



STATE OF DELAWARE
**DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL**
89 KINGS HIGHWAY
DOVER, DELAWARE 19901

Office of the
Secretary

Phone: (302) 739-9000
Fax: (302) 739-6242

June 6, 2013

Mr. Dhaval Shah
RenewOil Energy, Inc.
2 Keystone Avenue, Unit 500
Cherry Hill, NJ 08003

Re: Incinerator Ban Applicability Status Decision

Dear Mr. Shah:

We have carefully reviewed your March 19, 2013 Incinerator Ban Applicability Status Decision Application for a project proposing to process waste tires and waste plastics, and convert them into a saleable fuel via a pyrolysis process at a site on McCullough Drive in New Castle, Delaware.

My Status Decision is that the proposed process, as currently submitted, meets the definition of an incinerator as defined in 7 Del. Code § 6002 (25). It was confirmed that there is no oxidation or combustion involved in your proposed pyrolysis process; however, the process generates a gas stream that is not condensed into a saleable fuel and is instead burned on-site to provide heat for the process. As this non-condensed fuel is derived from waste tires and waste plastic it is considered a refuse-derived fuel, and therefore a solid waste as defined in 7 Del. Code § 6002 (53). Given that the fuel meets the definition of solid waste and the fuel is being combusted on-site, this part of the process meets the statutory definition of an incinerator. Additionally, this part of the process subjects your project to the siting criteria found in 7 Del. Code § 6003 (c)(2).

It is recommended that you modify and re-submit your application to indicate that you will not combust the condensable gases on-site. Members of the technical review committee, comprised of members of our Division of Waste and Hazardous Substances and Division of Air Quality, provided the list of comments below to be addressed should you decide to modify your application and re-submit it.

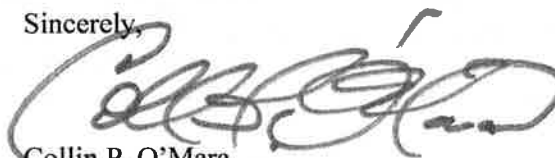
1. Page 7 – Section 4.1 – Bullet Point 1 – The application indicates the tire pieces will enter the reactor (No. 2). However, the diagram provided indicates Unit #2 is the casing.
2. Page 7 – Section 4.1 – Bullet Point 2 – The application indicates the tire pieces are fed into Unit #2 through Unit #15, the spiral feeder. However, Unit #2 on the diagram is the casing and Unit #15 is the burner for combustible gases.

3. Page 7 – Section 4.1 – Bullet Points 2 and 3 – Bullet point 2 states the tires will be fed at high temperatures. However, bullet point 3 states that the heating won't start until after the tires are finished being fed. Please provide an explanation for the discrepancy.
4. Page 7 – Section 4.1 – Bullet Point 3 – The application indicates the hot air will flow in a channel between the reactor and the casing (Unit #3). However, according to the diagram, Unit #3 is the reactor.
5. Page 7 – Section 4.1 – Bullet Point #6 – Please provide a detailed description of the hydroseal and any emissions/wastes associated with this process.
6. Page 7 – Section 4.1 – Bullet Point #7 – The application indicates carbon black will be removed from the system automatically via a spiral device. Is the carbon black saleable as produced or does it require further processing?
7. Page 8 – Section 4.2 – The application indicates the feedstock will include plastics. However, the project description does not discuss the use of plastics. Please provide a description of the pyrolysis process and outputs involved with processing plastics.
8. Page 8 – Section 4.3 – The application states the process is self-contained. However, both diagrams attached indicate there is a burner for combustible gases and data relating to the exhaust after burning the pyrolysis gas. Please resolve this discrepancy.
9. Page 8 – Section 4.3 – The application indicates the main saleable products will include #2 oil. However, the application also indicates there will be two product tanks – one for light oil and one for heavy oil. What is the disposition of the heavy oil?
10. Page 9 – Section 4.5 – The application indicates that there *is* combustion or oxidation in the entire process. Is this a typo, as the remainder of the paragraph indicates there is no combustion? In addition, the application discusses combustion of recycled gases. This should be addressed in this section.
11. Page 10 – The application provides a diagram relating to the conversion of tire oil to diesel; however, there is not discussion of this process in the application. Does the applicant plan to convert fuel to diesel?
12. Page 14 - Is the exhaust data for the emissions from the combustible gas burner or from emissions from the saleable fuel oil?
13. RenewOil's Regulatory Advisory Service submittal discusses the conversion of used cooking oils to fuels. Please include a description of this process in the modified application.

You have the right to appeal the status decision to the Environmental Appeals Board. There is a 20 day appeal period following receipt of this notice. There is a fifty dollar application fee for an appeal. If no appeal is received within the 20 day appeal period, this decision becomes final.

Please call Michelle Jacobs at (302) 739-9069 if you have any questions or concerns regarding this decision.

Sincerely,



Collin P. O'Mara
Secretary




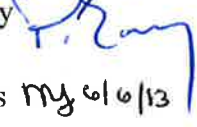
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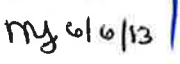
Office of the
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MEMORANDUM

TO: Collin P. O'Mara

THRU: David S. Small 
Patrick J. Emory 

FROM: Michelle Jacobs 

RE: Recommended Incinerator Ban Status Decision for RenewOil Energy Inc.

DATE: June 6, 2013

Introduction

RenewOil Energy, Inc. (RenewOil) submitted an application on March 19, 2013, seeking an Incinerator Ban Applicability Status Decision to determine whether their proposed project meets the definition of an incinerator as defined by 7 Del. Code Chapter 60 § 6002 (25) and if that project is prohibited by 7 Del. Code Chapter 60 § 6003 (c)(2).

Description of the Project

RenewOil proposes to process waste tires and waste plastics and convert them into a saleable fuel via a pyrolysis process at a site on McCullough Drive in New Castle, Delaware. The raw feed stock will be used tires and recyclable plastics (1, 2, and 4 through 7) and will be generated from surrounding cities, i.e. Philadelphia, Newark, etc. Feed stock will be transported by truck to the facility for indoor storage before being consumed by the pyrolysis unit. The main saleable products will be #2 oil, carbon black, and scrap steel.

Project Analysis

RenewOil submitted an Application for an Incinerator Ban Applicability Status Decision, dated March 19, 2013. Upon submittal of all required documentation and the application being deemed administratively complete, it was forwarded on April 23, 2013, to the technical review

committee, comprised of members of the Division of Waste and Hazardous Substances and the Division of Air Quality, for review.

Melissa Ferree, a member of the technical review committee attended the RAS meeting held May 2, 2013 for the RenewOil project. Ms. Ferree explained to the applicant that she was reviewing the incinerator ban status decision application and exchanged dialog with the applicant. A conference call of the technical review committee members was held on May 7, 2013 to discuss the application.

Ms. Ferree submitted review comments from the Solid and Hazardous Waste Management Section in a memo, dated May 13, 2013 (see attached). The Division of Air Quality reported their concurrence with Ms. Ferree's comments in an email dated May 20, 2013 (see attached).

Recommendation

Based on analysis of the technical review committee, the process, as the application is currently submitted, meets the definition of an incinerator as the applicant desires to combust fuel generated from the process to be re-used to heat the process. The technical review committee recommends that:

- (1) A decision be issued on this application indicating that the Department has determined the process, as described in the current application, meets the definition of an incinerator and is subject to the siting criteria set forth in 7 Del. Code Chapter 60 § 6003 (c)(2).
- (2) The applicant modifies and re-submits its application to indicate that condensable gases will not be combusted on-site.
- (3) The Department provides the comments listed below to the applicant to address in its modified submittal.

1. Page 7 – Section 4.1 – Bullet Point 1 – The application indicates the tire pieces will enter the reactor (No. 2). However, the diagram provided indicates Unit #2 is the casing.
2. Page 7 – Section 4.1 – Bullet Point 2 – The application indicates the tire pieces are fed into Unit #2 through Unit #15, the spiral feeder. However, Unit #2 on the diagram is the casing and Unit #15 is the burner for combustible gases.
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13. RenewOil's Regulatory Advisory Service submittal discusses the conversion of used cooking oils to fuels. Please include a description of this process in the modified application.

Attachments (2)



Approved, Collin P. O'Mara, Secretary

6/12/13
Date

**SOLID AND HAZARDOUS WASTE MANAGEMENT SECTION
MEMORANDUM**

TO: Michelle Jacobs, Ombudsman, DNREC

THRU: Nancy C. Marker, Program Administrator, SHWMS *4/20/13*
Karen G. J'Anthony, Program Manager I, SHWMS *MMF for Ken 5/24/13*

FROM: Melissa A. Ferree, Engineer III, SHWMS *MMF 5/16/13*

DATE: May 13, 2013

SUBJECT: Incinerator Ban Status Decision Application

REFERENCE: Renewoil Energy, Inc.

BACKGROUND:

Renewoil Energy, Inc. (Renewoil) submitted an Incinerator Ban Status Decision Application dated March 19, 2013 relating to its proposed tire and plastics pyrolysis process. Additionally, Renewoil attended a Regulatory Advisory Service (RAS) meeting on May 2, 2013.

CONCLUSION:

As the application is currently submitted, the process meets the definition of an incinerator, as the applicant desires to combust fuel generated from the process to be re-used to heat the process. It is recommended that:

- (1) Secretary O'Mara issue a decision on this application indicating that the Department has determined the process, as described in the submitted application, meets the definition of an incinerator and is subject to the siting criteria set forth in 7 Delaware Code § 6003(c)(2).
- (2) The applicant modify and re-submit its application to indicate that condensable gases will not be combusted on-site.
- (3) The Department provide the comments listed at the end of this memo to the applicant to address in its modified submittal.

DISCUSSION:

Renewoil's application indicates its desire to process waste tires and waste plastics and convert them into saleable fuel via a pyrolysis process. The incinerator ban status decision is a process to determine if the facility meets the statutory definition of an incinerator, defined in 7 Del. Code § 6002(25) as:

“any structure or facility operated for the combustion (oxidation) of solid waste, even if the by-products of the operation include useful products such as steam and electricity...”

By definition, there is no oxidation or combustion involved in a pyrolysis process, which is confirmed after a review of the applications submission. As there is no oxidation occurring in this proposed pyrolysis process, it was determined this part of the process did not meet the statutory definition of an incinerator.

However, the process generates a gas stream that is not condensed into a saleable fuel and is instead burned on-site to provide heat for the process. SHWMS representative Melissa Ferree inquired with Renewoil representatives during the RAS meeting as to whether or not the gas stream had the potential to be condensed. Renewoil representatives indicated that the gas stream could be condensed; however they chose to not condense it and instead combust it as fuel rather than purchasing fuel to operate the system. Ms. Ferree explained that the non-condensed fuel is considered a refuse-derived fuel, as it is derived from waste tires and waste plastic. “Solid waste” is defined in 7 Delaware Code § 6002(53) as:

“...any garbage, refuse, refuse-derived fuel..., including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities...”

As the fuel meets the definition of solid waste and the fuel is being combusted on-site, this part of the process meets the statutory definition of an incinerator. Ms. Ferree further explained that this part of the process would subject Renewoil to the incinerator siting criteria found in 7 Delaware Code § 6003(c)(2).

Renewoil representatives then stated that they could potentially modify the process to condense the gaseous fuel, rather than combust it on-site. They would instead purchase fuel to operate the process. However, to date, we have not received an updated application from Renewoil.

In its RAS submittal, Renewoil representatives also discussed the conversion of cooking oils to fuels. However, this information is not included in the Incinerator Ban Status Decision Application.

I recommend that the Department issue a decision on this application that, as written, the process meets the definition of an incinerator and therefore is subject to the site criteria set forth in 7 Delaware Code § 6003(c)(2). Additionally, I recommend the Department suggest Renewoil modify and re-submit its application to indicate that it will not combust the condensable gases on-site. Further, I recommend the Department provide the following comments to Renewoil to address in its modified application.

1. Page 7 – Section 4.1 – Bullet Point 1 – The application indicates the tire pieces will enter the reactor (No. 2). However, the diagram provided indicates Unit #2 is the casing.

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Jacobs, Michelle V. (DNREC)

From: French, Joanna (DNREC)
Sent: Monday, May 20, 2013 2:31 PM
To: Ferree, Melissa A. (DNREC); Jacobs, Michelle V. (DNREC); JAnthony, Karen (DNREC); Marker, Nancy C. (DNREC); Foster, Paul (DNREC)
Cc: Emory, Patrick J. (DNREC)
Subject: RE: CONFIDENTIALITY - RenewOil Energy - Incinerator Status Decision

Hi Michelle,

The Division of Air Quality concurs with the comments from Melissa Ferree of the Division of Waste and Hazardous Substances.

Thanks,
Joanna

Joanna L. French, P.E.
Managing Engineer
DNREC - Division of Air Quality
655 S. Bay Road, Suite 5 N
Dover, DE 19901
(302) 739-9402 (main number)
(302) 739-3106 (fax)

Blue Skies Delaware; Clean Air for Life

From: Ferree, Melissa A. (DNREC)
Sent: Monday, May 20, 2013 2:04 PM
To: Jacobs, Michelle V. (DNREC); JAnthony, Karen (DNREC); Marker, Nancy C. (DNREC); Foster, Paul (DNREC); French, Joanna (DNREC)
Cc: Emory, Patrick J. (DNREC)
Subject: RE: CONFIDENTIALITY - RenewOil Energy - Incinerator Status Decision

Michelle,

Attached are my comments/recommendations regarding the confidentiality request and technical review of the Renewoil Energy Incinerator Ban Status Decision Application.

If you have any questions, please let me know.

Thanks,
Melissa

From: Jacobs, Michelle V. (DNREC)
Sent: Tuesday, April 23, 2013 4:49 PM
To: JAnthony, Karen (DNREC); Ferree, Melissa A. (DNREC); Marker, Nancy C. (DNREC); Foster, Paul (DNREC); French, Joanna (DNREC)
Cc: Emory, Patrick J. (DNREC)
Subject: CONFIDENTIALITY - RenewOil Energy - Incinerator Status Decision
Importance: High

Greetings everyone.

Attached you will find the documentation for RenewOil Energy's proposed pyrolysis plant for scrap tire and plastics. Mr. Shah, CEO, has requested confidentiality for his Application for an Incinerator Ban Applicability Status Decision and has provided the required items pursuant to Section 6 of DNREC's FOIA regulation. These items (attached) are outlined below.

1. Completed version of the application
2. Signature page of the application
3. Redacted version of the application
4. Written request for confidentiality
5. Notarized affidavit

I am forwarding this information to you for your review and for your written recommendation, either granting or denying confidentiality, in part or in whole, as it relates to the specific information for which they seek protection.

I believe everything needed for the technical review for the Incinerator Ban Applicability Status Decision and the confidentiality request are attached. If something is missing or if you need more information from Mr. Shah please let me know.

Michelle Jacobs

Ombudsman
DNREC - Office of Community Services
89 Kings Highway, Dover, DE 19901
302-739-9069 Phone * 302-739-6242 Fax