to revoke the permit.
- 4. <u>EQUIPMENT RELOCATION</u> A new air permit shall be obtained by the Permittee prior to establishing, building, erecting, using, or operating the emission sources or air cleaning equipment at a site or location not specified in this permit.
- 5. This permit is subject to revocation or modification by the DAQ upon a determination that information contained in the application or presented in the support thereof is incorrect,

conditions under which this permit was granted have changed, or violations of conditions contained in this permit have occurred. The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air cleaning device(s) and appurtenances.

- 6. <u>REPORTING REQUIREMENT</u> Any of the following that would result in previously unpermitted, new, or increased emissions must be reported to the Regional Supervisor, DAQ:
  - a. changes in the information submitted in the application regarding facility emissions;
  - b. changes that modify equipment or processes of existing permitted facilities; or
  - c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

- 7. This permit is nontransferable by the Permittee. Future owners and operators must obtain a new air permit from the DAQ.
- 8. This issuance of this permit in no way absolves the Permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the effective date of this permit.
- 9. This permit does not relieve the Permittee of the responsibility of complying with all applicable requirements of any Federal, State, or Local water quality or land quality control authority.
- 10. Reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Regional Supervisor, DAQ at such intervals and in such form and detail as may be required by the DAQ. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 11. A violation of any term or condition of this permit shall subject the Permittee to enforcement pursuant to G.S. 143-215.114A, 143-215.114B, and 143-215.114C, including assessment of civil and/or criminal penalties.
- 12. Pursuant to North Carolina General Statute 143-215.3(a)(2), no person shall refuse entry or access to any authorized representative of the DAQ who requests entry or access for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

- 13. The Permittee must comply with any applicable Federal, State, or Local requirements governing the handling, disposal, or incineration of hazardous, solid, or medical wastes, including the Resource Conservation and Recovery Act (RCRA) administered by the Division of Waste Management.
- 14. <u>PERMIT RETENTION REQUIREMENT</u> The Permittee shall retain a current copy of the air permit at the site. The Permittee must make available to personnel of the DAQ, upon request, the current copy of the air permit for the site.
- 15. <u>CLEAN AIR ACT SECTION 112(r) REQUIREMENTS</u> Pursuant to 40 CFR Part 68 "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)," if the Permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the Federal Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.
- 16. PREVENTION OF ACCIDENTAL RELEASES GENERAL DUTY Pursuant to Title I Part A Section 112(r)(1) of the Clean Air Act "Hazardous Air Pollutants Prevention of Accidental Releases Purpose and General Duty," although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release. This condition is federally-enforceable only.
- 17. GENERAL EMISSIONS TESTING AND REPORTING REQUIREMENTS If emissions testing is required by this permit, or the DAQ, or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow all DAQ procedures including protocol approval, regional notification, report submittal, and test results approval.

Permit issued this the 12<sup>th</sup> of November, 2009. NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Steven F. Vozzo

Regional Air Quality Supervisor

By Authority of the Environmental Management Commission

Air Permit No. 10012R00