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1720 Walton Road, Blue Bell, PA 19422 610-828-3078 Fax 610-828-7842

September 23, 2010

ON-LINE SUBMISSION

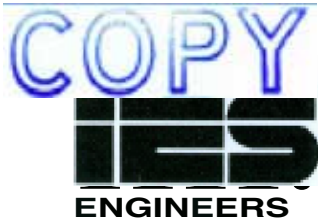
Mr. Mark Wejkszner
Environmental Engineering Manager
Air Quality Program
Pennsylvania Department of Environmental Protection
Northeast Regional Office
Two Public Square
Wilkes-Barre, PA 18711

Subject: PUBLIC VERSION - RFD for Energy Production Process
Delta Thermo Energy, Inc.
112 Union Street
Allentown, Pennsylvania
IES Project No. EHS09894.01

Dear Mr. Wejkszner:

On behalf of Delta Thermo Energy, Inc. (DTE), IES Engineers (IES) is pleased to submit an original and two copies of the enclosed Request for Determination of Requirement for Plan Approval (RFD) for the operation of a Research and Development (R&D) Energy Production facility. The facility will utilize municipal solid waste (MSW) and sludge from the City of Allentown Waste Water Treatment Plant (Allentown WWTP) as fuel to generate 2.0 MW (net) of electricity. DTE is interested in leasing an undeveloped parcel of land located adjacent to the Allentown WWTP, at 112 Union Street in Allentown, Pennsylvania, in order to construct and operate this proposed R&D facility.

Please note that the information in this RFD contains proprietary information; release of this information to a third party could jeopardize DTE's competitive position in the industry. Accordingly, we have prepared this public version of the RFD with the confidential information deleted. As instructed by the Department, we are submitting this public version of this RFD electronically using the Department's Greenport system, and we have submitted the confidential version of the RFD in hard-copy.



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Mr. Mark Wejkszner
September 23, 2010
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We would appreciate the Department's cooperation in approving this RFD so that the project may proceed as soon as possible. Should you have any questions, please let me know.

Very truly yours,

Robert W. Schlosser, P.E.

Robert W. Schlosser, P.E.
Principal Project Manager

Enclosures

cc: M. Bonilla, DTE
R. Van Naarden, DTE
J. Bolstein, FR, LLP
B. Bakrania, IES
M. Tucci, IES
A. Soni, IES



PUBLIC VERSION

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REQUEST FOR DETERMINATION OF REQUIREMENT FOR PLAN APPROVAL

ENERGY PRODUCTION PROCESS

DELTA THERMO ENERGY, INC,
ALLENTOWN, PENNSYLVANIA

SUBMITTED TO:

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
TWO PUBLIC SQUARE
WILKES-BARRE, PENNSYLVANIA 18711

SUBMITTED BY:

IES ENGINEERS
1720 WALTON ROAD
BLUE BELL, PENNSYLVANIA 19422

IES PROJECT NO, EHS09894.01
SEPTEMBER 2010

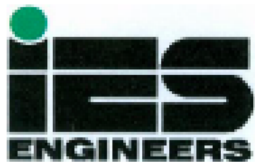


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- 3.0 REGULATORY ANALYSIS



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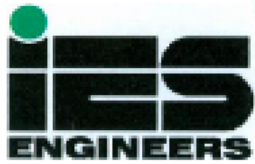
1.0 PROCESS DESCRIPTION

Delta Thermo Energy, Inc. (DTE) is proposing to construct a new Research and Development (R&D) Energy Production facility in Allentown, Lehigh County, Pennsylvania. It is proposing to utilize municipal solid waste (MSW) and sludge from the City of Allentown Waste Water Treatment Plant (Allentown WWTP) as fuel to generate 2.0 MW (net) of electricity. DTE is interested in leasing an undeveloped parcel of land located at 112 Union Street in Allentown, Pennsylvania, for the facility.

The purpose of this facility will be to demonstrate that MSW and sludge can be used as an alternative fuel. The facility will be a pilot plant that will use state-of-the-art combustion technology to convert MSW and sludge to fuel which will be combusted to generate steam, which in turn will generate a "green", renewable source of electricity. This particular type of technology has not yet been deployed in the United States and this plant will be the first of its kind in Pennsylvania. The research goals from the pilot plant will be to improve on the current design, improve on the overall process, and design the next generation plant. The process will then be marketed by DTE for use in other parts of Pennsylvania, along with other States as well as other countries.

The pilot plant will be constructed with a laboratory to monitor plant parameters that will provide valuable research data for design and development purposes. The laboratory will monitor efficiency, emissions, and other process parameters.

The process will consist of thermal treatment, steam generation (boiler), and electric power generation (turbine). Off-gas from the boiler will be treated by air pollution control devices prior to being emitted through a stack.



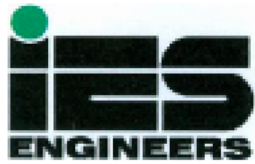
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2.0 EMISSION CALCULATIONS

This section presents the calculations for the controlled emissions from the combustion process. Emissions will be calculated from the exit of the stack.

Table I presents the calculation results.

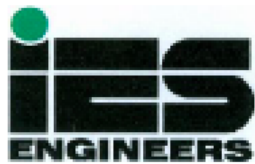


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Table 1 - Controlled Emissions and Emission Summary

Pollutants	Controlled Emissions		R&D Limit (tpy)
	Emissions (lb/hr)	Emissions Tons/year (lpy)	
PM	0.11	0.46	3.00
As	3.04E-03	0.01	100
Cd	1.47E-03	0.01	1.00
Cr	0.03	0.13	1.00
He	2.68E-03	0.01	1.00
Ni	0.02	0.07	1.00
Pb	0.01	0.06	0.12
802	0.18	0.75	8.00
HCl	0.03	0.12	1.00
NOX	0.45	1.89	10.00
CO	1.09	4.59	20.00
Dioxins	1.09E-04	0.01	1.00
Cl	0.03	0.12	1.00



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3.0 REGULATORY ANALYSIS

Under the requirements of Section 127.11, construction of an air contamination source may not be performed unless it has been approved by the Pennsylvania Department of Environmental Protection (Department) through the Plan Approval process. However, certain sources and source categories may be exempted from Plan Approval requirements in accordance with Section 127.14, upon the submission and approval of a Request for Determination of Requirement of Plan Approval (RFD) application.

Under 25 Pa. Code § 127.14(a)(8), the Department may determine sources or classes of sources to be exempt from the Plan Approval requirements of §§ 127.11 and 127.12. For this facility, we are claiming an exemption from the Plan Approval requirements based on Research & Development (R&D) activities.

Under this exemption, the annual projected emission rates from the facility are required to be:

- Less than or equal to 20 tpy of CO
- Less than or equal to 0.12 tpy of lead
- Less than or equal to 3 tpy of PM₁₀
- Less than or equal to 8 tpy of SO₂ or VOC
- Less than or equal to 10 tpy of NO_x,
- Less than or equal to one tpy of a single HAP or 2.5 tpy of a combination of HAPs.

The installation of these processes meets the exemption criteria. Therefore, we believe that the proposed project is exempt from the Plan Approval requirement in 25 Pa. Code §127.11 and 127.12.

39-0683



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

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Request for Determination of Changes of Minor Significance
and Implementation of Plan Approval
Under Pa Code §127.14 or §127.449

Request for:	
<input type="checkbox"/> exemption from Plan Approval <input type="checkbox"/> Physical changes to sources of minor significance, pursuant to 25 Pa. Code Section 127.14(a)(9) <input type="checkbox"/> Additional physical changes of minor significance that do not add new equipment pursuant to 25 Pa. Code Section 127.14(c)(1) <input checked="" type="checkbox"/> Other sources and classes of sources of minor significance, pursuant to 25 Pa. Code Section 127.14(a)(8) <input checked="" type="checkbox"/> Additional physical changes of minor significance that add new equipment, pursuant to 25 Pa. Code Section 127.14(c)(2) <input type="checkbox"/> Minor Sources or classes of sources, pursuant to 25 Pa. Code Section 127.14(a)(1)(7)	<input type="checkbox"/> Exemption from Operating Permit <input checked="" type="checkbox"/> Other sources and classes of sources of minor significance, pursuant to 25 Pa. Code Section 127.14(a)(8) <input type="checkbox"/> Physical Changes to sources of minor significance, pursuant to 25 Pa. Code Section 127.14(a)(9) <input checked="" type="checkbox"/> Changes due to De Minimis increases in emissions, pursuant to 25 Pa. Code Section 127.449 <input type="checkbox"/> Additional physical changes of minor significance that add new equipment, pursuant to 25 Pa. Code Section 127.14(c)(2) <input type="checkbox"/> Additional physical changes of minor significance that do not add new equipment, pursuant to 25 Pa. Code Section 127.14(c)(1)
Company/Facility Name: Delta Thermo Energy, Inc	
Plant Name:	
Site Address: 112 Union Street Allentown PA 18102	
Mailing Address: 66 Witherspoon Street No. 111 Princeton NJ 08542	
Federal Employer Identification Number (EIN):	
Current Operating Permit No:	
NAICS Code: 221110	
Name of Person Completing Form: Michael Tucci	
Title: Consultant	
Address	
1720 Walton Road	
Blue Bell PA 19422	
Telephone: (610) 828-3078	
Fax: (610) 828-7842	
E-Mail: mtucci@iesengineers.com	
Name of Company/Facility Contact Person: Robert Van Naarden	
Title: CEO, DTE, Inc	
Address	
66 Witherspoon Street No. 111	
Princeton NJ 08542	
Telephone: (609) 423-6096	
Fax:	
E-Mail: rvannaarden@deltathermo.com	
Project Type: <input type="checkbox"/> Other <input checked="" type="checkbox"/> Remediation <input type="checkbox"/> OM <input type="checkbox"/> Modification <input checked="" type="checkbox"/> New Construction	
Total number of sources in project: 1	
Description of project: Delta Thermo Energy, Inc. (DTE) is proposing to construct a new Research and Development (R&D) Energy Production facility in Allentown, Lehigh County, Pennsylvania. It is proposed to utilize municipal solid waste (MSW) and sludge from the City of Allentown Waste Water Treatment Plant (Allentown WWP) as fuel to generate 2.0 MW (net) of electricity.	



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Request for Determination of Changes of Minor Significance
and Exemption from Plan Approval/Operating Permit
Under Pa Code §127.14 or §127.449

D. Source Description

Source Name: 001-Energy Production Process

Source Category: Research & Development Ener9Y

Source Location: Delta Thermo Ener9Y, Inc; 112 Union Street, Allentown PA

Source Type: Stationary Portable

Is equipment existing or proposed? Existing Proposed

Actual or Planned Date of Installation: 10/01/2010

Municipality: Allentown

County: Lehigh

Source Description: Delta Thermo Ener9Y, Inc. (DTE) is proposing to construct a new Research and Development (R&D) Energy Production facility in Allentown, Lehigh County, Pennsylvania. It is proposing to utilize municipal solid waste (MSW) and sludge from the City of Allentown Waste Water Treatment Plant (Allentown WWTP) as fuel to generate 2.0 MW (net) of electricity. The process will consist of thermal treatment, steam generation (boiler), and electric power generation (turbine). Off-gas from the boiler will be treated by air pollution control devices prior to being emitted through a stack,

Pollutant	Calculation Method	Emissions (lbs/hr)	Emissions (tons/year)
Particulate	SEE COMMENT	0.1100	0.4800
PM10	SEE COMMENT	0.1100	0.4800
PM2.5	SEE COMMENT	0.1100	0.4800
SOX	SEE COMMENT	0.1800	0.7800
CO	SEE COMMENT	1.0900	4.7900
NOX	SEE COMMENT	0.4500	1.9700
VOC	SEE COMMENT	0.0000	0.0000
Hazardous Air Pollutants	SEE COMMENT	0.1100	0.4900
Lead	SEE COMMENT	0.0100	0.0600

Will the construction of this source increase emissions from other sources at this facility?

Yes No

Is the construction or modification of the source subject to 25 Pa. Code, Subchapter E, New Source Review (NSR) requirements or prevention of Significant Deterioration (PSD) of Air Quality regulations at Subchapter D?

Yes No



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF AIR QUALITY

Request for Determination of Changes of Minor Significance
 and Exemption from Plan Approval/Operating Permit
 Under Pa Code §127.14 or §127.449

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E. Exemption History				
Source Name	Date of Installation	Reason for Exemption		
		RFD	Exemption List	DeMh
F. List of Attached Documents				
Description of Attachment				Confidential
Delta Thermo Energy, Inc. (DTE) is proposing to construct a new Research and Development (R&D) Energy Production facility in Allentown, Lehigh County, Pennsylvania.				N
G. Signature of Responsible Official or Authorized Representative				
I, Michael Tucci, certify under penalty of law as provided in 18 Pa. C.S.A. § 4904 and 35 P.S. § 4009(b)(2) that based on information and belief formed after reasonable inquiry, the statements and information contained in this form are true, accurate, and complete.				
Michael Tucci		09/24/2010		610-828-3078
Name		Date		Telephone
1720 Walton Road Blue Bell PA 19422				mtucci@iesengineers.com
Address				Email Address



Request for Determination of Requirement
For Plan Approval/Operating Permit (RFD)

OFFICIAL USE ONLY

Facility Name:	Delta Thermo Energy, Inc	RFD Facility ID:	1012
RFD Application ID:	1737	Date Received:	09/24/2010
Reviewed BY:	Shailesh R Patel	Approved Date:	10/14/2010
Approved By:	Raymond Kempa		

- A plan approval is not required for this source (See 25 Pa, Code Section 127.14(a)(1)-(9))
- An operating permit is not required for this source (See 25 Pa. Code Section 127.443(a))
- The source(s) do(es) not qualify for exemption. Applicant is required to submit a plan approval application.
- The source(s) do(es) not qualify for exemption. Applicant is required to submit an operating permit application.

Remarks

1. Within 120 days after achieving full capacity, but not more than 180 days following commencement of operation, the company shall conduct stack tests to determine and verify the actual emission rates for the criteria pollutants and metals. Such testing shall be conducted in accordance with the provisions of Chapter 139 of the Rules and Regulations Environmental Protection, where applicable, and in accordance with any restrictions or limitations established by the Department. The stack tests shall be performed while sources are operating at the maximum rated capacity as stated on the application. If testing is performed at a rate of less than full production, operation is restricted to the process input rate of testing at such level until a subsequent compliance test is performed at a maximum rated capacity. The company shall contact the Department prior to the stack test to obtain a list of metals to be tested and any additional compounds that the Department determines necessary to test. 2. At least two weeks prior to the test, the Regional Air Quality Program Manager shall be informed of the date and time of the test. 3. At least sixty (60) days prior to the test required by condition above, a pre-test protocol shall be submitted to the Department for review. 4. Within sixty (60) days of the completion of the test required by condition above, two copies of the complete test report, including all operating conditions shall be submitted to the Regional Air Quality Program Manager. 5. The stack test results must show that the actual emission rates are in compliance with the following emissions limitations for a Research and development activities. In the event the tested emissions rates are exceeded, the owner or operator shall repeat the stack test within 30 operating days after the date on which the initial stack test was completed. If the tested emissions in the retest exceed the following emissions rates, the owner or operator must cease operation until a plan approval is issued for the sources. i. Less than or equal to 10 tpy of CO; ii. Less than or equal to 0.06 tpy of lead; iii. Less than or equal to 1.5 tpy of PM10; iv. Less than or equal to 4 tpy of SO2 or VOC; v. Less than or equal to 5 tpy of NOx; vi. Less than 1000 lbs/yr of a single HAP or one tpy of a combination of HAPs that does not include Polychlorobiphenols (PCBs), Chromium, Mercury (Hg), Lead (Pb), Polycyclic Organic Matter (paM), Dioxins and Furans 6. Pursuant to the requirement of 25 PA Code §123.31, the owner/operator may not permit the emission into the outdoor atmosphere of any malodorous air contaminants from any source in such a manner that the malodors are detectable outside the property of the person on whose land the source is being operated. 7. The company shall not permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following: (1) Equal to or greater than 20% for a period or periods aggregating more than three minutes in any 1 hour. (2) Equal to or greater than 60% at any time. 8. The company shall not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source at the facility in such a manner that emissions are visible at the point the emissions pass outside the plant property line. 9. Under Research and development



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY



Request for Determination of Requirement For Plan Approval/Operating Permit (RFD)

provision of 25 PA Code, the company shall not engage in the commercial sale of electricity produce at the facility except in de minimis amounts on an infrequent basis ..

Conditions