

PUBLIC VERSION

**PLAN APPROVAL APPLICATION
FOR AN
ENERGY PRODUCTION FACILITY**

MAR 29 2013

ALLENTOWN, PENNSYLVANIA

SUBMITTED BY:

**DELTA THERMO ENERGY A, LLC
1210 NORTHBROOK DRIVE, SUITE 100
TREVOSSE, PENNSYLVANIA 19053**

SUBMITTED TO:

**AIR QUALITY PROGRAM
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE
WILKES-BARRE, PENNSYLVANIA 18711**

**MARCH 2013
IES PROJECT NO. EV120894.04**



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

March 29, 2013

HAND DELIVER

Mr. Raymond Kempa, P.E.
Environmental Engineer Manager -- New Source Review
Pennsylvania Department of Environmental Protection
2 Public Square
Wilkes-Barre, PA 18711

Subject: Plan Approval Application
Public Version
Energy Production Facility
Delta Thermo Energy A, LLC
Allentown, Pennsylvania
IES Project No. EV120894.04

MAR 29 2013

Dear Mr. Kempa:

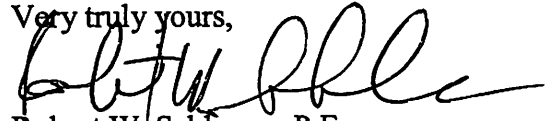
On behalf of Delta Thermo Energy A, LLC (DTE), IES Engineers (IES) is pleased to submit an original and two copies of the enclosed Plan Approval Application for the operation of a commercial-scale Energy Production facility. The facility will produce fuel from municipal solid waste (MSW) and sludge from the City of Allentown Waste Water Treatment Plant to generate electricity for internal use and sale to the electric grid. The facility will be located at 112 Union Street, Allentown, Lehigh County.

In a separate submittal, DTE has provided a confidential version of this application which contains proprietary information, trade secrets, and intellectual property rights. Release of this information to a third party could jeopardize DTE's competitive position in the industry. Therefore, DTE is also submitting this public version which contains only the general, non-confidential information.

We have enclosed a check in the amount of \$1,000, payable to the "Commonwealth of Pennsylvania, Clean Air Fund" fee for the Department's processing of this application.

Should you have any questions concerning this request, please do not hesitate to contact me or Mr. Robert Van Naarden of DTE at (215) 809-1139.

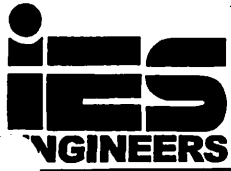
Very truly yours,



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

Enclosure

cc: R. Van Naarden, DTE
M. Bonilla, DTE
J. Bolstein, Fox Rothschild
A. Soni, IES



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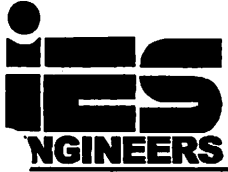
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Plan Approval Application Form:

ATTACHMENTS

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Attachment 2	Description of Emission Control Equipment
Attachment 3	Emission Calculations
Attachment 4	Regulatory Applicability Analysis
Attachment 5	Municipal Notifications and Land Use Letters <ul style="list-style-type: none">- Lehigh Valley Planning Commission- City of Allentown- Proof of Delivery
Attachment 6	Air Pollution Control Act Compliance Review Form
Attachment 7	Monitoring and Recordkeeping
Attachment 8	7½-Minute Series U.S.G.S. Site Location Map
Attachment 9	Dispersion Modeling Analysis



PUBLIC VERSION

GENERAL INFORMATION FORM



MAR 29 2013

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the Department.

Related ID#s (If Known) Client ID# <u>300555</u> APS ID# _____ Site ID# _____ Auth ID# _____ Facility ID# _____	DEP USE ONLY Date Received & General Notes
--	--

CLIENT INFORMATION

DEP Client ID# 300555	Client Type / Code NPACO
Organization Name or Registered Fictitious Name Delta Thermo Energy A, LLC	Employer ID# (EIN) Dun & Bradstreet ID# 80-0494550
Individual Last Name Van Naarden	First Name MI Suffix SSN Robert
Additional Individual Last Name	First Name MI Suffix SSN
Mailing Address Line 1 Mailing Address Line 2 One Northbrook Dr. 1210 Northbrook Corp. Center, Ste 100	
Address Last Line – City Trevose	State ZIP+4 Country PA 19053 USA
Client Contact Last Name Van Naarden	First Name MI Suffix Robert
Client Contact Title CEO, Delta Thermo Energy A, LLC	Phone Ext 215-809-1139
Email Address rvannaarden@deltathermo.com	FAX 215-809-1140

SITE INFORMATION

DEP Site ID#	Site Name Delta Thermo Energy, A, LLC - Allentown Energy Production Facility
EPA ID#	Estimated Number of Employees to be Present at Site 21
Description of Site To produce commercial quantities of renewable clean fuel and electricity as well as recyclable materials.	
County Name Lehigh	Municipality City Boro Twp State Allentown <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> PA
County Name	Municipality City Boro Twp State <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> PA
Site Location Line 1 Site Location Line 2 112 West Union Street	
Site Location Last Line – City Allentown	State ZIP+4 PA 18102
Detailed Written Directions to Site From Rt. 22, take exit for Mac Arthur Road South (Rt 145). Rt 145 will turn into 7 th Street. Travel approximately 2 miles and turn left onto West Union Street. Travel approximately 0.8 miles, site will be on your right.	
Site Contact Last Name Van Naarden	First Name MI Suffix Robert
Site Contact Title CEO	Site Contact Firm Delta Thermo Energy A, LLC
Mailing Address Line 1 Mailing Address Line 2 One Northbrook Dr., 1210 Northbrook Corp. Center, Ste 100	

Mailing Address Last Line – City Trevose			State PA	ZIP+4 19053
Phone 215-809-1139	Ext	FAX 215-809-1140	Email Address rvannaarden@deltathermo.com	
NAICS Codes (Two- & Three-Digit Codes – List All That Apply) 562213			6-Digit Code (Optional)	
Client to Site Relationship LESOP				

FACILITY INFORMATION

Modification of Existing Facility				Yes	No
1. Will this project modify an existing facility, system, or activity?				<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will this project involve an addition to an existing facility, system, or activity?				<input type="checkbox"/>	<input checked="" type="checkbox"/>
If "Yes", check all relevant facility types and provide DEP facility identification numbers below.					
Facility Type	DEP Fac ID#	Facility Type	DEP Fac ID#		
<input checked="" type="checkbox"/> Air Emission Plant		<input type="checkbox"/> Industrial Minerals Mining Operation			
<input type="checkbox"/> Beneficial Use (water)		<input type="checkbox"/> Laboratory Location			
<input type="checkbox"/> Blasting Operation		<input type="checkbox"/> Land Recycling Cleanup Location			
<input type="checkbox"/> Captive Hazardous Waste Operation		<input type="checkbox"/> MineDrainageTrmt/LandRecyProjLocation			
<input type="checkbox"/> Coal Ash Beneficial Use Operation		<input checked="" type="checkbox"/> Municipal Waste Operation			
<input type="checkbox"/> Coal Mining Operation		<input type="checkbox"/> Oil & Gas Encroachment Location			
<input type="checkbox"/> Coal Pillar Location		<input type="checkbox"/> Oil & Gas Location			
<input type="checkbox"/> Commercial Hazardous Waste Operation		<input type="checkbox"/> Oil & Gas Water Poll Control Facility			
<input type="checkbox"/> Dam Location		<input type="checkbox"/> Public Water Supply System			
<input type="checkbox"/> Deep Mine Safety Operation -Anthracite		<input type="checkbox"/> Radiation Facility			
<input type="checkbox"/> Deep Mine Safety Operation -Bituminous		<input type="checkbox"/> Residual Waste Operation			
<input type="checkbox"/> Deep Mine Safety Operation -Ind Minerals		<input type="checkbox"/> Storage Tank Location			
<input type="checkbox"/> Encroachment Location (water, wetland)		<input type="checkbox"/> Water Pollution Control Facility			
<input checked="" type="checkbox"/> Erosion & Sediment Control Facility		<input type="checkbox"/> Water Resource			
<input type="checkbox"/> Explosive Storage Location		<input type="checkbox"/> Other:			
Latitude/Longitude Point of Origin		Latitude		Longitude	
		Degrees	Minutes	Seconds	Degrees
CNTR		40	36	17	75
Horizontal Accuracy Measure		Feet	1	--or--	Meters
Horizontal Reference Datum Code		<input type="checkbox"/> North American Datum of 1927 <input type="checkbox"/> North American Datum of 1983 <input checked="" type="checkbox"/> World Geodetic System of 1984			
Horizontal Collection Method Code		EMAP			
Reference Point Code		CNTR			
Altitude		Feet	260	--or--	Meters
Altitude Datum Name		<input type="checkbox"/> The National Geodetic Vertical Datum of 1929 <input checked="" type="checkbox"/> The North American Vertical Datum of 1988 (NAVD88)			
Altitude (Vertical) Location Datum Collection Method Code		TOPO			
Geometric Type Code					
Data Collection Date					
Source Map Scale Number		Inch(es)	=	Feet	
		--or--	Centimeter(s)	=	Meters

PROJECT INFORMATION

Project Name Allentown Energy Production Facility			
Project Description To obtain plan approval for energy production facility			
Project Consultant Last Name Schlosser	First Name Robert	MI W	Suffix
Project Consultant Title Principal Project Manager		Consulting Firm IES Engineers	
Mailing Address Line 1 1720 Walton Road		Mailing Address Line 2	

Address Last Line – City Blue Bell		State PA	ZIP+4 19422
Phone 610-828-3078	Ext	FAX 610-828-7842	Email Address rschlosser@iesengineers.com

Time Schedules	Project Milestone (Optional) DTE can initiate construction of the energy production facility under the approved RFD, but will not operate it for commercial purposes until the plan approval is issued.

1. Have you informed the surrounding community and addressed any concerns prior to submitting the application to the Department? ☒ Yes ☐ No
2. Is your project funded by state or federal grants? ☒ Yes ☐ No
Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.
 Aspect of Project Related to Grant
 Grant Source: 1. RACP Commonwealth Grant (\$2.5MM); 2. CFA Commonwealth Grant (\$2MM); 3. DOE Federal Grant (\$1MM); and 4. PEDDA Commonwealth Grant (\$0.5MM)
 Grant Contact Person: See table below
 Grant Expiration Date: See table below
3. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions) ☐ Yes ☐ No
Note: If "No" to Question 3, the application is not subject to the Land Use Policy.
 If "Yes" to Question 3, the application is subject to this policy and the Applicant should answer the additional questions in the Land Use Information section.

LAND USE INFORMATION

Note: Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1. Is there an adopted county or multi-county comprehensive plan? ☒ Yes ☐ No
2. Is there an adopted municipal or multi-municipal comprehensive plan? ☒ Yes ☐ No
3. Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance? ☒ Yes ☐ No
Note: If the Applicant answers "No" to either Questions 1, 2 or 3, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 4 and 5 below.
 If the Applicant answers "Yes" to questions 1, 2 and 3, the Applicant should respond to questions 4 and 5 below.
4. Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? If zoning approval has been received, attach documentation. ☒ Yes ☐ No
5. Have you attached Municipal and County Land Use Letters for the project? ☒ Yes ☐ No

Grant	Contact	Expiration Date
RACP	Elias Joseph	11/30/15
CFA	ra-dcedcbf@pa.gov	6/30/13
DOE	Will Schrode	3/31/13
PEDA	Bharat N. Bham	10/1/14

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 and the accompanying Cultural Resource Notice Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	Is this a coal mining project? If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
1.1	Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.2	Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.3	Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.4	For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.5	Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
1.6	Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.0	Is this a non-coal (industrial minerals) mining project? If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2.1	Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.2	Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.3	Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.4	For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2.5	Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3.0	Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well? If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
3.1	Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.2	Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system? If "Yes", discuss in <i>Project Description</i> .	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.3	Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0	Will the project involve a construction activity that results in earth disturbance? If "Yes", specify the total disturbed acreage. 4.0.1 Total Disturbed Acreage 4.09 acres	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.0	Does the project involve any of the following? If "Yes", respond to 5.1-5.3. If "No", skip to Question 6.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.1	Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.2	Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.3	Floodplain Projects by the commonwealth, a Political Subdivision of the commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6.0	Will the project involve discharge of stormwater or wastewater from an industrial activity to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
7.0	Will the project involve the construction and operation of industrial waste treatment facilities?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
8.0	Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations? If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the <i>Project Description</i> , where applicable. 8.0.1 Estimated Proposed Flow (gal/day)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
9.0	Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system? 9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
10.0	Is this project for the beneficial use of biosolids for land application within Pennsylvania? If "Yes" indicate how much (i.e. gallons or dry tons per year). 10.0.1 Gallons Per Year (residential septage) 10.0.2 Dry Tons Per Year (biosolids)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
11.0	Does the project involve construction, modification or removal of a dam? If "Yes", identify the dam. 11.0.1 Dam Name	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No

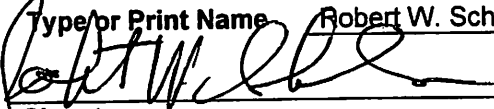
12.0	Will the project interfere with the flow from, or otherwise impact, a dam? If "Yes", identify the dam.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
12.0.1	Dam Name				
13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)? If "Yes", identify each type of emission followed by the amount of that emission.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
13.0.1	Enter all types & amounts of emissions; separate each set with semicolons. SEE ATTACHMENT 3				
14.0	Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year? If "Yes", check all proposed sub-facilities.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
14.0.1	Number of Persons Served				
14.0.2	Number of Employee/Guests				
14.0.3	Number of Connections				
14.0.4	Sub-Fac: Distribution System	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.5	Sub-Fac: Water Treatment Plant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.6	Sub-Fac: Source	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.7	Sub-Fac: Pump Station	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.8	Sub Fac: Transmission Main	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.9	Sub-Fac: Storage Facility	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
15.0	Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0	Is your project to be served by an existing public water supply? If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
16.0.1	Supplier's Name City of Allentown				
16.0.2	Letter of Approval from Supplier is Attached	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
17.0	Will this project involve a new or increased drinking water withdrawal from a stream or other water body? If "Yes", should reference both Water Supply and Watershed Management.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
17.0.1	Stream Name				
18.0	Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste? If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
18.0.1	Type & Amount				
19.0	Will your project involve the removal of coal, minerals, etc. as part of any earth disturbance activities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
20.0	Does your project involve installation of a field constructed underground storage tank? If "Yes", list each Substance & its Capacity. Note: Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
20.0.1	Enter all substances & capacity of each; separate each set with semicolons.				
21.0	Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility? If "Yes", list each Substance & its Capacity. Note: Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0.1	Enter all substances & capacity of each; separate each set with semicolons.				

- 22.0 Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724? If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. ☐ Yes ☒ No
- 22.0.1 Enter all substances & capacity of each; separate each set with semicolons.
- 23.0 Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons? If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. ☐ Yes ☒ No
- 23.0.1 Enter all substances & capacity of each; separate each set with semicolons.
- 24.0 Will the intended activity involve the use of a radiation source? ☐ Yes ☒ No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

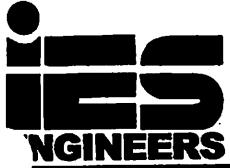
Type or Print Name Robert W. Schlosser, P.E.


Signature

Principal Project Manager

Title

3/27/13
Date



PUBLIC VERSION

PLAN APPROVAL APPLICATION FORM

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY



Submit in Triplicate

MAR 29 2013

COMBUSTION UNIT

**Application for Plan Approval to Construct, Modify or Reactivate an
Air Contamination Source and/or Install an Air Cleaning Device**

This application and the General Information Form (GIF) must be included in the submittal

Before completing this form, read the instructions provided with this form.

Section A - Facility Name, Checklist and Certification

Organization Name or Registered Fictitious Name/Facility Name: Delta Thermo Energy A, LLC

DEP Client ID# (If Known): 300555

Type of Review required and Fees:

Source which is not subject to NSPS, NESHAPs, MACT, NSR and PSD: \$1,000
 Source requiring approval under NSPS or NESHAPs or both: \$
 Source requiring approval under NSR: \$
 Source requiring the establishment of a MACT limitation: \$
 Source requiring approval under PSD: \$

Applicant's Checklist

Check the following list to make sure that all the required documents are included.

General Information Form (GIF)

Combustion Unit Plan Approval Application

Compliance Review Form or provide reference of most recently submitted compliance review form for facilities submitting on a periodic basis: _____

Proof of County and Municipal Notifications

Permit Fees

Addendum A: Source Applicable Requirements (only applicable to existing Title V facility)

Certification of Truth, Accuracy and Completeness by a Responsible Official

I, Robert Van Naarden, certify under penalty of law 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 in this application are true, accurate and complete.

(Signature): Robert Van Naarden

Name (Print): Robert Van Naarden

Date: 3/28/13

Title: CEO

OFFICIAL USE ONLY

Application No. _____ Unit ID _____ Site ID _____
 DEP Client ID #: _____ APS ID _____ AUTH. ID _____
 Date Received _____ Date Assigned _____ Reviewed By _____
 Date of 1st Technical Deficiency _____ Date of 2nd Technical Deficiency _____
 Comments: _____

PUBLIC VERSION

Section B - Combustion Unit Information

I. Combustion Units: ☐ Coal ☐ Oil ☒ Natural Gas (Startup Only) Other: Pulverized Fuel Product
produced from municipal solid waste and sewage sludge

Description: Complete Combustion Chamber (CCC)

Manufacturer	Model No.	Number of units 1	
Maximum heat input (Btu/hr)	Rated heat input (Btu/hr)	Typical heat input (Btu/hr)	Furnace Volume
Grate Area (if applicable)		Method of firing	

Indicate how combustion air is supplied to boiler

Indicate the Steam Usage:

Mark and describe soot Cleaning Method: - N/A

- | | |
|---------------------------|--------------------------------|
| i. Air Blown | iv. Other _____ |
| ii. Steam Blown | v. Frequency of Cleaning _____ |
| iii. Brushed and Vacuumed | |

Maximum Operating schedule

Hours/Day	Days/Week	Days/Year	Hours/Year
Operational restrictions taken or requested, if any (e.g., bottlenecks or voluntary restrictions to limit potential to emit)			
Capacity (specify units)			
Per hour	Per day	Per week	Per year

Typical Operating schedule

Hours/Day	Days/Week	Days/Year	Hours/Year
Seasonal variations (Months): If variations exist, describe them.			
Operating using primary fuel: _____		From _____ to _____	
Operating using secondary fuel: _____		Form _____ to _____	
Non-operating: _____		From _____ to _____	

2. Specify the primary, secondary and startup fuel. Furnish the details in item 3.

Note: Confidential information was provided to the Department in a separate version.

Section B - Combustion Unit Information (Continued)

3. Fuel

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number	GPH @ 60°F	X 10 ³ Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10 ³ Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number	GPH @ 60°F	X 10 ³ Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH		gr/100 SCF		Btu/SCF
Gas (other)	SCFH	X 10 ⁶ Gal	gr/100 SCF		Btu/SCF
Coal					
Other*	ton/hr	ton/yr			

* Note: Describe and furnish information separately for other fuels in Addendum B.

4. Burner

Manufacturer	Model Number	Type of Atomization (Steam, air, press, mech., rotary cup)
Number of Burners	Maximum fuel firing rate (all burners)	Normal fuel firing rate

If oil, temperature and viscosity.

Maximum theoretical air requirement

Percent excess air 100% rating

Turndown ratio

Combustion modulation control (on/off, low-high fire, full automatic, manual). Describe.

Main burner flame ignition method (electric spark, auto gas pilot, hand-held torch, other). Describe.

5. Nitrogen Oxides (NO_x) control Options

Mark and describe the NO_x control options adopted

Low excess air (LEA)

Flue gas recirculation

Other

Over fire air (OFA)

Burner out of service

Low-NO_x burner

Reburning

Low NO_x burners with over fire
air

Flue gas treatment (SCR /
SNCR)

Note: Confidential information was provided to the Department in a separate version.

Section B - Combustion Unit Information (Continued)**6. Miscellaneous Information**

Describe fly ash reinjection operation
N/A

Describe, in detail, the equipment provided to monitor and to record the source(s) operating conditions, which may affect emissions of air contaminants. Show that they are reasonable and adequate.

See Attachment 7

Describe each proposed modification to an existing source.

N/A

Describe how emissions will be minimized especially during start up, shut down, combustion upsets and/or disruptions. Provide emission estimates for start up, shut down, and upset conditions. Provide duration of start up and shut down.

Good combustion and engineering practices, operation and maintenance in accordance with manufacturer recommendations, and the use of clean fuel (natural gas) during startup.

Describe in detail with a schematic diagram of the control options adopted for SO₂ (if applicable).

Anticipated milestones:

Expected commencement date of construction/reconstruction: _____

Expected completion date of construction/reconstruction: _____

Anticipated date(s) of start-up: _____

Note: Confidential information was provided to the Department in a separate version.

Section C - Air Cleaning Device

1. Precontrol Emissions* See Attachment 3

Emission Rate					
Pollutant	Maximum Emission Rate				Calculation/ Estimation Method
	Specify Units	Pounds/Hour	Hours/Year	Tons/Year	
PM					
PM ₁₀					
SO _x					
CO					
NO _x					
VOC					
Others: (e.g., HAPs)	----	----	----		----

* These emissions must be calculated based on the requested operating schedule and/or process rate, e.g., operating schedule for maximum limits or restricted hours of operation and/or restricted throughput. Describe how the emission values were determined. Attach calculations.

2. Gas Conditioning

Water quenching <input type="checkbox"/> YES <input type="checkbox"/> NO Water injection rate _____ GPM	
Radiation and convection cooling <input type="checkbox"/> YES <input type="checkbox"/> NO	Air dilution <input type="checkbox"/> YES <input type="checkbox"/> NO If YES, _____ CFM
Forced draft <input type="checkbox"/> YES <input type="checkbox"/> NO	Water cooled duct work <input type="checkbox"/> YES <input type="checkbox"/> NO
Other _____	
Inlet volume ACFM @ ____°F	Outlet volume ____ACFM @ ____°F % Moisture

Describe the system in detail.

Note: Confidential information was provided to the Department in a separate version.

Section C - Air Cleaning Device (Continued)

3. Inertial and Cyclone Collectors --

Manufacturer		Type		Model No.	
Pressure Drop (in. of water)	Inlet Volume ACFM @ °F		Outlet Volume ACFM @ °F % Moisture		
Number of Individual Cyclone(s)			Outlet Straightening Vanes Used? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Length of Cyclone(s) Cylinder (ft)	Diameter of Cyclone(s) Cylinder		Length of cyclone(s) cone (ft)		
Inlet Diameter (ft) or Duct Area (ft ²) of Cyclone(s)			Outlet Diameter (ft) or Duct area (ft ²) of cyclone(s)		
If a multi-clone or multi-tube unit is installed, will any of the individual cyclones or cyclone tubes be blanked or blocked off?					
No					
Describe any exhaust gas recirculation loop to be employed.					
None					
Attach particle size efficiency curve					
Emission data -- See Attachment 3					
Inlet		Outlet		Removal Efficiency (%)	

Note: Confidential information was provided to the Department in a separate version.

Section C - Air Cleaning Device (Continued)

- ☐ SELECTIVE CATALYTIC REDUCTION (SCR)
☐ SELECTIVE NON-CATALYTIC REDUCTION (SNCR)
☐ NON-SELECTIVE CATALYTIC REDUCTION (NSCR)

Equipment specifications

Manufacturer	Type	Model No
Design inlet volume (SCFM)		Design operating temperature (°F)
Is the system equipped with process controls for proper mixing/control of the reducing agent in gas stream? If yes, give details. No		
Attach efficiency and other pertinent information (e.g., Ammonia, urea slip).		

Operating parameters

Volume of gases handled (ACFM) _____ @ _____ (°F)		
Operating temperature range for the SCR/SNCR/NSCR system (°F)		From To
Reducing agent used, if any.		Oxidation catalyst used, if any.
State expected range of usage rate and concentration.		
Service life of catalyst		Ammonia slip (ppm)
Describe fully with a sketch giving locations of equipment, controls system, important parameters, and method of operation.		
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements. Loss of ammonia injection and high pressure drop will be alarmed		
See Attachment 2.		

Emissions data -- See Attachment 3

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Note: Confidential information was provided to the Department in a separate version.

PUBLIC VERSION

Section C - Air Cleaning Device (Continued)

4. Fabric Collector

Equipment Specifications

Manufacturer		Model No.	<input type="checkbox"/> Pressurized Design <input type="checkbox"/> Suction Design
Number of Compartments	Number of Filters Per Compartment	Is Baghouse Insulated? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Can each compartment be isolated for repairs and/or filter replacement? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Are temperature controls provided? (Describe in detail) Process controls associated with operating the boiler <input type="checkbox"/> Yes <input type="checkbox"/> No			
Dew point at maximum moisture _____ °F		Design inlet volume _____ SCFM	
Type of Fabric Material _____ <input type="checkbox"/> Felted <input type="checkbox"/> Membrane Weight _____ oz/sq.yd <input type="checkbox"/> Woven <input type="checkbox"/> Others: List: _____ Thickness _____ in <input type="checkbox"/> Felted-Woven			
Fabric permeability (clean) @ ½" water-Δ P _____ CFM/sq.ft.			
Filter dimensions _____ Diameter/Width _____			
Effective area per filter: _____		Maximum operating temperature (°F) _____	
Effective air to cloth ratio Minimum _____ Maximum _____			
Drawing of Fabric Filter A sketch of the fabric filter showing all access doors, catwalks, ladders, and exhaust ductwork, location of each pressure and temperature indicator should be attached. Will be provided upon completion of engineering			
Operation and Cleaning			
Volume of gases handled ACFM °F		Pressure drop across collector (in. of water). 4-6 inches w.g. Describe the equipment to be used to monitor the pressure drop.	
Type of filter cleaning <input type="checkbox"/> Manual Cleaning <input type="checkbox"/> Bag Collapse <input type="checkbox"/> Reverse Air Jets <input type="checkbox"/> Mechanical Shakers <input type="checkbox"/> Sonic Cleaning <input type="checkbox"/> Other: <input type="checkbox"/> Pneumatic Shakers <input type="checkbox"/> Reverse Air Flow			
If compressed air is required for collector operation, describe the equipment with the compressor to provide dry air free from oil. Compressor will be equipped with oil separator and desiccator to provide treated air			
Cleaning Initiated By <input type="checkbox"/> Timer Frequency if timer actuated _____ <input type="checkbox"/> Expected pressure drop range in. of water <input type="checkbox"/> Other Specify _____			
Does air cleaning device employ hopper heaters, hopper vibrators, or hopper level detectors? If yes, describe.			
Describe the warning/alarm system that protects against operation when the unit is not meeting design requirements. High pressure drop alarm			

Emissions Data -- See Attachment 3

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

5. Wet Collection Equipment: _____

Equipment Specifications

Manufacturer	Type	Model No.
Design Inlet Volume (SCFM)	Relative Particulate/Gas Velocity (ejector scrubbers only)	
Describe the internal features (e.g., variable throat, gas/liquid diffusion plates, spray nozzles, liquid redistributors, bed limiters, etc.).		
Describe pH monitoring and pH adjustment systems, if applicable.		
Describe mist eliminator or separator (type, configuration, backflush capability, frequency).		
Attach particulate size efficiency curve.		

Operating Parameters

Inlet volume of gases handled _____ (ACFM) @ _____ °F	Outlet volume of gases handled _____ (ACFM) @ _____ °F % Moisture
Liquid flow rates. Describe equipment provided to measure liquid flow rates to scrubber (e.g., quenching section, recirculating solution, makeup water, bleed flow, etc.)	
Describe scrubber liquid supply system (amount of make-up and recirculating liquid, capacity of recirculating liquid system, etc.).	
State pressure drop range (in water) across scrubber (e.g., venturi throat, packed bed, etc.) only. Describe the equipment provide to measure the pressure drop. Do not include duct or de-mister losses.	
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements. Los of scrubbing liquor, high and low pH, and high pressure drop will be alarmed. See Attachment 2.	

Emissions Data -- See Attachment 3

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Note: Confidential information was provided to the Department in a separate version.

PUBLIC VERSION

Section C - Air Cleaning Device (Continued)

6. Electrostatic Precipitator – NOT APPLICABLE

Equipment specifications

Manufacturer	Model No.	<input type="checkbox"/> Wet <input type="checkbox"/> Single-Stage	<input type="checkbox"/> Dry <input type="checkbox"/> Two-Stage
Gas distribution grids <input type="checkbox"/> YES <input type="checkbox"/> NO		Design inlet volume (SCFM) _____ Maximum operating temperature (°F) _____	
Total collecting surface area _____ sq. ft. Collector plates size length _____ ft. x width _____ ft. Number of fields _____ Number of collector plates/field _____. Spacing between collector plates _____ inches. Maximum gas velocity _____ ft/sec. Minimum gas treatment time: _____ sec.			
Total discharge electrode length _____ ft. Number of discharge electrodes _____ Number collecting electrode rappers _____			
Rapper control <input type="checkbox"/> Magnetic <input type="checkbox"/> Pneumatic <input type="checkbox"/> Other _____ Describe in detail			

Operating parameters

Inlet gas temperature (°F) _____ Outlet gas temperature (°F) _____	State pressure drop range (water gauge) across collector only. Describe the equipment.
Volume of gas handled (ACFM) _____	Dust resistivity (ohm-cm). Will resistivity vary?

Power requirements

Number and size of Transformer Rectifier sets by electrical field

Field No.	No. of Sets	Each Transformer KVA	Each Rectifier	
			KV Ave./Peak	MaDC

Current density _____ Micro amperes/ft ²	Corona power _____ Watts/1000 ACFM	Corona power density _____ Watts/ft ²
--	---------------------------------------	---

Will a flue gas conditioning system be employed? If yes, describe it.

Does air cleaning device employ hopper heaters, hopper vibrators, or hopper level detectors? If yes, describe.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Emissions data

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Section C - Air Cleaning Device (Continued)

7. Absorption Equipment: _____

Equipment specifications

Manufacturer	Type	Model No	
Design inlet volume (SCFM)	Tower height (ft) and inside diameter (ft)		
Packing type and size (if applicable)	Height of packing (ft) (if applicable)		
Number of trays (if applicable) N/A	Number of bubble caps (if applicable) N/A		
Configuration: <input type="checkbox"/> Counter-current <input type="checkbox"/> Cross flow <input type="checkbox"/> Cocurrent flow			
Describe pH and/or other monitoring and controls			
Absorbent information			
Absorbent type and concentration	Sorbent injection rate	Retention time (sec)	
Attach equilibrium data for absorption (If applicable).			
Attach any additional information regarding auxiliary equipment, reagent (slurry mix) supply system (once through or recirculating, system capacity, etc) to thoroughly evaluate the control equipment. Indicate the flow rates for makeup, bleed, and recirculation.			
Operating parameters			
Volume of gas handled (ACFM)	Inlet temperature (°F)	Pressure drop (in of water) and liquid flow rate. Describe the equipment.	
State operating range for pH and/or absorbent concentration in scrubber liquid.			
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.			
Emissions data -- See Attachment 3			
Pollutant	Inlet	Outlet	Removal Efficiency (%)

Note: Confidential information was provided to the Department in a separate version.

Section C - Air Cleaning Device (Continued) N/A**9. Other Control Equipment:** _____**Equipment specifications**

Manufacturer	Type	Model No
--------------	------	----------

Design inlet volume (SCFM)	Capacity
----------------------------	----------

Describe pH monitoring and pH adjustment, if any.

Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any.

Attach efficiency curve and/ or other efficiency information.

Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.

Operating parameters

Volume of gas handled

_____ @ _____ °F _____ % Moisture

Describe, in detail, important parameters and method of operation.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

Emissions data

Pollutant	Inlet	Outlet	Removal Efficiency (%)

Note: Confidential information was provided to the Department in a separate version.

Section C - Air Cleaning Device (Continued)

10. Costs

Indicate cost associated with air cleaning device and its operating cost (attach documentation if necessary)

Device	Direct Cost	Indirect Cost	Total Cost	Operating Cost
Baghouse, SCR, packed tower, and carbon adsorber	CONFIDENTIAL			

11 MISCELLANEOUS

Describe in detail the removal, handling and disposal of dust, effluent, etc. from the air cleaning device including proposed methods of controlling fugitive emissions.

Dust from the baghouse will be containerized and disposed off site at a licensed facility.

Attach manufacturer's performance guarantees and/or warranties for each of the major components of the control system (or complete system).

CONFIDENTIAL, provided to Department in separate attachment.

Attach the maintenance schedule for the control equipment and any part of the process equipment that, if in disrepair, would increase air contaminant emissions.

CONFIDENTIAL, to be provided to the Department.

Note: Confidential information was provided to the Department in a separate version.

Section D - Additional Information

Will the construction, modification, etc. of the sources covered by this application increase emissions from other sources at the facility? If so, describe and quantify.

No.

If this project is subject to any one of the following, attach a demonstration to show compliance with applicable standards

- | | | |
|---|------------------------------|--|
| a. Prevention of Significant Deterioration permit (PSD), 40 CFR Part 52? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| b. New Source Review, 25 Pa. Code Chapter 127, Subchapter E? | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| c. New Source Performance Standards, 40 CFR Part 60?
(If Yes, which subpart) _____ | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| d. National Emissions Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61?
If Yes, which subpart) _____ | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| e. Maximum Achievable Control Technology (MACT), 40 CFR Part 63?
(If Yes, which subpart) _____ | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |

Attach a demonstration showing that the emissions from any new source will be the minimum attainable through the use of best available technology (BAT).

See Attachment 4

Provide emission increases and decreases in allowable (or potential) and actual emissions within the last 5 years for applicable PSD pollutant(s) if the facility is an existing major facility (for PSD purposes)

N/A. Facility is a minor source under the Clean Air Act.

Note: Confidential information was provided to the Department in a separate version.

Indicate emission increases and decreases in tons per year (tpy), for volatile organic compounds (VOCs) and nitrogen oxides (NOx) for NSR applicability since January 1, 1991 or other applicable dates (See other applicable date in instructions). The emissions increases include all emissions including stack, fugitive, material transfer, other emission generating activities, quantifiable emissions from the exempted source(s), etc.

If the source is subject to 25 Pa. Code Chapter 127, Subchapter E, New Source Review requirements,

- a. Identify Emission Reduction Credits (ERCs) for emission offsets or demonstrate ability to obtain suitable ERCs for emission offsets.
- b. Provide a demonstration that the lowest achievable emission rate (LAER) control techniques will be implemented (if applicable).
- c. Provide an analysis of alternate sites, sizes, production processes and environmental control techniques demonstrating that the benefits of the proposed source outweigh the environmental and social costs (if applicable).

N/A

See Attachment 3

- 15 -

Section E - Compliance Demonstration

Note: Complete this section if the facility is not a Title V facility. Title V facilities must complete Addendum A.

Method of Compliance Type: Check all that apply and complete all appropriate sections below.

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Monitoring | <input checked="" type="checkbox"/> Testing | <input checked="" type="checkbox"/> Reporting |
| <input checked="" type="checkbox"/> Recordkeeping | <input checked="" type="checkbox"/> Work Practice Standard | |

Monitoring:

- a. Monitoring device type (stack test, CEM etc.):
- b. Monitoring device location:
- c. Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:

Testing:

- a. Reference Test Method Citation: EPA reference test methods will be used to measure the emission rates. These methods will be approved by the Department in the test protocol before the testing is performed.
- b. Reference Test Method Description:

Recordkeeping:

Describe the parameters that will be recorded and the recording frequency:

Reporting:

- a. Describe the type of information to be reported and the reporting frequency:
- b. Reporting start date:

Work Practice Standard: Describe each

Note: Confidential information was provided to the Department in a separate version.

Section F - Flue and Air Contaminant Emission

1. Estimated Maximum Emissions* - See Attachment 3

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	specify units	lbs/hr	tons/yr.	
PM				
PM ₁₀				
SO _x				
CO				
NO _x				
VOC				
Others: (e.g., HAPs)	—	—	—	—

* These emissions must be calculated based on the requested operating schedule and/or process rate e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput. Describe how the emission values were determined. Attach calculations.

2. Stack and Exhauster

Stack Designation/Number _____

List Source(s) or source ID exhausted to this stack: _____

% of flow exhausted to stack: _____

Stack height above grade (ft.)
Grade elevation (ft.) _____

Stack diameter (ft) or Outlet duct area (sq. ft.)
) _____

Weather Cap
☐ YES ☐ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map. _____

Does stack height meet Good Engineering Practice (GEP)? _____

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of Stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	40	36	17.85	75	27	20.82

Stack Exhaust

Volume _____ ACFM Temperature _____ °F Moisture _____ %

Exhauster (attach fan curves) _____ in. of water _____ HP @ _____ RPM.

** If the datum and collection method information and codes differ from those provided on the General Information Form - Authorization Application, provide the additional required by that form on a separate sheet.

Note: Confidential information was provided to the Department in a separate version.

Section G - Attachments

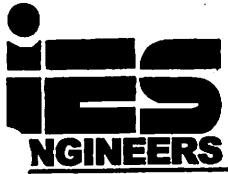
Number and list all attachments submitted with this application below:

General Information Form

Plan Approval Application Form

- | | |
|--------------|--|
| Attachment 1 | Project Background and Process Description |
| Attachment 2 | Description of Emission Control Equipment |
| Attachment 3 | Emission Calculations |
| Attachment 4 | Regulatory Applicability Analysis |
| Attachment 5 | Municipal Notifications and Land Use Letters <ul style="list-style-type: none">- Lehigh Valley Planning Commission- City of Allentown- Proof of Delivery |
| Attachment 6 | Air Pollution Control Act Compliance Review Form |
| Attachment 7 | Monitoring and Recordkeeping |
| Attachment 8 | 7½-Minute Series U.S.G.S. Site Location Map |
| Attachment 9 | Dispersion Modeling Analysis |

Note: Confidential information was provided to the Department in a separate version.



PUBLIC VERSION

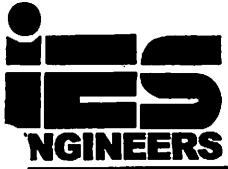
ATTACHMENT 1
PROJECT BACKGROUND AND PROCESS DESCRIPTION

ATTACHMENT 1
PROJECT BACKGROUND AND PROCESS DESCRIPTION

Project Background

Delta Thermo Energy A, LLC (DTE) is proposing to construct a new Energy Production facility in the City of Allentown, Lehigh County, Pennsylvania. It is proposing to utilize municipal solid waste (MSW) and sludge from the City of Allentown's Wastewater Treatment Plant as feedstock to produce a fuel to generate 3 to 4 gross megawatts (MW) of electricity for internal use and sale. DTE has leased an undeveloped parcel of land from the City of Allentown located at 112 Union Street in Allentown, Pennsylvania, where the facility will be constructed. The facility will encompass a new building structure to house the operation, an associated driveway, and truck scale.

The process description and flow diagram contain confidential information which has been provided to the Department in a separate submittal



PUBLIC VERSION

ATTACHMENT 2

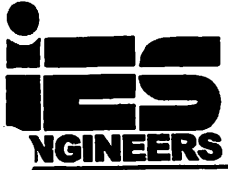
DESCRIPTION OF EMISSION CONTROL EQUIPMENT

ATTACHMENT 2
EMISSION CONTROL EQUIPMENT

The energy production facility will emit Clean Air Act-regulated pollutants, including PM₁₀, NO_x, CO, SO₂, VOC, acid gases and metals. The emission control system consists of the following devices in series:

- Twin cyclone for primary PM removal
- Selective catalytic reduction (SCR) system with urea injection for NO_x control
- Economizer
- Flue gas recirculation for NO_x control
- Fabric filter for control of PM and metals
- Wet packed tower with caustic solution recirculation for control of SO₂, HCl, and HF
- 2-stage carbon adsorption system for VOC and mercury control
- 600-hp ID fan and discharged through a stack 57.5 feet above grade (5 feet above roof)

Figure 2-1 presents the schematic flow diagram for this system. This system includes the following control devices: a Cyclone, SCR System, Fabric Filter, Packed Tower Scrubber and Carbon Adsorption System



PUBLIC VERSION

ATTACHMENT 3
EMISSION CALCULATIONS

ATTACHMENT 3
EMISSION CALCULATIONS

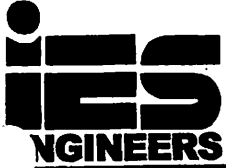
CONTROLLED EMISSIONS

The controlled emissions in the stack gases are presented in the following table.

Pollutant	Controlled Emissions	
	Lb/hr	Ton/yr
NO _x	1.30	5.0
SO ₂	1.04	4.0
SO ₃	0.85	3.3
HCl	0.13	0.50
HF	0.12	0.46
CO	3.5	13.4
VOC	1.04	4.0
PM	0.39	1.5
Hg	0.0015	0.006
CO ₂	16,382	62,907

Controlled metal emissions are summarized below:

Metal	Controlled Emissions	
	Lb/hr	Ton/yr
Antimony	4.6×10^{-7}	1.77×10^{-6}
Arsenic	2.2×10^{-7}	8.45×10^{-7}
Beryllium	5.8×10^{-9}	2.23×10^{-8}
Cadmium	3.2×10^{-7}	1.23×10^{-6}
Chromium (total)	1.86×10^{-6}	7.14×10^{-6}
Manganese	2.0×10^{-4}	8.0×10^{-4}
Selenium	2.2×10^{-6}	8.44×10^{-6}
Lead	9.4×10^{-7}	3.6×10^{-6}
Nickel	8.2×10^{-7}	3.15×10^{-6}



PUBLIC VERSION

ATTACHMENT 4
REGULATORY APPLICABILITY ANALYSIS
(CONFIDENTIAL)

ATTACHMENT 4
REGULATORY APPLICABILITY ANALYSIS

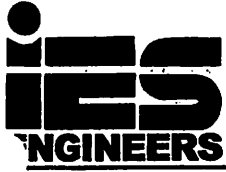
DTE is required to comply with regulations promulgated by the U.S. Environmental Protection Agency (EPA) and the Pennsylvania Department of Environmental Protection (Department) with respect to emissions of air contaminants. This attachment evaluates the applicability of federal and state air quality regulations to the installation of the proposed energy production facility.

U.S. ENVIRONMENTAL PROTECTION AGENCY REGULATIONS

EPA currently regulates new and modified sources of air contaminants through four programs:

- 1) New Source Performance Standards (NSPS)
- 2) National Emission Standards for Hazardous Air Pollutants (NESHAP)
- 3) Maximum Achievable Control Technology (MACT) for Source Categories
- 4) Prevention of Significant Deterioration (PSD)/Nonattainment New Source Review (NSR)

A detailed analysis of the applicability of each of these regulations was submitted to the Department in a confidential version of this application.



PUBLIC VERSION

ATTACHMENT 5

MUNICIPAL NOTIFICATIONS AND LAND USE LETTERS

- LEHIGH VALLEY PLANNING COMMISSION
- CITY OF ALLENTOWN
- PROOF OF DELIVERY



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

March 27, 2013

EXPRESS MAIL

FedEx No. 7993 8531 3099

City of Allentown
Office of the Mayor
435 Hamilton Street
Allentown, PA 18101

Subject: Delta Thermo Energy, Inc.
Plan Approval Application – Land Use Notice
Energy Production Facility
IES Project No. EV120894.04

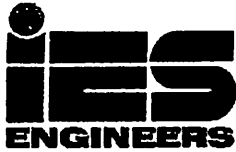
Honorable Mayor Pawlowski:

On or about March 29, 2013, Delta Thermo Energy, Inc. (DTE) will be submitting a Plan Approval application to the Pennsylvania Department of Environmental Protection (DEP) for the installation of an energy production facility. This facility will be located at 112 Union Street in Allentown and will utilize municipal solid waste and sludge from the City of Allentown Waste Water Treatment Plant as fuel to generate electricity.

Acts 67, 68, and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities or infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. Enclosed is a General Information Form (GIF) that we have completed for this project. DEP invites you to review the attached GIF and comment on the accuracy of answers provided with regard to land use aspects of this project; please be specific to DEP and focus on the relationship to zoning ordinances.

If you wish to submit comments to DEP to become part of a land use review of this project, you must respond within 30 days from the date of receipt of this letter to the DEP office referenced in this letter. If no land use comments are received by the end of the comment period, DEP will assume that there are no substantive land use conflicts and will proceed with the normal application review process. For more information about this land use review process, visit DEP's web site at www.state.pa.us (directLINK: "Land Use Reviews").

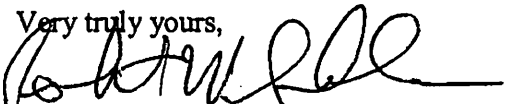
Pursuant to Section 1905-A of the Administrative Code of 1929 (71 P.S. §510-5) and 25 Pa. Code §127.462, DTE is required to provide municipalities with formal notice of this application.



Honorable Mayor Pawlowski
March 27, 2013
Page 2

The application may be reviewed at DEP's Northeast Regional Office located at 2 Public Square, Wilkes-Barre, PA 18711-0790. Comments on this application should be submitted to Mr. Mark Wejksznier, the DEP Air Quality Program Manager, at that address. If the County has no comments, it may submit a written statement to DEP expressly waiving the 30-day comment period.

Very truly yours,



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

Enclosure

cc: R. Van Naarden, DTE

**799385313099**

Ship (P/U) date :
Wed 3/27/2013 5:57 pm
Blue Bell, PA US



Delivered
Signed for by: K.ROXBERRY

Actual delivery :
Thur 3/28/2013 9:04
ALLENTOWN, PA US

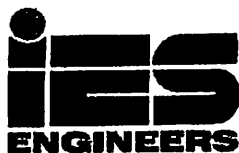
Travel History

Date/Time	Activity	Location
- 3/28/2013 - Thursday		
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8:13 am	On FedEx vehicle for delivery	BETHLEHEM, PA
7:27 am	At local FedEx facility	BETHLEHEM, PA
4:00 am	Departed FedEx location	NEWARK, NJ
- 3/27/2013 - Wednesday		
11:44 pm	Departed FedEx location	NEWARK, NJ
11:35 pm	Arrived at FedEx location	NEWARK, NJ
10:00 pm	Left FedEx origin facility	FORT WASHINGTON, PA
5:57 pm	Picked up	FORT WASHINGTON, PA
4:56 pm	Shipment information sent to FedEx	

Local Scan *

Shipment Facts

Tracking number	799385313099	Service	FedEx Priority Overnight
Weight	0.5 lbs	Delivered To	Mailroom



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

March 27, 2013

EXPRESS MAIL

FedEx No. 7993 8523 9843

Mr. Matthew Glennon
Chair, Lehigh Valley Planning Commission
961 Marcon Boulevard - Suite 310
Allentown, PA 18109

Subject: Delta Thermo Energy, Inc.
Plan Approval Application – Land Use Notice
Energy Production Facility
IES Project No. EV120894.04

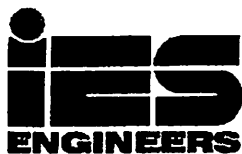
Dear Mr. Glennon:

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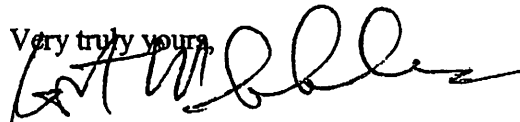
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Mr. Matthew Glennon
March 27, 2013
Page 2

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Very truly yours,



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

Enclosure

cc: R. Van Naarden, DTE

**799385239843**

Ship (P/U) date :
Wed 3/27/2013 5:57 pm
Blue Bell, PA US



Delivered
Signed for by: K.SAUERZOPF

Actual delivery :
Thur 3/28/2013 9:35
ALLENTOWN, PA US

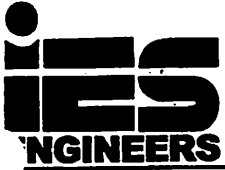
Travel History

Date/Time	Activity	Location
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4:53 pm	Shipment information sent to FedEx	

Local Scan

Shipment Facts

Tracking number	799385239843	Service	FedEx Priority Overnight
Weight	0.5 lbs	Delivered To	Receptionist/Front Desk



PUBLIC VERSION

ATTACHMENT 6
AIR POLLUTION CONTROL ACT
COMPLIANCE REVIEW FORM



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

AIR POLLUTION CONTROL ACT COMPLIANCE REVIEW FORM

Fully and accurately provide the following information, as specified. Attach additional sheets as necessary.

Type of Compliance Review Form Submittal (check all that apply)

- ☒ Original Filing
☐ Amended Filing

Date of Last Compliance Review Form Filing:

___/___/___

Type of Submittal

- ☒ New Plan Approval
☐ Extension of Plan Approval
☐ Other: _____
- ☐ New Operating Permit
☐ Change of Ownership
- ☐ Renewal of Operating Permit
☐ Periodic Submission (@ 6 mos)

SECTION A. GENERAL APPLICATION INFORMATION

Name of Applicant/Permittee/("applicant")
(non-corporations-attach documentation of legal name)

Delta Thermo Energy A, LLC

Address One Northbrook Drive, 1210 Northbrook Corporate Center, Suite 100
Trevose, PA 19053

Telephone 215-809-1139 Taxpayer ID# 80-0494550

Permit, Plan Approval or Application ID# N/A

Identify the form of management under which the applicant conducts its business (check appropriate box)

- ☐ Individual ☐ Syndicate ☐ Government Agency
☐ Municipality ☐ Municipal Authority ☐ Joint Venture
☐ Proprietorship ☐ Fictitious Name ☐ Association
☐ Public Corporation ☐ Partnership ☐ Other Type of Business, specify below:
☒ Private Corporation ☐ Limited Partnership

Describe below the type(s) of business activities performed.

Operation of an energy production facility.

MAR 29 2013

SECTION B. GENERAL INFORMATION REGARDING "APPLICANT"

If applicant is a corporation or a division or other unit of a corporation, provide the names, principal places of business, state of incorporation, and taxpayer ID numbers of all domestic and foreign parent corporations (including the ultimate parent corporation), and all domestic and foreign subsidiary corporations of the ultimate parent corporation with operations in Pennsylvania. Please include all corporate divisions or units, (whether incorporated or unincorporated) and privately held corporations. (A diagram of corporate relationships may be provided to illustrate corporate relationships.) Attach additional sheets as necessary.

Unit Name	Principal Places of Business	State of Incorporation	Taxpayer ID	Relationship to Applicant
Delta Thermo Energy A, LLC	One Northbrook Drive, 1210 Northbrook Corp. Center, Suite 100 Trevoise, PA 19053	Delaware	80-0494550	Applicant

SECTION C. SPECIFIC INFORMATION REGARDING APPLICANT AND ITS "RELATED PARTIES"

Pennsylvania Facilities. List the name and location (mailing address, municipality, county), telephone number, and relationship to applicant (parent, subsidiary or general partner) of applicant and all Related Parties' places of business, and facilities in Pennsylvania. Attach additional sheets as necessary.

Unit Name	Street Address	County and Municipality	Telephone No.	Relationship to Applicant
N/A				

Provide the names and business addresses of all general partners of the applicant and parent and subsidiary corporations, if any.

Name	Business Address
N/A	

List the names and business address of persons with overall management responsibility for the process being permitted (i.e. plant manager).

Name	Business Address
Robert Van Naarden, CEO	One Northbrook Drive, 1210 Northbrook Corp. Center, Suite 100, Trevose, PA 19053
Marco Bonilla, COO	One Northbrook Drive, 1210 Northbrook Corp. Center, Suite 100, Trevose, PA 19053

Plan Approvals or Operating Permits. List all plan approvals or operating permits issued by the Department or an approved local air pollution control agency under the APCA to the applicant or related parties that are currently in effect or have been in effect at any time 5 years prior to the date on which this form is notarized. This list shall include the plan approval and operating permit numbers, locations, issuance and expiration dates. Attach additional sheets as necessary.

Air Contamination Source	Plan Approval/ Operating Permit#	Location	Issuance Date	Expiration Date
Proposed Facility	RFD NO. 1737	City of Allentown, Lehigh County	9/24/10	N.A.

Compliance Background. (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.

Date	Location	Plan Approval/ Operating Permit#	Nature of Documented Conduct	Type of Department Action	Status: Litigation Existing/Continuing or Corrected/Date	Dollar Amount Penalty
None						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$
						\$

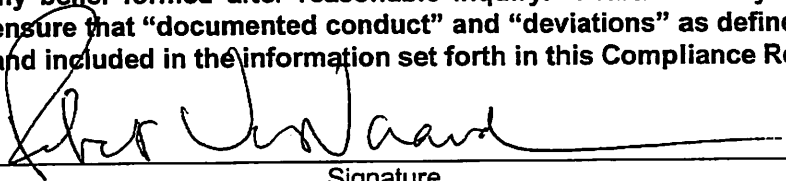
List all incidents of deviations of the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. This list must include items both currently known and unknown to the Department. Attach additional sheets as necessary. See the definition of "deviations" for further clarification.

Date	Location	Plan Approval/ Operating Permit#	Nature of Deviation	Incident Status: Litigation Existing/Continuing Or Corrected/Date
None				

CONTINUING OBLIGATION. Applicant is under a continuing obligation to update this form using the Compliance Review Supplemental Form if any additional deviations occur between the date of submission and Department action on the application.

VERIFICATION STATEMENT

Subject to the penalties of Title 18 Pa.C.S. Section 4904 and 35 P.S. Section 4009(b)(2), I verify under penalty of law that I am authorized to make this verification on behalf of the Applicant/Permittee. I further verify that the information contained in this Compliance Review Form is true and complete to the best of my belief formed after reasonable inquiry. I further verify that reasonable procedures are in place to ensure that "documented conduct" and "deviations" as defined in 25 Pa Code Section 121.1 are identified and included in the information set forth in this Compliance Review Form.



Signature

3/21/13

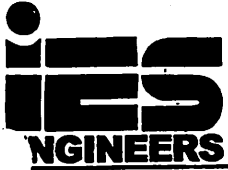
Date

Robert Van Naarden

Name (Print or Type)

CEO

Title



PUBLIC VERSION

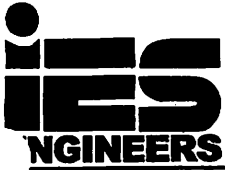
ATTACHMENT 7
MONITORING AND RECORDKEEPING
(CONFIDENTIAL)



PUBLIC VERSION

ATTACHMENT 7 MONITORING AND RECORDKEEPING

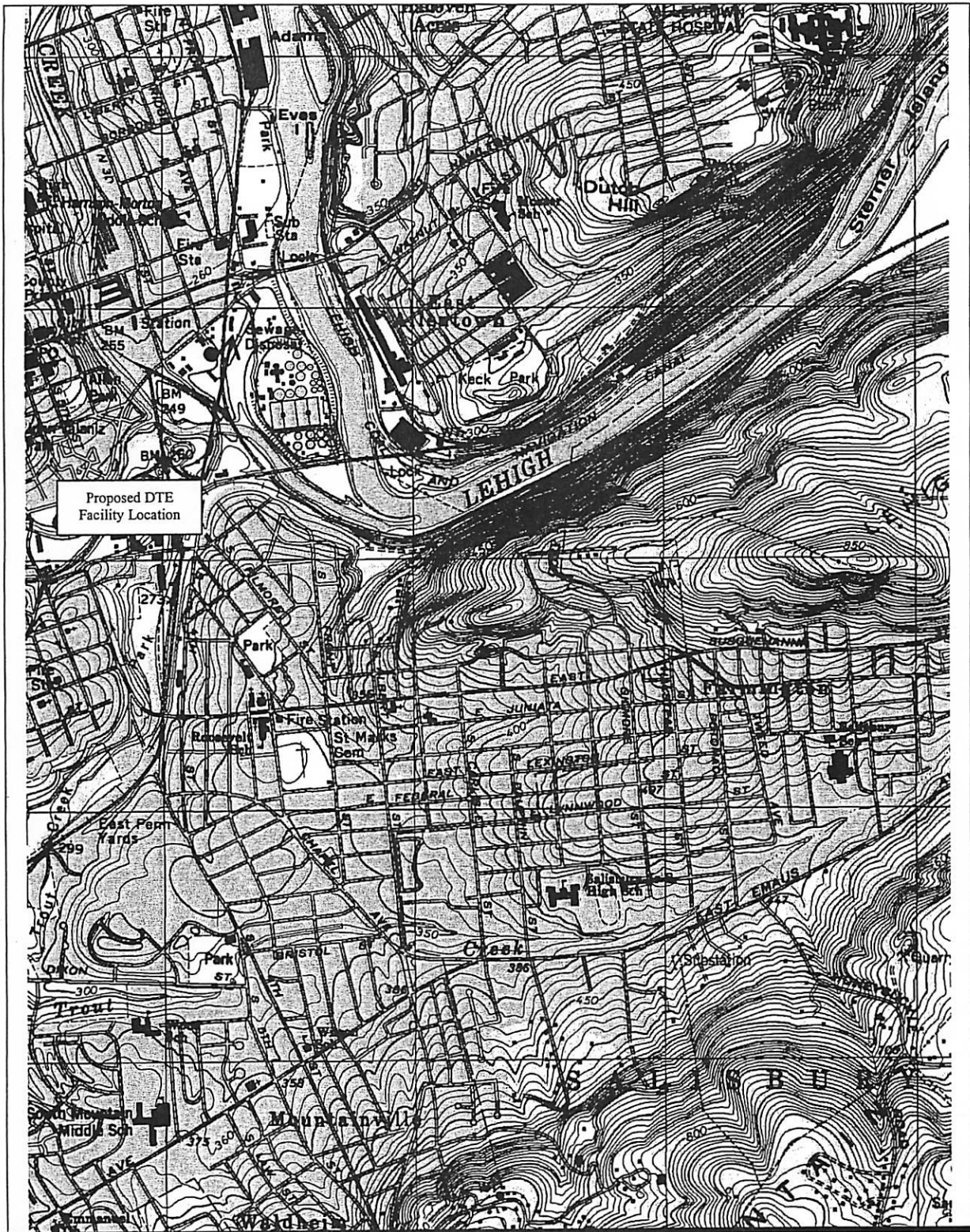
DTE has proposed monitoring and recordkeeping practices to the Department in a separate confidential version of this application.




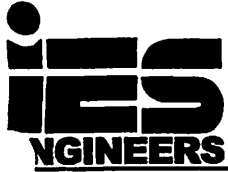
PUBLIC VERSION

ATTACHMENT 8

7½-MINUTE SERIES U.S.G.S. SITE LOCATION MAP



		Site Location Map	
Date: 03/19/13		Job No: EV120894.04	
		Source: U.S.G.S. 7.5-Minute Series Allentown East, PA Quadrangle (2001)	
		Plan Approval Application	



PUBLIC VERSION

ATTACHMENT 9
DISPERSION MODELING ANALYSIS
(CONFIDENTIAL)

A Dispersion Modeling Report was submitted to the Department in a separate
Confidential Version of this Application