ENVIVA PELLETS 2014
P/N 10203
NORTHAMPTON COUNTY

C J

CENTRAL OFFICE PERMIT TRACKING SLIP

Facility Name: Enviva Pellets Northampton, LLC **Facility/Application ID:** 6600167.13D

County/Regional Office: Northampton/RRO **Engineer:** Jenny Kelvington

Send Regional Office Copy of Application: ◉ Yes ○ No

PART I - ACCEPTANCE CHECKLIST

Acknowledgement Letter: ○ Already Sent ◉ Please Send

Initial Event(s): ☑ TV-Ack./Complete ☐ State Ack. Letter due
☐ TV-Ack./Incomplete add info ☐ State App. not accepted – add info request

Fee Information:

Amount Due:
☐ PSD or NSR/NAA $13,837
☐ PSD and NSR/NAA $26,913
☐ TV Greenfield $ 9,140
☑ TV $ 889
☐ Ownership Change $60, $50, $25
☐ Renewal/Name Change – NA

Initial Amount Received: $889.00
Additional Amount Due: $0.00

Acceptance Check List:

	Yes	No	N/A
Appropriate Number of Apps Submitted *# Received*____, *#Needed*____	☑	☐	☐
Application Fee Submitted	☑	☐	☐
Zoning Addressed	☑	☐	☐
Authorized Signature	☑	☐	☐
PE Seal	☐	☐	☑
Request for Confidentiality	☐	☑	
Application Contains Toxics Modification(s)	☑	☐	☐

PART II - IBEAM UPDATES

Application Type:
☐ Additional Permit
☐ Administrative Amendment
☐ Appeal
☐ Greenfield Facility
☐ Last GACT/Toxics
☐ Last MACT/Toxics
☑ Modification
☐ Name Change
☐ New Permit
☐ Ownership Change
☐ Renewal
☐ Renewal w/Modification

Permit Application Schedule:
☐ Appeal ☐ Director Administrative Amendment
☐ Expedited State ☑ State
☐ PSD
☐ TV – State Only ☐ TV – 502(b)(10)
☐ TV – Expedited ☐ TV – Minor
☐ TV – Greenfield ☐ TV – Renewal
☐ TV – Reopen for Cause ☐ TV – Significant (2Q .0501(c)(2))
☐ TV – Administrative ☐ TV – Significant
☐ TV – Ownership Change ☐ TV – 1st Time

PART III - COMPLETENESS CHECKLIST

☐ Required Application Forms Submitted and Completed
☐ Supporting Materials & Calculations Received
☐ PE Seal (If 15A NCAC 2Q .0112)
☐ Modeling Protocol Acceptance
☐ Confirmation of Pollutants Modeled
☐ E5 Form (Significant Modifications)

PART IV - GENERAL COMMENTS

Withdrawn

PART V - SUPERVISOR REVIEW CHECKLIST

TVEE Updated (by Engineer): JK 10/17/13 TVEE Verified: JS 10/17/2013 Supervisor:________ Chief:________

PART VI - CLOSEOUT INFORMATION

Regulations Applicable to This Application (indicate all new regulations):

☐ NESHAPS/MACT ☐ PSD/NSR ☐ Toxics/Combustion Sources After 7/10/10
☐ NESHAPS/GACT ☐ PSD/NSR Avoidance ☐ SIP Regulations (list all new):
☐ NSPS ☐ Existing Source RACT/LAER
☐ 2D .1100 ☐ New Source RACT/LAER
☐ 2Q .0711 ☐ RACT Avoidance
☐ 2Q .0705 Last MACT/Toxics ☐ RACT/LAER Added Fee*
**(Notify Connie Horne)*

Permit Class Information
Before: ☐ Small ☐ Syn. Minor ☐ Title V ☐ Proh. Small ☐ General
After: ☐ Title V

HAP Major Status (after) ☐ Major ☐ Minor ☐ Not Determined
PSD or NSR Status (after) ☐ Major ☐ Minor

Miscellaneous ☐ Multiple Permits at Facility ☐ Multi-Site Permit ☐ Recycled Oil Condition

Permit Dates Issue:________ Effective:________ Expiration:________

IBEAM Closed Out By:________ Permit Number:________ Revision Number:________

☐ Public Notice Published ☐ Public Notice Affidavit (if not noticed via DAQ Website)
Document Manager Updated by Engineer:________ Date:________

DIVISION OF AIR QUALITY
October 17, 2013

MEMORANDUM

TO: Jenny Kelvington, Environmental Engineer, RCO
Permit Coordinator, RRO

FROM: Tom Anderson, Meteorologist II, AQAB

THROUGH: Mark Cuilla, Supervisor, Air Quality Analysis Branch (AQAB)

SUBJECT: Review of Revised Toxics Modeling Analysis – Enviva Pellets Northampton, LLC
Facility ID: 6600167
Gaston, NC Northampton County

I have reviewed the dispersion modeling analysis, received October 1, 2013, for the Enviva Pellets facility located in Northampton County, NC. The company wishes to add two internal combustion engines at their facility and the modeling was submitted in order to evaluate acrolein and formaldehyde whose rates are expected to exceed the levels outlined in 15A NCAC 2Q .0700. The analysis also included an evaluation of NO_2; however, this was not required as part of the permitting process and will not be discussed in this memo. The modeling adequately demonstrates compliance, on a source-by-source basis, for both toxics.

Acrolein and formaldehyde are emitted from the wood dryer, fire water pump, portable chipper, truck tipper engine, and an emergency generator. Emission rates and stack parameters used in the modeling are provided in the attached tables.

AERMOD using the latest available year (2012) of meteorological data from Rocky Mount/Wilson (surface) and Newport (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 25-meter intervals and extended outward to a distance of approximately 2 kilometers at 100 meter spacing. The following table shows the maximum impact for each toxic:

…table on following page…

Table 1.
Maximum Impacts
Enviva Pellets – Northampton County, NC

Pollutant	Averaging Period	% of AAL
Acrolein	1-hour	1 %
Formaldehyde	1-hour	4 %

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

cc: Mark Cuilla
Tom Anderson
Lori Cherry, TPB

Table 2-1. Modeled Source Locations

Model ID[1]	Description	UTM-E (m)	UTM-N (m)	Elevation (m)
EP1	Dryer WESP Stack	266,019.5	4,042,777.6	48.9
EP9	Emergency Generator	266,059.5	4,042,779.1	48.8
EP10	Firewater Pump	266,045.0	4,043,085.3	46.9
PORTCHP	Portable Greenwood Chipper	265,851.1	4,042,565.5	47.6
TRKTPPR	Truck Tipper Engine	265,954.2	4,042,680.6	47.9

[1] Note that in the most recent permit application update, the Emergency Generator Emission ID has been changed to EP14 and the Firewater Pump Emission ID has been changed to EP15.

Table 2-2. Modeled Source Parameters

Model ID[1]	Stack Height (m)	Stack Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
EP1	28.65	396.48	15.94	2.44
EP9	4.57	920.00	78.30	0.10
EP10	4.57	954.00	109.18	0.08
PORTCHP	6.10	310.93	19.81	0.91
TRKTPPR	1.39	803.15	0.01	0.15

[1] Note that in the most recent permit application update, the Emergency Generator Emission ID has been changed to EP14 and the Firewater Pump Emission ID has been changed to EP15.

Table 2-3. Modeled Emission Rates

Pollutant	Modeled Emission Rates (g/s)				
	EP1	EP9	EP10	PORTCHP	TRKTPPR
Acrolein	1.782E-01	2.855E-05	2.448E-05	1.061E-04	1.389E-05
Formaldehyde	1.085E+00	3.643E-04	3.122E-04	1.353E-03	1.772E-04
NO_x	4.070E+00	1.450E-01	1.243E-01	1.722E+00	1.410E-01

Comprehensive Application Report for 6600167.13D

10/11/2013

Enviva Pellets Northampton, LLC - Garysburg (6600167)

Northampton County

General Information:	Permit/Latest Revision: 10203/ R02
Permit code:	State
Application type:	Modification
Engineer/Rev. location:	Jenny Kelvington/RCO
Regional Contact:	Charles McEachern
Facility location:	Raleigh Regional Office
Facility classification:	Title V
Clock is ON	Application is COMPLETE
Status is :	In progress

Application Dates

Received	Completeness Due	Clock Start	Calculated Issue Due
10/10/2013	11/24/2013	10/10/2013	01/08/2014

Fee Information

Initial amount:	Date received:	Amount Due:	Add. Amt Rcv'd:	Date Rcv'd:
$889.00	10/10/2013	0.00		

Fund type:	Deposit Slip #:	Location rec'd:	Location deposited:
2333		RCO	RCO

Contact Information

Type	Name	Address	City State ZIP	Telephone
Technical/Permit	Joe Harrell, EHS Manager	142 NC Route 561 East	Ahoskie, NC 27910	(252) 209-6032
Authorized	Pete Najera, VP Operations	7200 Wisconsin Avenue	Bethesda, MD 20814	(757) 274-8377

Acceptance Criteria

Received?	Acceptance Criteria Description
Yes	Application fee
Yes	Appropriate number of apps submitted
Yes	Zoning Addressed
Yes	Source recycling/reduction form
Yes	Authorized signature
N/A	PE Seal
Yes	Application contains toxic modification(s)

Completeness Criteria

Received?	Complete Item Description

Application Events

Event	Start	Due	Complete	Comments	Staff
TV - Acknowledgment/Complete	10/10/2013	10/20/2013	10/11/2013		cjhorne

Regulations Pertaining to this Permit

Reference Rule		Regulation Description
2Q	.0317	Avoidance Conditions
Part 60 - NSPS	Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
2D	.0515	Particulates Miscellaneous Industrial Processes
2D	.0516	Sulfur Dioxide Emissions Combustion Sources
2D	.0521	Control of Visible Emissions
2D	.0524	New Source Performance Standards
2D	.1100	Control of Toxic Air Pollutants
2D	.1111	Maximum Achievable Control Technology
Part 63 - NESHAP/MACT	Subpart ZZZZ	Reciprocating Internal Combustion Engines
Avoidance	2D .0530	Prevention of Significant Deterioration

Audit Information Pertaining to this Application

Column Name	Date Changed	Old Value	New Value	Editor

NCDENR
North Carolina Department of Environment and Natural Resources
Division of Air Quality
Sheila C. Holman
Director

Pat McCrory
Governor

John E. Skvarla, III
Secretary

October 11, 2013

Mr. Pete Najera
VP Operations
Enviva Pellets Northampton, LLC
7200 Wisconsin Avenue
Suite 1100
Bethesda, MD 20814

SUBJECT: Receipt of Permit Application
Modification of Permit No. 10203R02
Application No. 6600167.13D
Enviva Pellets Northampton, LLC
Facility ID: 6600167, Garysburg, Northampton County

Dear Mr. Najera:

Your air permit application (6600167.13D) for Enviva Pellets Northampton, LLC, located in Northampton County, North Carolina was received by this Division on October 10, 2013.

This application submittal **did** contain all the required elements as indicated and has been accepted for processing. Your application will be considered complete as of October 10, 2013, unless informed otherwise by this office within 60 days.

Should you have any questions concerning this matter, please contact Jenny Kelvington at (919) 707-8481.

Sincerely,

Connie J. Horne

Donald van der Vaart, Ph.D., P.E., J.D.
Chief, Permits Section

cc: Raleigh Regional Office Files

Permitting Section
1641 Mail Service Center, Raleigh, North Carolina 27699-1641
217 West Jones Street, NC 27603
Phone: 919-707-8405 / FAX: 919-715-0717
Internet: www.ncair.org

Zoning Consistency Determination

Facility Name	Enviva Pellets Northampton, LLC
Facility Street Address	874 Lebanon Church Road
Facility City	Gaston
Description of Process	Wood pellet manufacturing facility
SIC Code/NAICS	SIC – 2499 ; NAICS - 321999
Facility Contact	Joe Harrell
Phone Number	(252) 209-6032
Mailing Address	142 N.C. Route 561 East
Mailing City, State Zip	Ahoskie, NC 27910

Based on the information given above:

- ☐ I have received a copy of the air permit application (draft or final) AND...
- ☐ There are no applicable zoning and subdivision ordinances for this facility at this time
- ☑ The proposed operation IS consistent with applicable zoning and subdivision ordinances
- ☐ The proposed operation IS NOT consistent with applicable zoning and subdivision ordinances (please include a copy of the rules in the package sent to the air quality office)
- ☐ The determination is pending further information and can not be made at this time
- ☐ Other:

Received
SEP 19 2013
Air Permits Section

Agency	Northampton County Planning & Zoning
Name of Designated Official	William E. Flynn, Jr.
Title of Designated Official	Planning & Zoning Director
Signature	William E. Flynn, Jr.
Date	9/18/13

Please forward to the mailing address listed above and the air quality office at the appropriate address as checked on the back of this form.

Courtesy of the Small Business Assistance Program
toll free at 1-877-623-6748 or on the web at www.envhelp.org/sb

All PSD and Title V Applications

X Attn: Dr. Donald van der Vaart, PE
DAQ – Permitting Section
1641 Mail Service Center
Raleigh, NC 27699-1641

Local Programs

☐ Attn: David Brigman
Western NC Regional Air Quality Agency
49 Mount Carmel Road
Asheville, NC 28806
(828) 250-6777

☐ Attn: Donald R. Willard
Mecklenburg County Air Quality
700 N. Tryon Street, Suite 205
Charlotte, NC 28202-2236
(704) 336-5500

☐ Attn: Robert R. Fulp
Forsyth County
Environmental Affairs Department
537 N. Spruce Street
Winston-Salem, NC 27101-1362
(336) 703-2440

Division of Air Quality Regional Offices

☐ Attn: Paul Muller
Asheville Regional Office
2090 U.S. Highway 70
Swannanoa, NC 28778
(828) 296-4500

☐ Attn: Steven Vozzo
Fayetteville Regional Office
225 Green Street Suite 714
Fayetteville, NC 28301
(910) 433-3300

☐ Attn: Ron Slack
Mooresville Regional Office
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

☐ Attn: Patrick Butler, PE
Raleigh Regional Office
1628 Mail Service Center
Raleigh, NC 27699-1628
(919) 791-4200

☐ Attn: Robert Fisher
Washington Regional Office
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481

☐ Attn: Wayne Cook
Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

☐ Attn: Margaret Love, PE
Winston-Salem Regional Office
585 Waughtown Street
Winston-Salem, NC 27107
(336) 771-5000

1 Copley Parkway | Suite 310 | Morrisville, NC 27560 | P (919) 462-9693 | F (919) 462-9694
trinityconsultants.com

Trinity Consultants

September 18, 2013

Dr. Don van der Vaart
North Carolina Division of Air Quality (NC DAQ)
217 West Jones Street
Raleigh, NC 27603

RE: ***Permit Application to Add Internal Combustion Engines***
Enviva Pellets Northampton, LLC
Facility ID #660067.11A, Permit #10203R02

Dear Dr. van der Vaart:

Enviva Pellets Northampton, LLC (Enviva) was issued a construction and operating permit (DAQ Permit #10203R02) on September 9, 2013. Enviva is submitting this air quality permit application that addresses the addition of two (2) reciprocating internal combustion engines (RICE), which necessitated a revision to the previous air toxics dispersion modeling evaluation submitted to the NC DAQ.

Four copies of the air permit application, a CD ROM containing related air dispersion modeling files, and the required permit application fee of $889 are enclosed.

Please note that there is an urgent need to bring the portable chipper to the site as soon as possible. Accordingly, Enviva is requesting that this permit application be processed as soon as possible.

DESCRIPTION OF PROCESS CHANGES

The following list of emission sources are impacted by the changes proposed in this application:

1) Addition of one (1) portable chipper engine with a capacity rating of up to 1,300 horsepower; and

2) Addition of one (1) truck tipping engine with a capacity rating of up to 170 horsepower.

Emission estimates for emission units included in this application are provided in Attachment 1.

Addition of Portable Chipper Engine
In addition to the main chipper (ES-CHIP-1), a portable green wood chipper (ES-CHIP-2) will periodically be used at this site, primarily during periods when the electric chipper is not operating. Portable chippers will only be used intermittently at the site and will not remain at the site year-round. This portable chipper will be a diesel-fired unit of up to 1,300 brake horsepower. Only emissions from fuel combustion were included in Attachment 1, since annual emissions from chipping of wood (i.e. VOC and methanol) have already been accounted for in potential-to-emit calculations for the main chipper. Per vendor specifications, criteria emissions factors comply with NSPS Subpart IIII Tier 2 emission standards, even though they are not subject to NSPS IIII. Hazardous air pollutant (HAP) emission factors are obtained from AP-42 Section 3.3.

Enviva is proposing a federally enforceable limit of 1,000 hours of operation annually. Use of the portable diesel-fired chipper will be minimized because its operating costs are considerably higher (e.g., fuel and rental) than the permanent on-site electric-powered chipper that will be utilized.

Addition of Truck Tipper Engine
A separate 170 horsepower diesel-fired RICE engine (ES-TT) will be used at the facility to power a truck tipper used in the green wood handling and storage operations (IES-GWHS) for unloading trucks delivering pre-chipped wood to the site. Although this engine will only be present at the site for several months (less than a year), vendor information provided for this unit indicates that it will meet NSPS Subpart IIII Tier 3 emission standards as shown in Attachment 1. Hazardous air pollutant (HAP) emission factors are obtained from AP-42 Section 3.3 and as a simplifying assumption, emissions estimates are based on 8,760 hours per year.

EMISSIONS ESTIMATES

As indicated earlier, emissions estimates for the new emission units are provided in Attachment 1. Attachment 1 also contains revised facility-wide emissions, HAP summary emissions, and a comparison of facility-wide toxic air pollutant (TAP) emissions to the North Carolina toxic pollutant emission rate (TPER). No new toxics are above the TPER rates triggering modeling; however, several TAPs that were previously permitted are also emitted from these engines.

REGULATORY APPLICABILITY

New Source Performance Standards, 40 CFR Part 60 (15A NCAC 2D .0524 New Source Performance Standards) -- NSPS Subpart IIII
NSPS Subpart IIII applies to owners or operators of **stationary** compression ignition (CI) internal combustion engines (ICE) manufactured after April 1, 2006 that are not fire pump engines, and fire pump engines manufactured after July 1, 2006. Stationary internal combustion engine means any internal combustion engine that is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined in

40 CFR 1068.30. According to 40 CFR 1068.30(2)(iii) an ICE is not a nonroad engine if the engine remains or will remain at a location for more than 12 consecutive months.

The proposed engines are not intended to be in place for 12 or more consecutive months and are therefore are not considered stationary sources. Therefore, the portable chipper and truck tipper are not subject to NSPS IIII.

15A NCAC 02D .0516 Sulfur Dioxide Emissions from Combustion Sources
Under this regulation, emissions of sulfur dioxide from combustion sources cannot exceed 2.3 pounds of sulfur dioxide per million Btu input. Low sulfur diesel is combusted in the two portable engines, resulting in operation well below regulatory limits.

15A NCAC 02D .0521 Control of Visible Emissions
Under this regulation, for sources manufactured after July 1, 1971, visible emissions cannot be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent opacity under the following conditions:

- No six-minute period exceeds 87 percent opacity,
- No more than one six-minute period exceeds 20 percent opacity in any hour, and
- No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

This rule applies to all processes that may have a visible emission, including the diesel-fired engines.

15A NCAC 02Q .0500 Title V Procedures
Enviva is requesting that the procedures of 15A NCAC 2Q .0504 be applied to this project allowing direct issuance of a construction and operating permit under 15A NCAC 2D .0300. Enviva will submit a permit application for a Title V permit for these sources along with its initial Title V application for the entire facility

15A NCAC 02Q .0700 Toxic Air Pollutant Procedures
This regulation requires that certain new and modified sources of toxic air pollutants with emissions exceeding specified de minimis values apply for an air toxics permit. Facility-wide emissions of several compounds emitted from the site exceeded the permitting de minimis level in initial permitting. A comparison of emissions to de minimis values are summarized in Table 3. As shown in Table 3 no new toxics air pollutants were triggered as a result of the addition of the portable chipper or truck tipper. However, air dispersion modeling has been updated for several compounds previously submitted to reflect revised facility wide toxics emission as discussed in later in this application.

APPLICATION FORMS AND LOCAL ZONING CONSISTENCY

Permit application forms for the new sources are provided in Attachment 2.

A zoning consistency determination request, provided in Attachment 3, is being submitted in conjunction with this application. Enviva will forward a copy of the proof of receipt from the local zoning department as soon as it has been received.

REVISED AIR DISPERSION MODELING

The new engines emit two (2) previously triggered TAPs, acrolein and formaldehyde. The previously submitted modeling compliance demonstration has been updated to include the new sources and model data. Since the engines are also sources of NO_x emissions, the previously requested 1-hour NO_2 NAAQS analysis was also updated. A report summarizing the revised air dispersion modeling evaluation and results is provided in Attachment 4.

CLOSING

Enviva would greatly appreciate prompt processing of this application. Feel free to contact me at 919-462-9693 or Joe Harrell of Enviva at (252) 209-6032 with any questions or comments.

Sincerely,

Joe Sullivan

Joe Sullivan, PE, CM
Managing Consultant

Attachments

ATTACHMENT 1

UPDATED EMISSIONS CALCULATIONS

TABLE 1
FACILITY-WIDE CRITERIA POLLUTANT SUMMARY
ENVIVA PELLETS NORTHAMPTON, LLC

Source Description	Unit ID	CO (tpy)	NOx (tpy)	TSP (tpy)	PM-10 (tpy)	PM-2.5 (tpy)	SO2 (tpy)	VOC (tpy)	CO_{2e} (tpy)
Dryer System	ES-DRYER	193.09	124.74	27.77	27.77	27.77	19.05	183.05	3,316.66
Emergency Generator	ES-EG	0.50	0.58	0.03	0.03	0.03	0.00	0.00	93.35
Fire Water Pump	ES-FWP	0.43	0.49	0.02	0.02	0.02	0.00	0.00	80.02
Hammermills/ Nuisance Dust System	ES-HM-1 thru 7/ ES-NDS	-	-	13.52	13.52	13.52	-	-	-
Pellet Mill Feed Silo	ES-PMFS	-	-	0.28	0.28	0.28	-	-	-
Pellet Mill Fines Bin	ES-PFB	-	-	0.41	0.41	0.41	-	-	-
Pellet Coolers	ES-CLR1 thru -6	-	-	38.52	35.05	21.19	-	-	-
Log Debarking/Chipping	ES-CHIP-1	-	-	-	-	-	-	1.44	-
Rechipping	ES-RCHP-1, -2	-	-	-	-	-	-	1.44	-
Finished Product Handling/ Pellet Loadout Bins/ Pellet Loadout Areas	ES-FPH/ ES-PL1 & 2/ ES-PB-1 thru 12	-	-	4.00	3.64	2.20	-	-	-
Diesel Storage Tanks	TK1 & TK2	-	-	-	-	-	-	3.79E-03	-
Portable Chipper	ES-CHIP-2	3.74	6.83	0.21	0.21	0.21	2.57E-03	6.83	693.47
Truck Tipper	ES-TT	6.13	4.90	0.37	0.37	0.37	2.95E-03	4.90	90.68
	Total Emissions	**203.89**	**137.54**	**85.12**	**81.29**	**65.99**	**19.06**	**197.67**	**4,274.18**

TABLE 2
FACILITYWIDE HAP EMISSIONS SUMMARY
ENVIVA PELLETS NORTHAMPTON, LLC

Description	ES-DRYER (tpy)	ES-EG (tpy)	ES-FWP (tpy)	ES-CHIP-2 (tpy)	ES-TT (tpy)	ES-CHIP-1 (tpy)	ES-RCHP-1, -2 (tpy)	Total (tpy)
1,3-Butadiene	-	2.39E-05	2.05E-05	1.78E-04	2.04E-04	-	-	0.00
Acetaldehyde	2.60E+00	4.70E-04	4.03E-04	3.49E-03	4.00E-03	-	-	2.61
Acetophenone	2.44E-06	-	-	-	-	-	-	0.00
Acrolein	7.97E-01	5.67E-05	4.86E-05	4.21E-04	4.83E-04	-	-	0.80
Antimony & Compounds	4.37E-04	-	-	-	-	-	-	0.00
Arsenic & Compounds	1.22E-03	-	-	-	-	-	-	0.00
Benzene	2.63E-01	5.71E-04	4.90E-04	4.25E-03	4.87E-03	-	-	0.27
Beryllium metal (un-reacted) (Also include in BEC)	6.08E-05	-	-	-	-	-	-	0.00
Cadmium Metal (elemental un-reacted) –(Add w/CDC)	2.27E-04	-	-	-	-	-	-	0.00
Carbon tetrachloride	3.43E-02	-	-	-	-	-	-	0.03
Chlorine	6.02E-01	-	-	-	-	-	-	0.60
Chlorobenzene	2.51E-02	-	-	-	-	-	-	0.03
Chromium–Other compds (add w/chrom acid to get CRC)	9.67E-04	-	-	-	-	-	-	0.00
Cobalt compounds	3.59E-04	-	-	-	-	-	-	0.00
Chloroform	3.47E-03	-	-	-	-	-	-	0.00
Cumene	6.93E-02	-	-	-	-	-	-	0.07
Dinitrophenol, 2,4-	1.37E-04	-	-	-	-	-	-	0.00
Di(2-ethylhexyl)phthalate (DEHP)	3.58E-05	-	-	-	-	-	-	0.00
Ethyl benzene	2.36E-02	-	-	-	-	-	-	0.02
Ethylene dichloride (1,2-dichloroethane)	2.21E-02	-	-	-	-	-	-	0.02
Formaldehyde	4.85E+00	7.23E-04	6.20E-04	5.37E-03	6.16E-03	-	-	4.87
Hydrogen chloride (hydrochloric acid)	1.45E+00	-	-	-	-	-	-	1.45
Lead and Lead compounds	2.65E-03	-	-	-	-	-	-	0.00
m-,p-Xylene	1.66E-01	1.75E-04	1.50E-04	1.30E-03	1.49E-03	-	-	0.17
Manganese & compounds	8.84E-02	-	-	-	-	-	-	0.09
Mercury, vapor (Include in Mercury&Compds)	2.67E-03	-	-	-	-	-	-	0.00
Methanol	3.81E+00	-	-	-	-	0.31	0.31	4.43
Methyl bromide (bromomethane)	1.14E-02	-	-	-	-	-	-	0.01
Methyl chloride (chloromethane)	1.75E-02	-	-	-	-	-	-	0.02
Methyl chloroform (1,1,1 trichloroethane)	2.36E-02	-	-	-	-	-	-	0.02
Methyl ethyl ketone	4.12E-03	-	-	-	-	-	-	0.00
Methyl isobutyl ketone	2.39E-01	-	-	-	-	-	-	0.24
Methylene chloride	6.24E-02	-	-	-	-	-	-	0.06
Nickel metal (Component of Nickel & Compounds)	2.51E-02	-	-	-	-	-	-	0.03
Nitrophenol, 4-	8.38E-05	-	-	-	-	-	-	0.00
o-Xylene	1.56E-02	-	-	-	-	-	-	0.02
Pentachlorophenol	3.89E-05	-	-	-	-	-	-	0.00
Perchloroethylene (tetrachloroethylene)	2.90E-02	-	-	-	-	-	-	0.03
Phenol	9.71E-01	-	-	-	-	-	-	0.97
Phosphorus Metal, Yellow or White	2.06E-02	-	-	-	-	-	-	0.02
Polychlorinated biphenyls	6.21E-06	-	-	-	-	-	-	0.00
Propionaldehyde	4.51E-01	-	-	-	-	-	-	0.45
Propylene dichloride (1,2 dichloropropane)	2.51E-02	-	-	-	-	-	-	0.03
Selenium compounds	2.13E-03	-	-	-	-	-	-	0.00
Styrene	1.25E-02	-	-	-	-	-	-	0.01
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-	6.55E-09	-	-	-	-	-	-	0.00
Toluene	4.51E-01	2.51E-04	2.15E-04	1.86E-03	2.14E-03	-	-	0.46
Total PAH (POM)	9.53E-02	1.03E-04	8.82E-05	7.64E-04	8.77E-04	-	-	0.10
Trichloroethylene	2.29E-02	-	-	-	-	-	-	0.02
Trichlorophenol, 2,4,6-	1.68E-05	-	-	-	-	-	-	0.00
Vinyl chloride	1.37E-02	-	-	-	-	-	-	0.01
TOTAL HAP	**17.31**	**2.37E-03**	**2.03E-03**	**1.76E-02**	**2.02E-02**	**0.31**	**0.31**	**17.97**

TABLE 3
DETERMINATION OF POLLUTANTS SUBJECT TO AIR TOXICS PERMITTING
ENVIVA PELLETS NORTHAMPTON, LLC

TAP Emissions

Description	Dryer			Emergency Generator			Fire Water Pump			Portable Chipper			Truck Tipper			Total		
Pollutant	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)
1,3-Butadiene			0.00E+00			4.79E-02			3.11E-02									8.93E-02
Acetaldehyde	4.61E+00			1.88E-03			1.61E-03			6.98E-03		3.49E-03	9.14E-04		4.00E-03	4.62E+00		
Acrolein	1.41E+00			2.27E-04			1.94E-04			8.42E-04		4.21E-04	1.10E-04		4.83E-04	1.42E+00		
Arsenic			2.43E+00															2.43E+00
Benzene			5.27E+02			1.14E+00			9.80E-01									5.29E+02
Benzo(a)pyrene			3.96E+00			2.30E-04			1.97E-04									3.96E+00
Beryllium			1.22E-01															1.22E-01
Cadmium			4.53E-01															4.53E-01
Carbon Tetrachloride			6.86E+01															6.86E+01
Chlorine	1.37E-01	3.30E+00														1.37E-01	3.30E+00	
Chlorobenzene		1.38E-01															1.38E-01	
Chloroform			6.93E+00															6.93E+00
Chromic acid (Chromium VI)		1.06E-03															1.06E-03	
Di(2-ethylhexyl)phthalate (DEHP)		1.96E-04															1.96E-04	
Ethylene dichloride (1,2-dichloroethane)			4.42E+01															4.42E+01
Formaldehyde	8.61E+00			2.89E-03			2.48E-03			1.07E-02		5.37E-03	1.41E-03		6.16E-03	8.63E+00		
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8			2.44E+00															2.44E+00
Hydrogen chloride (hydrochloric acid)	3.31E-01															3.31E-01		
Manganese & compounds		4.84E-01															4.84E-01	
Mercury, vapor (Include in Mercury&Compds)		1.46E-02															1.46E-02	
Methyl chloroform (1,1,1 trichloroethane)	5.39E-03	1.29E-01														5.39E-03	1.29E-01	
Methyl ethyl ketone	9.40E-04	2.26E-02														9.40E-04	2.26E-02	
Xylene	3.23E-01	7.75E+00		6.98E-04	1.68E-02		5.99E-04	1.44E-02		2.59E-03	6.22E-02	1.30E-03	3.40E-04	8.15E-03	1.49E-03	3.27E-01	7.85E+00	
Methyl isobutyl ketone	4.24E-01	1.02E+01														4.24E-01	1.02E+01	
Methylene chloride	1.11E-01		1.25E+02													1.11E-01		1.25E+02
Nickel metal (Component of Nickel & Compounds)		1.38E-01															1.38E-01	
Pentachlorophenol	8.87E-06	2.13E-04														8.87E-06	2.13E-04	
Perchloroethylene (Tetrachloroethylene)			5.79E+01															5.79E+01
Phenol	1.72E+00															1.72E+00		
Polychlorinated Biphenyls			1.24E-02															1.24E-02
Styrene	2.21E-02															2.21E-02		
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-			1.31E-05															1.31E-05
Toluene		1.92E+01			2.40E-02			2.06E-02			8.93E-02			1.17E-02			1.93E+01	
Trichloroethylene			4.57E+01															4.57E+01
Trichlorofluoromethane (CFC 11)	7.13E-03															7.13E-03		
Vinyl chloride			2.74E+01															2.74E+01

TPER Comparison Table

Pollutant	Total			TPER (Eq. .0711)			Modeling Required?
	(lb/hr)	(lb/day)	(lb/yr)	(lb/hr)	(lb/day)	(lb/yr)	
1,3-Butadiene			8.93E-02			1.10E+01	No
Acetaldehyde	4.62E+00			6.80E+00			No
Acrolein	1.42E+00			2.00E-02			Yes
Arsenic			2.43E+00			1.60E-02	Yes
Benzene			5.29E+02			8.10E+00	Yes
Benzo(a)pyrene			3.96E+00			2.20E+00	Yes
Beryllium			1.22E-01			2.80E-01	No
Cadmium			4.53E-01			3.70E-01	Yes
Carbon Tetrachloride			6.86E+01			4.60E+02	No
Chlorine	1.37E-01	3.30E+00		2.30E-01	7.90E-01		Yes
Chlorobenzene		1.38E-01			4.60E+01		No
Chloroform			6.93E+00			2.90E+02	No
Chromic acid (Chromium VI)		1.06E-03			1.30E-02		No
Di(2-ethylhexyl)phthalate (DEHP)		1.96E-04			6.30E-01		No
Ethylene dichloride (1,2-dichloroethane)			4.42E+01			2.60E+02	No
Formaldehyde	8.63E+00			4.00E-02			Yes
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8			2.44E+00			5.10E-03	Yes
Hydrogen chloride (hydrochloric acid)	3.31E-01			1.80E-01			Yes
Manganese & compounds		4.84E-01			6.30E-01		No
Mercury, vapor (Include in Mercury&Compds)		1.46E-02			1.30E-02		Yes
Methyl chloroform (1,1,1 trichloroethane)	5.39E-03	1.29E-01		6.40E+01	2.50E+02		No
Methyl ethyl ketone	9.40E-04	2.26E-02		2.24E+01	7.80E+01		No
Xylene	3.27E-01	7.85E+00		1.64E+01	5.70E+01		No
Methyl isobutyl ketone	4.24E-01	1.02E+01		7.60E+00	5.20E+01		No
Methylene chloride	1.11E-01		1.25E+02	3.90E-01		1.60E+03	No
Nickel metal (Component of Nickel & Compounds)		1.38E-01			1.30E-01		Yes
Pentachlorophenol	8.87E-06	2.13E-04		6.40E-03	6.30E-02		No
Perchloroethylene (tetrachloroethylene)			5.79E+01			1.30E+04	No
Phenol	1.72E+00			2.40E-01			Yes
Polychlorinated biphenyls			1.24E-02			5.60E+00	No
Styrene	2.21E-02			2.70E+00			No
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-			1.31E-05			2.00E-01	No
Toluene		1.93E+01			9.80E+01		No
Trichloroethylene			4.57E+01			4.00E+03	No
Trichlorofluoromethane (CFC 11)	7.13E-03			1.40E+02			No
Vinyl chloride			2.74E+01			2.60E+01	Yes

Portable Chipper (ES-CHIP-2)

Equipment and Fuel Characteristics

Engine Output	0.97	MW
Engine Power	1,300	hp
Hours of Operation	1,000	hr/yr
Heating Value of Diesel	19,300	Btu/lb
Power Conversion	2,545	Btu/hr/hp

Criteria Pollutant Emissions

Pollutant	Category	Emission Factor	Units	Potential Emissions	
				lb/hr	tpy
TSP	PSD	0.20	g/KW-hr	0.43	0.21
PM_{10}	PSD	0.20	g/KW-hr	0.43	0.21
$PM_{2.5}$	PSD	0.20	g/KW-hr	0.43	0.21
NO_x	PSD	6.4	g/KW-hr	13.67	6.83
SO_2	PSD	15	ppmw (3)	0.0051	2.57E-03
CO	PSD	3.50	g/KW-hr	7.47	3.74E+00
VOC (NMHC)	PSD	6.4	g/KW-hr	13.67	6.83E+00
Toxic/Hazardous Air Pollutant Emissions					
Acetaldehyde	HAP/TAP	5.37E-06	lb/hp-hr (4)	6.98E-03	3.49E-03
Acrolein	HAP/TAP	6.48E-07	lb/hp-hr (4)	8.42E-04	4.21E-04
Benzene	HAP/TAP	6.53E-06	lb/hp-hr (4)	8.49E-03	4.25E-03
Benzo(a)pyrene[5]	HAP/TAP	1.32E-09	lb/hp-hr (4)	1.71E-06	8.55E-07
1,3-Butadiene	HAP/TAP	2.74E-07	lb/hp-hr (4)	3.56E-04	1.78E-04
Formaldehyde	HAP/TAP	8.26E-06	lb/hp-hr (4)	1.07E-02	5.37E-03
Total PAH (POM)	HAP	1.18E-06	lb/hp-hr (4)	1.53E-03	7.64E-04
Toluene	HAP/TAP	2.86E-06	lb/hp-hr (4)	3.72E-03	1.86E-03
Xylene	HAP/TAP	2.00E-06	lb/hp-hr (4)	2.59E-03	1.30E-03
Highest HAP (Formaldehyde)		8.26E-06	lb/hp-hr (4)	1.07E-02	5.37E-03
Total HAPs				3.52E-02	1.76E-02

Note:

[1] Emissions factors from NSPS Subpart IIII Tier 2 (or 40 CFR 89.112 where applicable).

[2] Use of ultra low sulfur disel at 15 ppmw.

[3] Emission factor obtained from AP-42 Section 3.3, Tables 3.3-1 Table 3.3-2.

[4] Emission factor for NOx is listed as NOx and NMHC (Non-Methane Hydrocarbons or VOC) in Table 4 of NSPS Subpart IIII. Conservatively assumed entire limit attributable to NOx and VOC.

[5] Benzo(a)pyrene is included as a HAP in Total PAH.

Truck Tipper Engine

Equipment and Fuel Characteristics

Engine Output	0.13	MW
Engine Power	170	hp
Hours of Operation	8,760	hr/yr
Heating Value of Diesel	19,300	Btu/lb
Power Conversion	2,545	Btu/hr/hp

Criteria Pollutant Emissions

Pollutant	Category	Emission Factor	Units	Potential Emissions	
				lb/hr	tpy
TSP	PSD	0.30	g/KW-hr	0.084	0.368
PM_{10}	PSD	0.30	g/KW-hr	0.084	0.368
$PM_{2.5}$	PSD	0.30	g/KW-hr	0.084	0.368
NO_x	PSD	4.0	g/KW-hr	1.12	4.90
SO_2	PSD	15	ppmw (3)	0.0007	2.95E-03
CO	PSD	5.00	g/KW-hr	1.40	6.13E+00
VOC (NMHC)	PSD	4.0	g/KW-hr	1.12	4.90E+00
Toxic/Hazardous Air Pollutant Emissions					
Acetaldehyde	HAP/TAP	5.37E-06	lb/hp-hr (4)	9.14E-04	4.00E-03
Acrolein	HAP/TAP	6.48E-07	lb/hp-hr (4)	1.10E-04	4.83E-04
Benzene	HAP/TAP	6.53E-06	lb/hp-hr (4)	1.11E-03	4.87E-03
Benzo(a)pyrene[5]	HAP/TAP	1.32E-09	lb/hp-hr (4)	2.24E-07	9.82E-07
1,3-Butadiene	HAP/TAP	2.74E-07	lb/hp-hr (4)	4.66E-05	2.04E-04
Formaldehyde	HAP/TAP	8.26E-06	lb/hp-hr (4)	1.41E-03	6.16E-03
Total PAH (POM)	HAP	1.18E-06	lb/hp-hr (4)	2.00E-04	8.77E-04
Toluene	HAP/TAP	2.86E-06	lb/hp-hr (4)	4.88E-04	2.14E-03
Xylene	HAP/TAP	2.00E-06	lb/hp-hr (4)	3.40E-04	1.49E-03
Highest HAP (Formaldehyde)		8.26E-06	lb/hp-hr (4)	1.41E-03	6.16E-03
Total HAPs				4.62E-03	2.02E-02

Note:

[1] Emissions factors from NSPS Subpart IIII Tier 3 (or 40 CFR 89.112 where applicable).

[2] Use of ultra low sulfur disel at 15 ppmw.

[3] Emission factor obtained from AP-42 Section 3.3, Tables 3.3-1 Table 3.3-2.

[4] Emission factor for NOx is listed as NOx and NMHC (Non-Methane Hydrocarbons or VOC) in Table 4 of NSPS Subpart IIII. Conservatively assumed entire limit attributable to NOx and VOC.

[5] Benzo(a)pyrene is included as a HAP in Total PAH.

Potential GHG Emissions

Operating Data:

Dryer Heat Input	174.00 MMBtu/hr
Operating Schedule	8,760 hrs/yr
Emergency Generator Output	350 bhp
Operating Schedule	500 hrs/yr
No. 2 Fuel Input	16.7 gal/hr[1]
Energy Input	2.282 MMBtu/hr[2]
Fire Water Pump Output	300 bhp
Operating Schedule	500 hrs/yr
No. 2 Fuel Input	14.3 gal/hr[1]
Energy Input	1.956 MMBtu/hr[2]
Portable Chipper Output	1,300 bhp
Operating Schedule	1,000 hrs/yr
No. 2 Fuel Input	61.9 gal/hr[1]
Energy Input	8.478 MMBtu/hr[2]
Truck TipperOutput	170 bhp
Operating Schedule	1,000 hrs/yr
No. 2 Fuel Input	8.1 gal/hr[1]
Energy Input	1.109 MMBtu/hr[2]

Emission Unit ID	Fuel Type	Emission Factors from Table C-1 (kg/MMBtu)[3]			Tier 1 Emissions (metric tons)			
		CO2	CH4	N2O	CO2	CH4	N2O	Total CO2e
ES-DRYER	Wood and Wood Residuals	0.00E+00	3.20E-02	4.20E-03	0	54	7	3,317
ES-GN	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	93	3.77E-03	7.55E-04	93
ES-FWP	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	80	3.23E-03	6.47E-04	80
ES-CHIP-2	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	691	2.80E-02	5.61E-03	693
ES-TT	No. 2 Fuel Oil (Distillate)	7.40E+01	3.00E-03	6.00E-04	90	3.67E-03	7.33E-04	91

[1] Fuel consumption calculated using a factor of 0.0476 gal/hr-hp. Advanced Environmental Interface, Inc. (1998). General Permits for Emergency Engines. INSIGHTS, 98-2, 3.

[2] Energy calculated on a fuel consumption basis, using an energy factor of 0.137 MMBtu/gal.

[3] Emission factors from Table C-1 and C-2 of GHG Reporting Rule. Emission factors for methane and N2O already multiplied by their respective GWPs of 21 and 310.

[4] As per NC DAQ Biomass Deferral Rule 15A NCAC 02D .0544, CO2 emissions from bioenergy and other biogeneic sources are not applicable towards PSD and Title V permitting.

ATTACHMENT 2

UPDATED FACILITY AND SOURCE FORMS

Received
OCT 01 2013
Air Permits Section

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) ☑ Application Fee
☑ Responsible Official/Authorized Contact Signature ☑ Appropriate Number of Copies of Application ☑ P.E. Seal (if required)

GENERAL INFORMATION

Legal Corporate/Owner Name:	Enviva Pellets Northampton, LLC
Site Name:	Enviva Pellets Northampton, LLC
Site Address (911 Address) Line 1:	874 Lebanon Church Road
Site Address Line 2:	
City: Garysburg	State: North Carolina
Zip Code: 27866	County: Northampton

CONTACT INFORMATION

Permit/Technical Contact:	*Facility/Inspection Contact:*
Name/Title: Joe Harrell	Name/Title: Roland Burnett
Mailing Address Line 1: 142 N.C. Route 561 East	Mailing Address Line 1: Same as Site Address
Mailing Address Line 2:	Mailing Address Line 2:
City: Ahoskie State: NC Zip Code: 27910	City: State: Zip Code:
Phone No. (area code) (252) 209-6032 Fax No. (area code)	Phone No. (area code) (910) 318-2743 Fax No. (area code)
Email Addres Joe.Harrell@envivabiomass.com	Email Address: roland.burnet@envivabiomass.com
Responsible Official/Authorized Contact:	*Invoice Contact:*
Name/Title: Pete Najera/ Vice President of Operations	Name/Title: Same as permit/technical contact
Mailing Address Line 1: 7200 Wisconsin Avenue	Mailing Address Line 1:
Mailing Address Line 2: Suite 1000	Mailing Address Line 2:
City: Bethesda State: MD Zip Code: 20814	City: State: Zip Code:
Phone No. (area code) (703) 380-9957 Fax No. (area code)	Phone No. (area code) Fax No. (area code)
Email Addres Pete.Najera@envivabiomass.com	Email Address:

APPLICATION IS BEING MADE FOR

☑ New Non-permitted Facility/Greenfield ☐ Modification of Facility (permitted) ☐ Renewal with Modification
☐ Renewal (TV Only)

FACILITY CLASSIFICATION AFTER APPLICATION (Check Only One)

☐ General ☐ Small ☐ Prohibitory Small ☐ Synthetic Minor ☑ Title V

FACILITY (Plant Site) INFORMATION

Describe nature of (plant site) operation(s): Facility ID No. : (to be assigned)
Wood pellet manufacturing facility

Primary SIC/NAICS Code: 2499 (Wood Products, Not Elsewhere Classified)	Current/Previous Air Permit No. 10203R02 Expiration Date 2/28/2017
Facility Coordinates: Latitude: 256,700 UTM E	Longitude: 4,042,900 UTM N
Does this application contain confidential data? ☐ YES	☑ NO

PERSON OR FIRM THAT PREPARED APPLICATION

Person Name: Joe Sullivan	Firm Name: Trinity Consultants, Inc.
Mailing Address Line 1: One Copley Parkway	Mailing Address Line 2: Suite 310
City: Morrisville State: North Carolina	Zip Code: 27560 County: Wake
Phone No. (919) 462-9693 Fax No. (919) 462-9694	Email Address: Jsullivan@trinityconsultants.com

SIGNATURE OF RESPONSIBLE OFFICIAL/AUTHORIZED CONTACT

Name (typed) Pete Najera	Title: Vice President of Operations
X Signature(Blue Ink): Pete Najera	Date: Sept 20, 2013

Attach Additional Sheets As Necessary

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 — A2

EMISSION SOURCE ID NO.	EMISSION SOURCE DESCRIPTION	CONTROL DEVICE ID NO.	CONTROL DEVICE DESCRIPTION
EMISSION SOURCE LISTING: New, Modified, Previously Unpermitted, Replaced, Deleted			
Equipment To Be ADDED By This Application (New, Previously Unpermitted, or Replacement)			
ES-CHIP-2	Portable Chipper	N/A	N/A
ES-TT	Truck Tipper	N/A	N/A
Existing Permitted Equipment To Be MODIFIED By This Application			
Equipment To Be DELETED By This Application			

112(r) APPLICABILITY INFORMATION — A3

Is your facility subject to 40 CFR Part 68 "Prevention of Accidental Releases" - Section 112(r) of the Federal Clean Air Act? Yes / (No)

If No, please specify in detail how your facility avoided applicability:

Envive Pellets Ahoskie, LLC will not handle any of the substances subject to 112(r)

If your facility is Subject to 112(r), please complete the following:

A. Have you already submitted a Risk Management Plan (RMP) to EPA Pursuant to 40 CFR Part 68.10 or Part 68.150?
Yes ☐ No ☐ Specify required RMP submittal date: _____ If submitted, RMP submittal date: _____

B. Are you using administrative controls to subject your facility to a lesser 112(r) program standard?
Yes ☐ No ☐ If yes, please specify: _____

Attach Additional Sheets As Necessary

FORM A4

SURVEY OF AIR EMISSIONS AND FACILITY - WIDE REDUCTION & RECYCLING ACTIVITIES

DATE:	Does facility have an environmental mangement system in place? ( ) YES (X) NO If so, is facility ISO 14000 Certified? ( ) YES (X) NO				
Facility Name:	Enviva Pellets Northampton, LLC		Permit Number:	10203R02	
Facility ID:	N/A (to be assigned)	County: Northampton	Environmental Contact:	Joe Harrell	
Mailing Address Line 1:	874 Lebanon Church Road		Phone No. ( )	(252) 209-6032	Fax No. ( )
Mailing Address Line 2:			Zip Code:	27866	County: Northampton
City:	Garysburg	State: North Carolina	Email Address:	Joe.Harrell@envivabiomass.com	

AIR EMISSIONS SOURCE REDUCTIONS Any Air Emissions Source Reductions in the past year? ( ) YES (X) NO

Source Description and	Air Pollutant	Enter Code for Emission Reduction Option (See Codes)	Date Reduction Option Implemented (mo/yr)	Quantity Emitted from prior annual report to DAQ (lb/yr)	Quantity Emitted from current annual report to DAQ (lb/yr)	Has reduction activity been discontinued? If so, when was it discontinued? (mo/yr)	Addition detail about source
N/A							

Comments:

FACILITY - WIDE REDUCTIONS & RECYCLING ACTIVITIES Any Reductions or Recycling Activities in the past year? ( ) YES (X) NO

Source Description or Activity	Pollutant or Recycled or Reduced Material	Enter Code for Emission Reduction Option (See Codes)	Date Reduction Option Implemented (mo/yr)	Quantity Emitted from prior annual report	Quantity Emitted from current annual report	Has reduction activity been discontinued? If so, when was it discontinued? (mo/yr)	Addition detail about source
N/A							

Comments:

The requested information above shall be used for fulfilling the requirements of North Carolina General Statute 143-215.108(g). The permit holder shall submit to the Department a written description of current and projected plans to reduce the emissions of air pollutants by source reduction or recycling. The written description shall accompany any application for a new permit, modification of an existing permit and for each annual air quality permit fee payment. Source reduction is defined as reducing the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal. If no activity has taken place since the previous report, simply indicate so by checking the no box in that section. Once completed, this form should be submitted along with your fee payment. Examples are listed on the first line of each section of the form for your benefit.

N.C. Division of Pollution Prevention and Environmental Assistance

POLLUTION PREVENTION PAYS

REVISED 1/07

Attach Additional Sheets As Necessary

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

AIR POLLUTANT EMITTED	EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr
PARTICULATE MATTER (PM)	See attached calculations		
PARTICULATE MATTER < 10 MICRONS (PM_{10})			
PARTICULATE MATTER < 2.5 MICRONS ($PM_{2.5}$)			
SULFUR DIOXIDE (SO2)			
NITROGEN OXIDES (NOx)			
CARBON MONOXIDE (CO)			
VOLATILE ORGANIC COMPOUNDS (VOC)			
LEAD			
OTHER			

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION - FACILITY-WIDE

HAZARDOUS AIR POLLUTANT EMITTED	CAS NO.	EXPECTED ACTUAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (BEFORE CONTROLS / LIMITATIONS) tons/yr	POTENTIAL EMISSIONS (AFTER CONTROLS / LIMITATIONS) tons/yr
		N/A - HAP emissions are not impacted by this application		

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.

TOXIC AIR POLLUTANT EMITTED	CAS NO.	lb/hr	lb/day	lb/year	Modeling Required ? Yes	No	

COMMENTS:

Attach Additional Sheets As Necessary

FORM B

SPECIFIC EMISSIONS SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 12/01/01 — **NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate** — **B**

EMISSION SOURCE DESCRIPTION: **Portable Chipper (up to 1,300 bhp)**	EMISSION SOURCE ID NO: **ES-CHIP-2**
OPERATING SCENARIO **1** OF **1**	CONTROL DEVICE ID NO(S): **N/A**
	EMISSION POINT (STACK) ID NO(S): **EP-9**

DESCRIBE IN DETAILTHE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):
Diesel-fired internal combustion chipper to provide additional chipping to the primary chipper.

TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES):

☐ Coal,wood,oil, gas, other burner (Form B1)	☐ Woodworking (Form B4)	☐ Manufact. of chemicals/coatings/inks (Form B7)
■ Int.combustion engine/generator (Form B2)	☐ Coating/finishing/printing (Form B5)	☐ Incineration (Form B8)
☐ Liquid storage tanks (Form B3)	☐ Storage silos/bins (Form B6)	☐ Other (Form B9)

START CONSTRUCTION DATE: **TBD**	OPERATION DATE: **TBD**	DATE MANUFACTURED: **TBD**
MANUFACTURER / MODEL NO.: **TBD**	EXPECTED OP. SCHEDULE: **24** HR/DAY **7** DAY/WK **52** WK/YR	
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):____	NESHAP (SUBPART?):____	MACT (SUBPART?):____
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB **25%**	MAR-MAY **25%**	JUN-AUG **25%** SEP-NOV **25%**
EXPECTED ANNUAL HOURS OF OPERATION **1,000**	VISIBLE STACK EMISSIONS UNDER NORMAL OPERATION: **<20** % OPACITY	

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

AIR POLLUTANT EMITTED	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) lb/hr	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) tons/yr
PARTICULATE MATTER (PM)	**See Emission Calculations in Attachment 1**						
PARTICULATE MATTER<10 MICRONS (PM_{10})							
PARTICULATE MATTER<2.5 MICRONS ($PM_{2.5}$)							
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

HAZARDOUS AIR POLLUTANT AND CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) lb/hr	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) tons/yr
	See Emission Calculations in Attachment 1						

TOXIC AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

INDICATE EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS

TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb/hr	lb/day	lb/yr
	See Emission Calculations in Attachment 1			

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source.

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

Attach Additional Sheets As Necessary

FORM B2
EMISSION SOURCE (INTERNAL COMBUSTION ENGINES/GENERATORS)

REVISED 12/01/01 — NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate — **B2**

EMISSION SOURCE DESCRIPTION: **Portable Chipper (up to 1,300 bhp)**	EMISSION SOURCE ID NO: **ES-CHIP-2**
	CONTROL DEVICE ID NO(S): **N/A**
OPERATING SCENARIO: **1** OF **1**	EMISSION POINT (STACK) ID NO(S): **TBD**

CHECK ALL THAT APPLY ☐ EMERGENCY ☐ SPACE HEAT ☐ ELECTRICAL GENERATION ☐ PEAK SHAVER ☐ OTHER (DESCRIBE):

GENERATOR OUTPUT (KW): — ANTICIPATED ACTUAL HOURS OF OPERATION AS PEAK SHAVER (HRS/YR):

ENGINE OUTPUT (HP): **1,300**

TYPE ICE: ☐ GASOLINE ENGINE ☐ DIESEL ENGINE UP TO 600 HP ☐ DIESEL ENGINE GREATER THAN 600 HP ☐ DUAL FUEL ENGINE ☐ OTHER (DESCRIBE): (complete below)

ENGINE TYPE ☐ RICH BURN ☐ LEAN BURN N/A

EMISSION REDUCTION MODIFICATIONS ☐ INJECTION TIMING RETARD ☐ PREIGNITION CHAMBER COMBUSTION ☐ OTHER

OR ☐ STATIONARY GAS TURBINE (complete below)

FUEL: ☐ NATURAL GAS ☐ OIL ☐ OTHER (DESCRIBE):

CYCLE: ☐ COGENERATION ☐ SIMPLE ☐ REGENERATIVE ☐ COMBINED

CONTROLS: ☐ WATER-STEAM INJECTION ☐ UNCONTROLLED ☐ LEAN-PREMIX

☐ NATURAL GAS PIPELINE COMPRESSOR OR TURBINE (complete below)

ENGINE TYPE: ☐ 2-CYCLE LEAN BURN ☐ 4-CYCLE LEAN ☐ TURBINE ☐ 4-CYCLE RICH BURN ☐ OTHER (DESCRIBE):

CONTROLS: ☐ COMBUSTION MODIFICATIONS (DESCRIBE): ☐ NONSELECTIVE CATALYTIC REDUCTION ☐ SELECTIVE CATALYTIC REDUCTION ☐ CLEAN BURN AND PRECOMBUSTION CHAMBER ☐ UNCONTROLLED

FUEL USAGE (INCLUDE STARTUP/BACKUP FUEL)

FUEL TYPE	UNITS	MAXIMUM DESIGN CAPACITY (UNIT/HR)	REQUESTED CAPACITY LIMITATION (UNIT/HR)
No. 2 Fuel Oil	**gal**	**6.55**	**6.55**

FUEL CHARACTERISTICS (COMPLETE ALL THAT ARE APPLICABLE)

FUEL TYPE	BTU/UNIT	UNITS	SULFUR CONTENT (% BY WEIGHT)
No. 2 Fuel Oil	**19,300**	**lb**	**<15 ppmw**

MANUFACTURER'S SPECIFIC EMISSION FACTORS (IF AVAILABLE)

POLLUTANT	NOX	CO	PM	PM10	VOC	OTHER
EMISSION FACTOR LB/UNIT						
UNIT						

DESCRIBE METHODS TO MINIMIZE VISIBLE EMISSIONS DURING IDLING, OR LOW LOAD OPERATIONS:

Periodic equipment maintenance will minimize opacity by following manufacturers specification or common industry practices.

COMMENTS:

Attach Additional Sheets As Necessary

FORM B

SPECIFIC EMISSIONS SOURCE INFORMATION (REQUIRED FOR ALL SOURCES)

REVISED 12/01/01 — **NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate** — **B**

EMISSION SOURCE DESCRIPTION: **Truck Tipper**	EMISSION SOURCE ID NO: **ES-TT**
	CONTROL DEVICE ID NO(S): **N/A**
OPERATING SCENARIO 1 OF 1	EMISSION POINT (STACK) ID NO(S):

DESCRIBE IN DETAILTHE EMISSION SOURCE PROCESS (ATTACH FLOW DIAGRAM):
Diesel-fired internal combustion generator to provide power for unloading of pre-chipped wood deliver via trucks.

TYPE OF EMISSION SOURCE (CHECK AND COMPLETE APPROPRIATE FORM B1-B9 ON THE FOLLOWING PAGES):

☐ Coal,wood,oil, gas, other burner (Form B1)	☐ Woodworking (Form B4)	☐ Manufact. of chemicals/coatings/inks (Form B7)
■ Int.combustion engine/generator (Form B2)	☐ Coating/finishing/printing (Form B5)	☐ Incineration (Form B8)
☐ Liquid storage tanks (Form B3)	☐ Storage silos/bins (Form B6)	☐ Other (Form B9)

START CONSTRUCTION DATE: **TBD**	OPERATION DATE: **TBD**	DATE MANUFACTURED: **TBD**
MANUFACTURER / MODEL NO.: **TBD**	EXPECTED OP. SCHEDULE: **24** HR/DAY **7** DAY/WK **52** WK/YR	
IS THIS SOURCE SUBJECT TO? NSPS (SUBPART?):	NESHAP (SUBPART?):	MACT (SUBPART?):
PERCENTAGE ANNUAL THROUGHPUT (%): DEC-FEB **25%**	MAR-MAY **25%**	JUN-AUG **25%** SEP-NOV **25%**
EXPECTED ANNUAL HOURS OF OPERATION **1,000**	VISIBLE STACK EMISSIONS UNDER NORMAL OPERATION: **<20** % OPACITY	

CRITERIA AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

AIR POLLUTANT EMITTED	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) lb/hr	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) tons/yr
PARTICULATE MATTER (PM)	**See Emission Calculations in Attachment 1**						
PARTICULATE MATTER<10 MICRONS (PM_{10})							
PARTICULATE MATTER<2.5 MICRONS ($PM_{2.5}$)							
SULFUR DIOXIDE (SO2)							
NITROGEN OXIDES (NOx)							
CARBON MONOXIDE (CO)							
VOLATILE ORGANIC COMPOUNDS (VOC)							
LEAD							
OTHER							

HAZARDOUS AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

HAZARDOUS AIR POLLUTANT AND CAS NO.	SOURCE OF EMISSION FACTOR	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) lb/hr	EXPECTED ACTUAL (AFTER CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (BEFORE CONTROLS / LIMITS) tons/yr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) lb/hr	POTENTIAL EMSSIONS (AFTER CONTROLS / LIMITS) tons/yr
	See Emission Calculations in Attachment 1						

TOXIC AIR POLLUTANT EMISSIONS INFORMATION FOR THIS SOURCE

INDICATE EXPECTED ACTUAL EMISSIONS AFTER CONTROLS / LIMITATIONS

TOXIC AIR POLLUTANT AND CAS NO.	EF SOURCE	lb/hr	lb/day	lb/yr
	See Emission Calculations in Attachment 1			

Attachments: (1) emissions calculations and supporting documentation; (2) indicate all requested state and federal enforceable permit limits (e.g. hours of operation, emission rates) and describe how these are monitored and with what frequency; and (3) describe any monitoring devices, gauges, or test ports for this source.

COMPLETE THIS FORM AND COMPLETE AND ATTACH APPROPRIATE B1 THROUGH B9 FORM FOR EACH SOURCE

Attach Additional Sheets As Necessary

FORM B2
EMISSION SOURCE (INTERNAL COMBUSTION ENGINES/GENERATORS)

REVISED 12/01/01 — NCDENR/Division of Air Quality - Application for Air Permit to Construct/Operate — **B2**

EMISSION SOURCE DESCRIPTION: **Truck Tipper**	EMISSION SOURCE ID NO: **ES-TT**
	CONTROL DEVICE ID NO(S): **N/A**
OPERATING SCENARIO: **1** OF **1**	EMISSION POINT (STACK) ID NO(S): **TBD**

CHECK ALL THAT APPLY ☐ EMERGENCY ☐ SPACE HEAT ☐ ELECTRICAL GENERATION ☐ PEAK SHAVER ☐ OTHER (DESCRIBE):

GENERATOR OUTPUT (KW): — ANTICIPATED ACTUAL HOURS OF OPERATION AS PEAK SHAVER (HRS/YR):

ENGINE OUTPUT (HP): **170**

TYPE ICE: ☐ GASOLINE ENGINE ☑ DIESEL ENGINE UP TO 600 HP ☐ DIESEL ENGINE GREATER THAN 600 HP (complete below) ☐ DUAL FUEL ENGINE ☐ OTHER (DESCRIBE):

ENGINE TYPE ☐ RICH BURN ☐ LEAN BURN N/A

EMISSION REDUCTION MODIFICATIONS ☐ INJECTION TIMING RETARD ☐ PREIGNITION CHAMBER COMBUSTION ☐ OTHER

OR ☐ STATIONARY GAS TURBINE (complete below)

FUEL: ☐ NATURAL GAS ☐ OIL ☐ OTHER (DESCRIBE):

CYCLE: ☐ COGENERATION ☐ SIMPLE ☐ REGENERATIVE ☐ COMBINED

CONTROLS: ☐ WATER-STEAM INJECTION ☐ UNCONTROLLED ☐ LEAN-PREMIX

☐ NATURAL GAS PIPELINE COMPRESSOR OR TURBINE (complete below)

ENGINE TYPE: ☐ 2-CYCLE LEAN BURN ☐ 4-CYCLE LEAN ☐ TURBINE ☐ 4-CYCLE RICH BURN ☐ OTHER (DESCRIBE):

CONTROLS: ☐ COMBUSTION MODIFICATIONS (DESCRIBE): ☐ NONSELECTIVE CATALYTIC REDUCTION ☐ SELECTIVE CATALYTIC REDUCTION ☐ CLEAN BURN AND PRECOMBUSTION CHAMBER ☐ UNCONTROLLED

FUEL USAGE (INCLUDE STARTUP/BACKUP FUEL)

FUEL TYPE	UNITS	MAXIMUM DESIGN CAPACITY (UNIT/HR)	REQUESTED CAPACITY LIMITATION (UNIT/HR)
No. 2 Fuel Oil	gal	19	

FUEL CHARACTERISTICS (COMPLETE ALL THAT ARE APPLICABLE)

FUEL TYPE	BTU/UNIT	UNITS	SULFUR CONTENT (% BY WEIGHT)
No. 2 Fuel Oil	19,300	lb	<15 ppmw

MANUFACTURER'S SPECIFIC EMISSION FACTORS (IF AVAILABLE)

POLLUTANT	NOX	CO	PM	PM10	VOC	OTHER
EMISSION FACTOR LB/UNIT						
UNIT						

DESCRIBE METHODS TO MINIMIZE VISIBLE EMISSIONS DURING IDLING, OR LOW LOAD OPERATIONS:

Periodic equipment maintenance will minimize opacity by following manufacturers specification or common industry practices.

COMMENTS:

Attach Additional Sheets As Necessary

ATTACHMENT 3

LOCAL ZONING CONSISTENCY DETERMINATION

Trinity Consultants

One Copley Parkway, Suite 310, Morrisville, North Carolina 27560 U.S.A. ■ (919) 462-9693 ■ Fax (919) 462-9694

September 13, 2013

William Flynn
Planning and Zoning Director
Northampton County Planning and Zoning
102 West Jefferson Street
Jackson, NC 27845

Subject: Air Permit Application Zoning Consistency Determination Request
Enviva Pellets Northampton, LLC

Dear Mr. William Flynn,

This letter is a request for a determination of whether planned installation of two portable reciprocating internal combustion engines located at Lebanon Church Road in Gaston, NC is consistent with current local zoning requirements. A copy of the air permit application being submitted to the North Carolina Division of Air Quality (NCDAQ) is attached.

Your confirmation of zoning consistency is needed by the NCDAQ prior to issuance of the air quality construction permit. Please complete the attached form and send to the address shown on the form as soon as possible. In the interim, we would appreciate it if you would stamp this cover letter with your department's seal, sign and date next to your seal and return the sealed cover letter via FAX to my attention at (919) 462-9694. This stamp is needed to be considered administratively complete by the NC Division of Air Quality. Should you require additional information to complete your review, please do not hesitate to contact me at (919) 462-9693.

Sincerely,

Joe W. Sullivan

Joe Sullivan, PE, CM
Managing Consultant

Attachment

ATTACHMENT 4

AIR DISPERSION MODELING

Enviva Pellets Northampton, LLC •
Gaston, North Carolina

NC State Toxics Dispersion Modeling Analysis

Prepared By:

Jonathan Hill – Managing Consultant

TRINITY CONSULTANTS
One Copley Parkway
Suite 310
Morrisville, North Carolina 27560
(919) 462-9693

September 2013

Project 113401.0047

Trinity Consultants

Environmental solutions delivered uncommonly well

TABLE OF CONTENTS

1. INTRODUCTION

Enviva Pellets Northampton, LLC (Enviva) was issued a construction and operating permit (DAQ Permit #10203R02) on September 9, 2013. Enviva is submitting the attached air quality permit application to incorporate new portable chipper and truck tipper engines at the site. The new engines are sources of toxic air pollutant (TAP) emissions, however, these new engine emissions will not result in any new TAP being triggered. The engines will emit two (2) previously modeled TAP, acrolein and formaldehyde, as such, this revised modeling analysis is required as part of the application. The Northampton site previously conducted a 1-hour NO_2 NAAQS analysis to ensure that the facility would comply with that newer, more stringent standard. Since the proposed new engines are also sources of NO_x, that modeling analysis has been updated as well.

The remainder of this report summarizes the new emission source data, site layout and updated modeling approach which were used in these most recent dispersion modeling analyses.

2. DISPERSION MODELING ANALYSIS

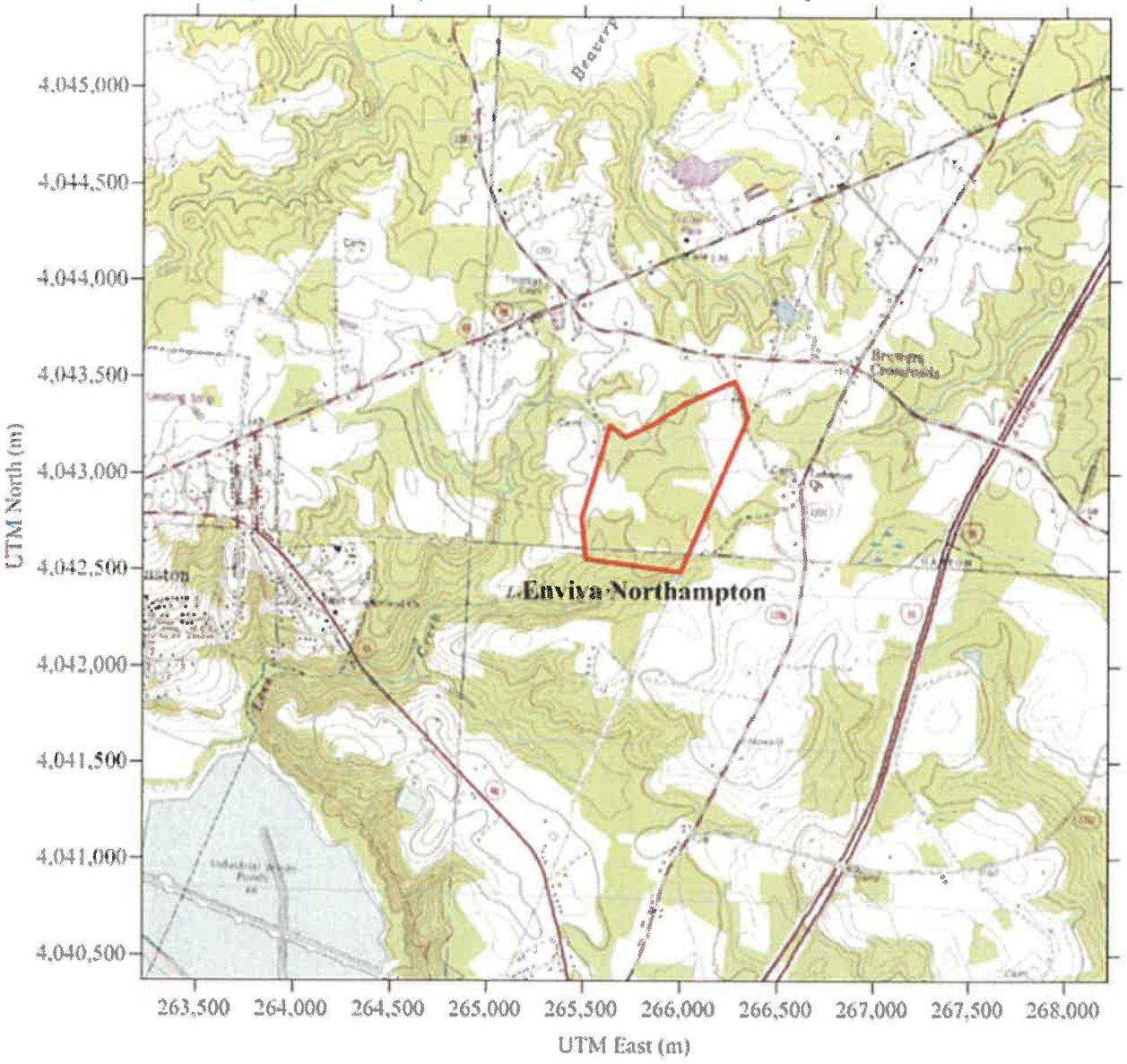
This section presents the methodology and results of the air quality dispersion modeling conducted for the proposed Enviva Wood Pellet Plant to be located near Gaston, NC (Northampton Plant). The modeling methodology used to demonstrate compliance with the NC air toxics acceptable ambient levels (AAL) conforms to the *Guidelines for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina* (December 2009). Enviva has also performed a National Ambient Air Quality Standard (NAAQS) compliance demonstration for the new, 1-hour NO_2 standard. The NAAQS modeling methodology generally conforms to both the NC *Guidelines* and U.S. EPA *Guideline on Air Quality Models*. In lieu of a modeling protocol a protocol checklist is provided in Appendix A.

2.1. FACILITY AND PROJECT DESCRIPTION

Enviva operates a wood pellets manufacturing plant in Northampton County, near Gaston, NC. The Northampton plant consists of a wood drying system along with various material handling and emergency equipment. The emission sources of regulated pollutants at the Northampton plant included in the modeling are summarized in Table 2-1.

Figure 2-1 provides a map of the area surrounding the Northampton property. The approximate central Universal Transverse Mercator (UTM) coordinates of the facility are 265.7 kilometers (km) east and 4,042.9 km north in Zone 18 (NAD 83).

Figure 2-1. Topographic Map of the Enviva Northampton Area



For modeling purposes, the appropriate urban/rural land use classification for the area was determined using the Auer technique, which is recommended in the *Guideline on Air Quality Models.* In accordance with this technique, the area within a 3-km radius of the facility was identified on US Geological Survey (USGS) topographic maps (and was delineated by land use type. More than 50 percent of the surrounding land use can be classified as undeveloped rural (i.e., Auer's A4 classification), therefore the area is classified as rural.

Potential emissions of several compounds regulated under 15A NCAC 2Q .0700 (NC Air Toxics) exceed de minimis values requiring permitting. As previously discussed, the proposed new engines emit 2 previously triggered TAPs, acrolein and formaldehyde. As such, this air dispersion modeling evaluation has been conducted to demonstrate compliance with the AAL.

In addition to the TAP updates, and since the facility was requested to model NO_2 in the past, the previously submitted 1-hour NO_2 NAAQS analysis has been updated to include the new engines, in order to demonstrate continued compliance with the recently promulgated, more stringent 1-hour NO_2 standard.

2.2. MODEL SELECTION

The latest version (12345) of the AERMOD modeling system was used to estimate maximum ground-level concentrations in all Class II Area analyses conducted for this application. AERMOD is a refined, steady-state, multiple source, Gaussian dispersion model and was promulgated in December 2005 as the preferred model for use by industrial sources in this type of air quality analysis.[1] The AERMOD model has the Plume Rise Modeling Enhancements (PRIME) incorporated in the regulatory version, so the direction-specific building downwash dimensions used as inputs are determined by the Building Profile Input Program, PRIME version (BPIP PRIME), version 04274.[2] BPIP PRIME is designed to incorporate the concepts and procedures expressed in the GEP Technical Support document, the Building Downwash Guidance document, and other related documents, while incorporating the PRIME enhancements to improve prediction of ambient impacts in building cavities and wake regions.[3]

The AERMOD modeling system is composed of three modular components: AERMAP, the terrain preprocessor; AERMET, the meteorological preprocessor; and AERMOD, the control module and modeling processor. AERMAP is the terrain pre-processor that is used to import terrain elevations for selected model objects and to generate the receptor hill height scale data that are used by AERMOD to drive advanced terrain processing algorithms. National Elevation Dataset (NED) data available from the United States Geological Survey (USGS) were utilized to interpolate surveyed elevations onto user specified receptor grids and buildings and sources in the absence of more accurate site-specific (i.e., site surveys, GPS analyses, etc.) elevation data.

AERMET generates a separate surface file and vertical profile file to pass meteorological observations and turbulence parameters to AERMOD. AERMET meteorological data are refined for a particular analysis based on the choice of micrometeorological parameters that are linked to the land use and land cover (LULC) around the meteorological site shown to be representative of the application site.

Enviva used the most recent versions of AERMOD and AERMAP (version 11103) to estimate ambient impacts from the modeled sources in the Class II area. Per NCDAQ guidelines, AERMOD was run using all regulatory default options.

---

[1] 40 CFR Part 51, Appendix W–*Guideline on Air Quality Models*, Appendix A.1– AMS/EPA Regulatory Model (AERMOD).

[2] Earth Tech, Inc., *Addendum to the ISC3 User's Guide, The PRIME Plume Rise and Building Downwash Model,* Concord, MA.

[3] U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *Guidelines for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations) (Revised),* Research Triangle Park, North Carolina, EPA 450/4-80-023R, June 1985.

2.3. SOURCE DESCRIPTION

Table 2-1 presents a table of the modeled sources and their locations at the Northampton plant. All locations are expressed in UTM Zone 18 (NAD83) coordinates.

Table 2-1. Modeled Source Locations

Model ID[1]	Description	UTM-E (m)	UTM-N (m)	Elevation (m)
EP1	Dryer WESP Stack	266,019.5	4,042,777.6	48.9
EP9	Emergency Generator	266,059.5	4,042,779.1	48.8
EP10	Firewater Pump	266,045.0	4,043,085.3	46.9
PORTCHP	Portable Greenwood Chipper	265,851.1	4,042,565.5	47.6
TRKTPPR	Truck Tipper Engine	265,954.2	4,042,680.6	47.9

[1] Note that in the most recent permit application update, the Emergency Generator Emission ID has been changed to EP14 and the Firewater Pump Emission ID has been changed to EP15.

Tables 2-2 and 2-3 present the stack parameters and emission rates input to the model for each of the sources.

Table 2-2. Modeled Source Parameters

Model ID[1]	Stack Height (m)	Stack Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)
EP1	28.65	396.48	15.94	2.44
EP9	4.57	920.00	78.30	0.10
EP10	4.57	954.00	109.18	0.08
PORTCHP	6.10	310.93	19.81	0.91
TRKTPPR	1.39	803.15	0.01	0.15

[1] Note that in the most recent permit application update, the Emergency Generator Emission ID has been changed to EP14 and the Firewater Pump Emission ID has been changed to EP15.

Table 2-3. Modeled Emission Rates

Pollutant	Modeled Emission Rates (g/s)				
	EP1	EP9	EP10	PORTCHP	TRKTPPR
Acrolein	1.782E-01	2.855E-05	2.448E-05	1.061E-04	1.389E-05
Formaldehyde	1.085E+00	3.643E-04	3.122E-04	1.353E-03	1.772E-04
NO_x	4.070E+00	1.450E-01	1.243E-01	1.722E+00	1.410E-01

2.4. METEOROLOGICAL DATA

The AERMOD modeling results were based on sequential hourly surface observations from Rocky Mount/Wilson, NC and upper air data from Newport, NC. These stations are recommended by NCDAQ for modeling facilities located in Northampton County. The base elevation for the surface station is 46 m.[4]

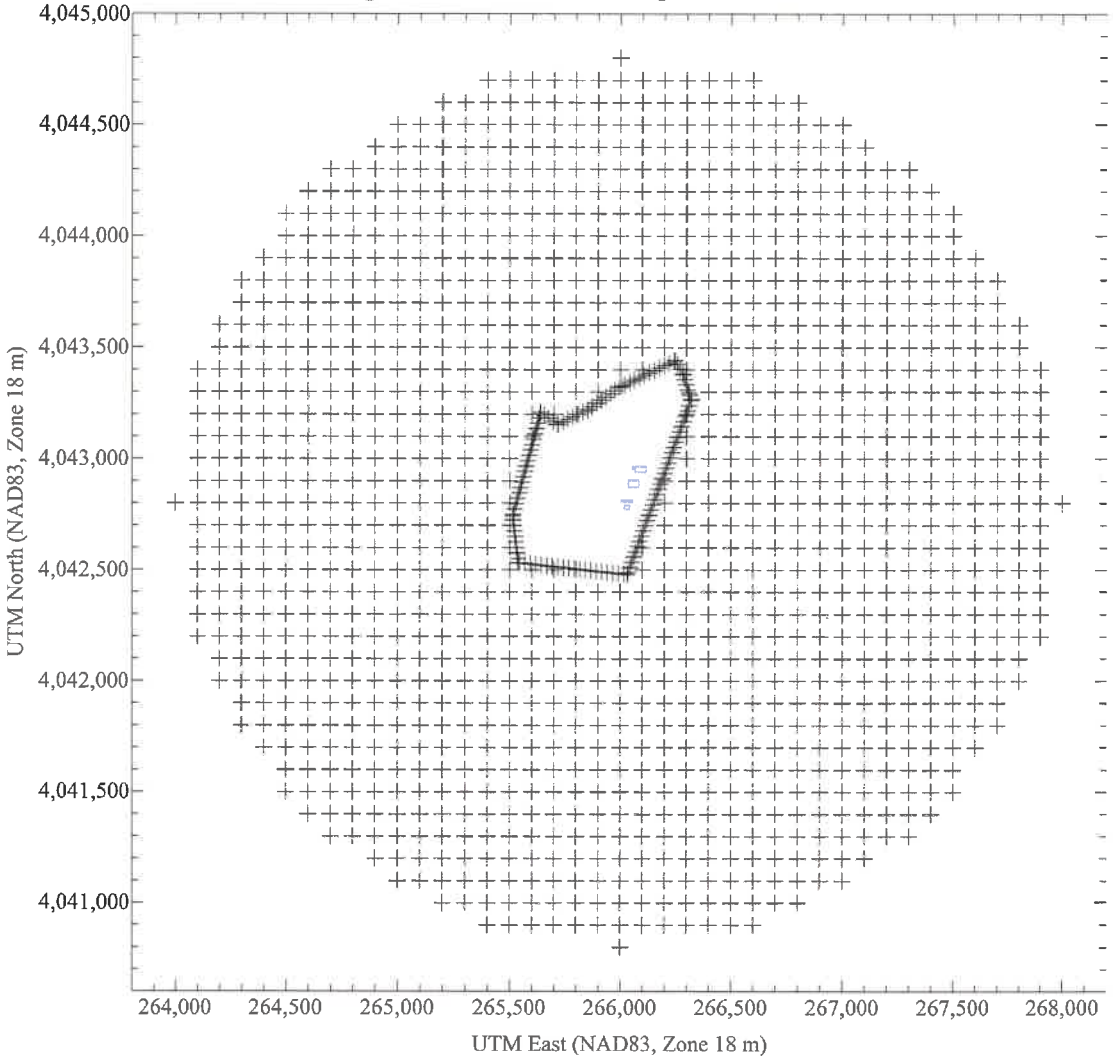
The five (5) most recent, model-ready years (2008-2012) were downloaded from the NCDAQ website.[5] As shown in Section 3.1, the TAP model impacts were all less than 50% of the AAL, so only the most recent year (2012) was input to AERMOD. For the 1-hour NO_2 NAAQS analysis, all 5 years were modeled in a concatenated file.

2.5. MODELED RECEPTORS

The receptors included in the modeling analysis consisted of property line receptors, spaced 25 meters (m) apart, and Cartesian receptor points spaced every 100 m, extending out 3 kilometers (km) from the facility. There are no public right-of-ways (e.g. roads, railways) traversing the property line, so the same receptor grid was modeled for the one-hour (1-hr) and annual TAP analyses, as well as for the 1-hour NO_2 NAAQS modeling. The impacts were reviewed to ensure that the maximum impacts were captured within the 100 m spaced grid. Figure 2-2 shows the receptors included in the modeling analysis.

[4] http://www.ncair.org/permits/mets/ProfileBaseElevations.pdf
[5] http://www.ncair.org/permits/mets/metdata.shtml

Figure 2-2. Modeled Receptor Grid



The AERMOD model is capable of handling both simple and complex terrain. Through the use of the AERMOD terrain preprocessor (AERMAP), AERMOD incorporates not only the receptor heights, but also an effective height (hill height scale) that represents the significant terrain features surrounding a given receptor that could lead to plume recirculation and other terrain interaction.[6]

Receptor terrain elevations input to the model were interpolated from National Elevation Database (NED) data obtained from the USGS. NED data consist of arrays of regularly spaced elevations. The array elevations are at a resolution of 1 arcsecond (approximately 30 m intervals) and were interpolated using the latest version of AERMAP (version 11103) to determine elevations at the defined receptor intervals. The data obtained from the NED files were checked for completeness and spot-checked for accuracy against elevations on

6 US EPA, *Users Guide for the AERMOD Terrain Preprocessor (AERMAP)*, EPA-454/B-03-003, Research Triangle Park, NC.

corresponding USGS 1:24,000 scale topographical quadrangle maps. AERMAP was also used to establish the base elevation of all Enviva structures and emission sources.

2.6. BUILDING DOWNWASH

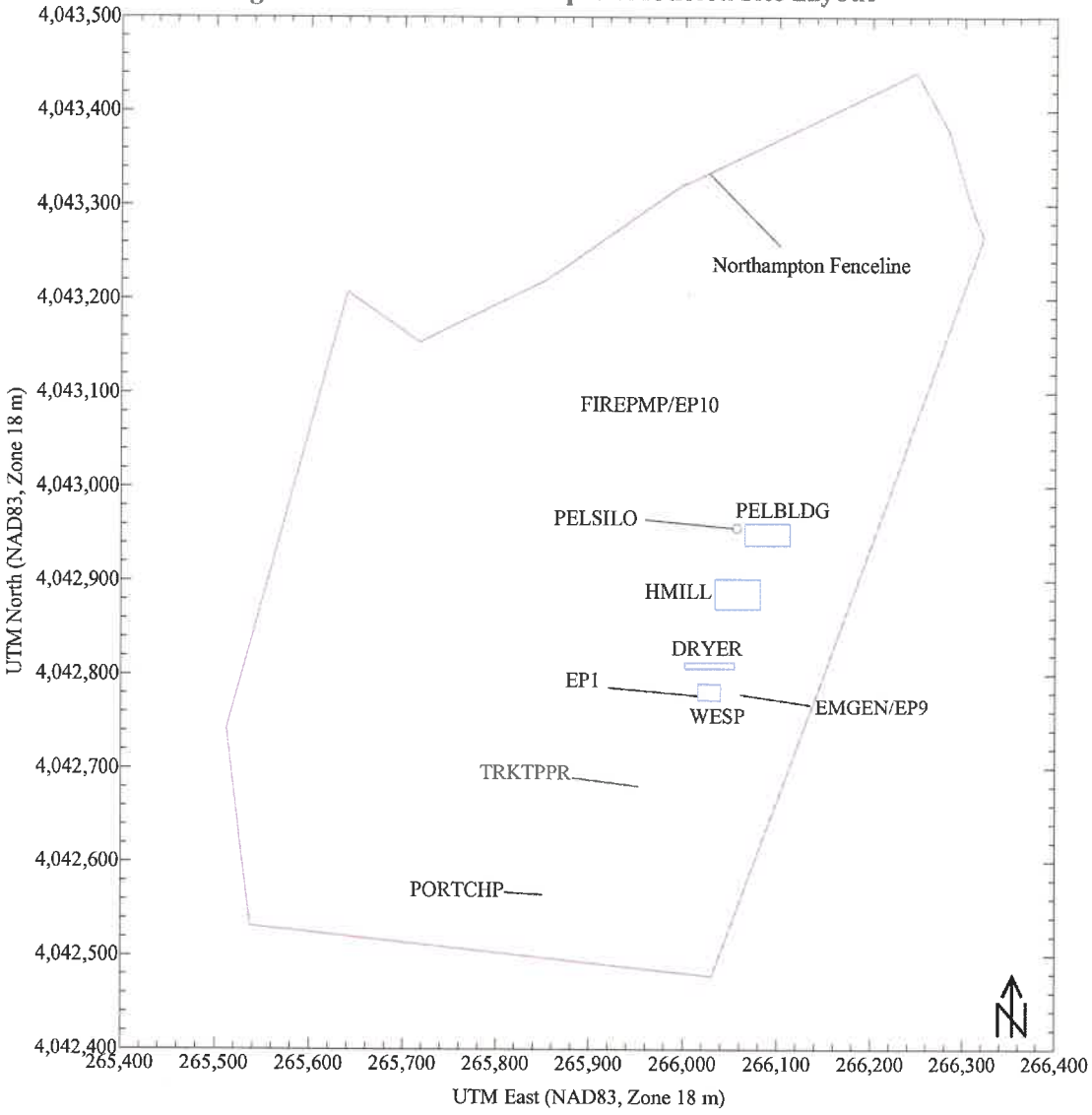
AERMOD incorporates the Plume Rise Model Enhancements (PRIME) downwash algorithms. Direction specific building parameters required by AERMOD are calculated using the BPIP-PRIME preprocessor (version 04274).

The wind direction-specific downwash dimensions and the dominant downwash structures used in this analysis were determined using BPIP-PRIME. In general, the lowest GEP stack height for any source is 65 meters by default.[7] None of the proposed emission units at the Northampton will exceed GEP height.

Figure 2-3 presents a site layout for the facility that shows the source and building arrangement as modeled.

[7] 40 CFR §51.100(ii)

Figure 2-3. Enviva Northampton Modeled Site Layout



2.7. 1-HOUR NO_2 NAAQS MODELING APPROACH

EPA's *Guideline on Air Quality Models (Guideline)*, in 40 CFR Part 51, Appendix W, recommends a tiered approach for modeling annual average NO_2 from point sources. The tiers are described in Section 6.2.3 of EPA's the *Guideline*:

a) *A tiered screening approach is recommended to obtain annual average estimates of NO_2 from point sources for New Source Review analysis, including PSD... For Tier 1 ... use an appropriate Gaussian model to estimate the maximum annual average concentration and assume a total conversion of NO to NO_2. If the concentration exceeds the NAAQS and/or PSD Increments for NO_2, proceed to the 2nd level screen.*

b) *For Tier 2 (2nd level) screening analysis, multiply the Tier 1 estimate(s) by an empirically derived NO_2/NO_X value of 0.75 (annual national default).*

c) *For Tier 3 (3rd level) analyses, a detailed screening method may be selected on a case-by-case basis. For point source modeling, detailed screening techniques such as the Ozone Limiting Method may also be considered.*

Enviva utilized the Ambient Ratio Method (ARM), or Tier 2 approach, which has evolved from previous representations of the oxidation of nitric oxide (NO) by ambient ozone and other photochemical oxidants to form nitrogen dioxide (NO_2 – the regulated ambient pollutant). EPA issued a memo on March 1, 2011 providing additional clarifications regarding application of Appendix W modeling guidance for the 1-hr NO_2 NAAQS.[8] Per the memo, EPA recommends the use of 0.80 as a default ambient ratio for the 1-hour NO_2 standard under the Tier 2 approach. Based on this updated EPA guidance, Enviva utilized 0.80 as the ambient NO_2:NO_X ratio NAAQS modeling analysis.

[8] U.S. EPA, Region 4, Memorandum from Mr. Tyler Fox to Regional Air Division Directors. Research Triangle Park, North Carolina. March 1, 2011.

This section presents the results for the modeling analyses conducted in support of Enviva Northampton's construction permit application at the existing wood pellet mill. As shown, the proposed facility will be in compliance with all applicable state TAP and NAAQS. The electronic modeling files used in the analysis are included on the CD-ROM in Appendix B.

3.1. TAP MODELING RESULTS

Table 3-1 presents the results for the NC TAP modeling analysis. As shown the impacts for all modeled TAP are below their respective AAL.

Table 3-1. TAP Modeling Results

Pollutant	Averaging Period	Max. Modeled[1] Impact ($\mu g/m^3$)	Date/Time of Impact (YYMMDDHH)	Location of Maximum UTM-E (m)	Location of Maximum UTM-N (m)	AAL ($\mu g/m^3$)	% of AAL (%)
Acrolein	1-Hour	0.90	12111814	265,866.6	4,042,496.3	80	1.13%
Formaldehyde	1-Hour	5.51	12111814	265,866.6	4,042,496.3	150	3.68%

[1] The maximum modeled impacts are based on the 2012 meterological data year only as impacts for all modeled TAP were less than 50% of their respective AAL.

3.2. 1-HOUR NO_2 MODELING RESULTS

Table 3-2 presents the modeling results from the 1-hour NO_2 NAAQS modeling analysis. As shown, the modeled impact (including background) is below the NAAQS.

Table 3-2. 1-Hour NO_2 NAAQS Modeling Results

Pollutant	Averaging Period	UTM-E (m)	UTM-N (m)	Date/Time	Modeled Concentration ($\mu g/m^3$)	Background Concentration[1] ($\mu g/m^3$)	Total Concentration ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Exceeds NAAQS? (Yes/No)
NO_2	1-Hour	266,200.0	4,042,800.0	2008-2012	124.53	32.10	156.63	188	No

[1] Background Concentrations provided in letter from Tom Anderson (NCDAQ) to Jon Hill (Trinity) on August 13, 2013.

APPENDIX A - MODELING PROTOCOL CHECKLIST

A.1

North Carolina Modeling Protocol Checklist

The North Carolina Modeling Protocol Checklist may be used in lieu of developing the traditional written modeling plan for North Carolina toxics and criteria pollutant modeling. The protocol checklist is designed to provide the same level of information as requested in a modeling protocol as discussed in Chapter 2 of the ***Guideline for Evaluating the Air Quality Impacts of Toxic Pollutants in North Carolina.*** The modeling protocol checklist is submitted with the modeling analysis.

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 toxics modeling guidelines referenced above. References to sections, tables, figures, appendices, etc., in the protocol checklist are found in the toxics 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 is reflected in your report.

FACILITY INFORMATION	
Name: Enviva Pellets Northampton, LLC **Facility ID:** 6600167 **Address:** 874 Lebanon Church Rd. Garysburg, NC 27866	**Consultant (if applicable):** Trinity Consultants One Copley Parkway Suite 310 Morrisville, NC 27560
Contact Name: Joe Harrell	**Contact Name:** Jonathan Hill
Phone Number: 252-209-6032 **Email:** joe.harrell@envivabiomass.com	**Phone Number:** 919-462-9693 **Email:** jhill@trinityconsultants.com

GENERAL	
Description of New Source or Source / Process Modification: provide a short description of the new or modified source(s) and a brief discussion of how this change affects facility production or process operation.	x
Source / Pollutant Identification: provide a table of the affected pollutants, by source, which identifies the source type (point, area, or volume), maximum pollutant emission rates over the applicable averaging period(s), and, for point sources, indicate if the stack is capped or non-vertical (C/N).	x
Pollutant Emission Rate Calculations: indicate how the pollutant emission rates were derived (e.g., AP-42, mass balance, etc.) and where applicable, provide the calculations.	x
Site / Facility Diagram: provide a diagram or drawing showing the location of all existing and proposed emission sources, buildings or structures, public right-of-ways, and the facility property (toxics) / fence line (criteria pollutants) boundaries. The diagram should also include a scale, true north indicator, and the UTM or latitude/longitude of at least one point.	x
Certified Plat or Signed Survey: a certified plat (map) from the County Register of Deeds or a signed survey must be submitted to validate property boundaries modeled.	x
Topographic Map: A topographic map covering approximately 5km around the facility must be submitted. The facility boundaries should be annotated on the map as accurately as possible.	x
Cavity Impact Analysis: If using SCREEN3, a cavity impact analysis must be conducted for all structures with a region of influence extending to one or more sources modeled to determine if cavity regions extend off property (toxics) or beyond the fence line (criteria pollutants). No separate cavity analysis is required if using AERMOD. *See Section 4.2*	AERMOD

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.	N/A
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.	N/A

SCREEN LEVEL MODELING	
Model: The latest version of the SCREEN3 model must be used until AERSCREEN is developed and approved. The use of other screening models should be approved by NCDAQ prior to submitting the modeling report.	N/A
Source / Source emission parameters: Provide a table listing the sources modeled and the applicable source emission parameters. *See NC Form 3 – Appendix A.*	N/A
Merged Sources: Identify merged sources and show all appropriate calculations. *See Section 3.3*	N/A
GEP Analysis: SCREEN3 – for each source modeled, show all calculations identifying the critical structure used in the model run. *See section 3.2 and NC Form 1 - Appendix A.*	N/A
Cavity Impact Analysis: A cavity impact analysis using SCREEN3 must be conducted for all structures with a region of influence extending to one or more sources modeled to determine if cavity regions extend off property (toxics) or beyond the fence line (criteria pollutants). *See Section 4.2*	N/A
Terrain: Indicate the terrain modeled: simple *(Section 4.4)*, and complex *(Section 4.5 and NC Form 4 – Appendix A)*. If complex terrain is within 5 kilometers of the facility, complex terrain must be evaluated. Simple terrain must include terrain elevations if any terrain is greater than the stack base of any source modeled. Simple: _____ Complex: _____	N/A
Meteorology: In SCREEN3, select full meteorology.	N/A
Receptors: SCREEN3 – use shortest distance to property boundary for each source modeled and use sufficient range to find maximum (*See Section 4.1 (i) and (j)*). Terrain above stack base must be evaluated.	N/A
Modeling Results: For each affected pollutant, modeling results should be summarized, converted to the applicable averaging period *(See Table 3)*, and presented in tabular format indicating compliance status with the applicable AAL, SIL or NAAQS. *See NC Form S5 – Appendix A.*	N/A
Modeling Files: Either electronic or hard copies of SCREEN3 output must be submitted.	N/A

REFINED LEVEL MODELING	
Model: The latest version of AERMOD should be used, and may be found at http://www.epa.gov/scram001/dispersion_prefrec.htm. The use of other refined models must be approved by NCDAQ prior to submitting the modeling report.	x
Source / Source emission parameters: Provide a table listing the sources modeled and the applicable source emission parameters. *See NC Form 3 - Appendix A.*	x
GEP Analysis: Use BPIP-Prime with AERMOD.	x
Cavity Impact Analysis: No separate cavity analysis is required when using AERMOD as long as receptors are placed in cavity susceptible areas. *See Section 4.2 and 5.2.*	x
Terrain: Use digital elevation data from the USGS NED database (http://seamless.usgs.gov/index.php). Use of other sources of terrain elevations or the non-regulatory Flat Terrain option will require prior approval from DAQ AQAB.	x
Coordinate System: Specify the coordinate system used (e.g., NAD27, NAD83, etc.) to identify the source, building, and receptor locations. Note: Be sure to specify in the AERMAP input file the correct base datum (NADA) to be used for identifying source input data locations. Clearly note in both the protocol checklist and the modeling report which datum was used.	NAD83
Receptors: The receptor grid should be of sufficient size and resolution to identify the maximum pollutant impact. *See Section 5.3.*	x
Meteorology: Indicate the AQAB, pre-processed, 5-year data set used in the modeling demonstration: (*See Section 5.5 and Appendix B)* Rocky Mount/Greensboro AERMOD 2008-2012 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 NC Form R5 - Appendix A.*	x
Modeling Files: Submit input and output files for AERMOD. Also include BPIP-Prime files, AERMAP files, DEM files, and any AERMET input and output files, including raw meteorological data.	x

APPENDIX B - ELECTRONIC MODELING FILES

Trinity Consultants

One Copley Parkway, Suite 310, Morrisville, North Carolina 27560 U.S.A. ▪ (919) 462-9693 ▪ Fax (919) 462-9694

September 13, 2013

William Flynn
Planning and Zoning Director
Northampton County Planning and Zoning
102 West Jefferson Street
Jackson, NC 27845

Subject: Air Permit Application Zoning Consistency Determination Request
Enviva Pellets Northampton, LLC

Dear Mr. William Flynn,

This letter is a request for a determination of whether planned installation of two portable reciprocating internal combustion engines located at Lebanon Church Road in Gaston, NC is consistent with current local zoning requirements. A copy of the air permit application being submitted to the North Carolina Division of Air Quality (NCDAQ) is attached.

Your confirmation of zoning consistency is needed by the NCDAQ prior to issuance of the air quality construction permit. Please complete the attached form and send to the address shown on the form as soon as possible. In the interim, we would appreciate it if you would stamp this cover letter with your department's seal, sign and date next to your seal and return the sealed cover letter via FAX to my attention at (919) 462-9694. This stamp is needed to be considered administratively complete by the NC Division of Air Quality. Should you require additional information to complete your review, please do not hesitate to contact me at (919) 462-9693.

Sincerely,

Joe W. Sullivan

Joe Sullivan, PE, CM
Managing Consultant

Attachment

NORTHAMPTON COUNTY PLANNING AND ZONING

William E. Flynn

WILLIAM E. FLYNN, JR.
9/18/13

Comprehensive Application Report for 6600167.14B 04/23/2014

Enviva Pellets Northampton, LLC - Garysburg (6600167)

Northampton County

General Information: Permit/Latest Revision: 10203/ R02

Permit code:	TV-1st Time
Application type:	Modification
Engineer/Rev. location:	Kevin Godwin/RCO
Regional Contact:	Charles McEachern
Facility location:	Raleigh Regional Office
Facility classification:	Title V
Clock is ON	Application is COMPLETE
Status is :	In progress

Application Dates

Received	Completeness Due	Clock Start	Calculated Issue Due
04/22/2014	06/21/2014	04/22/2014	

Fee Information

Initial amount:	Date received:	Amount Due:	Add. Amt Rcv'd:	Date Rcv'd:
	04/22/2014			

Fund type:	Deposit Slip #:	Location rec'd:	Location deposited:
2333			

RECD AIR RECORDS MGMT APR 24 '14

Contact Information

Type	Name	Address	City State ZIP	Telephone
Technical/Permit	Joe Harrell, EHS Manager	142 NC Route 561 East	Ahoskie, NC 27910	(252) 209-6032
Authorized	Michael Doniger, Director Plant Operations	7200 Wisconsin Avenue	Bethesda, MD 20814	(804) 929-8418

Acceptance Criteria

Received?	Acceptance Criteria Description
N/A	Application fee
Yes	Appropriate number of apps submitted
Yes	Zoning Addressed
N/A	Source recycling/reduction form
Yes	Authorized signature
Yes	PE Seal
No	Application contains toxic modification(s)

Completeness Criteria

Received?	Complete Item Description

Application Events

Event	Start	Due	Complete	Comments	Staff
TV - Acknowledgment/Complete	04/22/2014	05/02/2014	04/23/2014		kmhash

Regulations Pertaining to this Permit

Reference Rule		Regulation Description
2Q	.0317	Avoidance Conditions
Part 60 - NSPS	Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
2D	.0515	Particulates Miscellaneous Industrial Processes
2D	.0516	Sulfur Dioxide Emissions Combustion Sources
2D	.0521	Control of Visible Emissions
2D	.0524	New Source Performance Standards
2D	.1100	Control of Toxic Air Pollutants
2D	.1111	Maximum Achievable Control Technology
Part 63 - NESHAP/MACT	Subpart ZZZZ	Reciprocating Internal Combustion Engines
Avoidance	2D .0530	Prevention of Significant Deterioration

Audit Information Pertaining to this Application

Column Name	Date Changed	Old Value	New Value	Editor
dt_App_Rec	04/23/2014	04/23/2014	04/22/2014	Kathy Hash

NCDENR

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

April 23, 2014

Mr. Michael Doniger
Director Plant Operations
Enviva Pellets Northampton, LLC
7200 Wisconsin Avenue
Suite 1000
Bethesda, MD 20814

SUBJECT: Receipt of Permit Application
Modification of Permit No. 10203R02
Application No. 6600167.14B
Enviva Pellets Northampton, LLC
Facility ID: 6600167, Garysburg, Northampton County

Dear Mr. Doniger:

Your air permit application (6600167.14B) for Enviva Pellets Northampton, LLC, located in Northampton County, North Carolina was received by this Division on April 22, 2014.

This application submittal **did** contain all the required elements as indicated and has been accepted for processing. Your application will be considered complete as of April 22, 2014, unless informed otherwise by this office within 60 days.

Should you have any questions concerning this matter, please contact Kevin Godwin at 919-707-8480.

Sincerely,

Mark J. Cuilla, CPM, Acting Chief, Permits Section
Division of Air Quality, NCDENR

cc: Raleigh Regional Office Files

APR 24 14
RECD AIR RECORDS MGMT

1641 Mail Service Center, Raleigh, North Carolina 27699-1641
Phone: 919-707-8400 \ Internet: www.ncdenr.gov

Comprehensive Application Report for 6600167.14A

04/23/2014

Enviva Pellets Northampton, LLC - Garysburg (6600167)

Northampton County

General Information:	Permit/Latest Revision: 10203/ R02
Permit code:	State
Application type:	Modification
Engineer/Rev. location:	Kevin Godwin/RCO
Regional Contact:	Charles McEachern
Facility location:	Raleigh Regional Office
Facility classification:	Title V
Clock is ON	Application is COMPLETE
Status is :	In progress

Application Dates

Received	Completeness Due	Clock Start	Calculated Issue Due
04/22/2014	06/06/2014	04/22/2014	07/21/2014

Fee Information

Initial amount:	Date received:	Amount Due:	Add. Amt Rcv'd:	Date Rcv'd:
$904.00	04/22/2014	0.00		

Fund type:	Deposit Slip #:	Location rec'd:	Location deposited:
2333			

RECEIVED RECORDS MGMT APR 24 14

Contact Information

Type	Name	Address	City State ZIP	Telephone
Authorized	Michael Doniger, Director Plant Operations	7200 Wisconsin Avenue	Bethesda, MD 20814	(804) 929-8418
Technical/Permit	Joe Harrell, EHS Manager	142 NC Route 561 East	Ahoskie, NC 27910	(252) 209-6032

Acceptance Criteria

Received?	Acceptance Criteria Description
Yes	Application fee
Yes	Appropriate number of apps submitted
Yes	Zoning Addressed
N/A	Source recycling/reduction form
Yes	Authorized signature
Yes	PE Seal
Yes	Application contains toxic modification(s)

Completeness Criteria

Received?	Complete Item Description

Application Events

Event	Start	Due	Complete	Comments	Staff
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Regulations Pertaining to this Permit

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2D	.0516	Sulfur Dioxide Emissions Combustion Sources
2D	.0521	Control of Visible Emissions
2D	.0524	New Source Performance Standards
2D	.1100	Control of Toxic Air Pollutants
2D	.1111	Maximum Achievable Control Technology
Part 63 - NESHAP/MACT	Subpart ZZZZ	Reciprocating Internal Combustion Engines
Avoidance	2D .0530	Prevention of Significant Deterioration

Audit Information Pertaining to this Application

Column Name	Date Changed	Old Value	New Value	Editor

North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

April 23, 2014

Mr. Michael Doniger
Director Plant Operations
Enviva Pellets Northampton, LLC
7200 Wisconsin Avenue
Suite 1000
Bethesda, MD 20814

SUBJECT: Receipt of Permit Application
Modification of Permit No. 10203R02
Application No. 6600167.14A
Enviva Pellets Northampton, LLC
Facility ID: 6600167, Garysburg, Northampton County

Dear Mr. Doniger:

Your air permit application (6600167.14A) for Enviva Pellets Northampton, LLC, located in Northampton County, North Carolina was received by this Division on April 22, 2014.

This application submittal **did** contain all the required elements as indicated and has been accepted for processing. Your application will be considered complete as of April 22, 2014, unless informed otherwise by this office within 60 days.

Should you have any questions concerning this matter, please contact Kevin Godwin at 919-707-8480.

Sincerely,

Mark J. Cuilla, CPM, Acting Chief, Permits Section
Division of Air Quality, NCDENR

cc: Raleigh Regional Office Files

APR 24 14
RECD AIR RECORDS MGMT

1641 Mail Service Center, Raleigh, North Carolina 27699-1641
Phone: 919-707-8400 \ Internet: www.ncdenr.gov