



Ms. Hollie Delaney
Kentucky Division for Air Quality
Permit Review Branch
300 Sower Blvd, 2nd Floor
Frankfort, KY 40601

**SUBJECT: DTE Calvert City, LLC, AI 111104
Title V Renewal Application
Title V Permit Number V-17-009 R1**

Dear Ms. Delaney:

On behalf of DTE Calvert City, LLC, DTE Energy Services is submitting the attached Renewal application for Title V Permit V-17-009R1, which expires June 23, 2022. There have been no changes at the facility since Permit V-17-009 R1 was issued in May 2021. Attached is form DEP7007AI with the current information.

As part of the renewal applications, DTE Calvert City is requesting to add three Insignificant Activities to the Title V permit. These Insignificant Activities are identified as IA7, IA8 and IA9, and included on attached form DEP7007DD.

Insignificant Activity IA7 – Rental Air Compressor

As part of operations, the facility has three electric driven air compressors. Two units are necessary to meet operational needs and the third is for maintenance rotation and backup use. In the case of an unforeseen failure of a unit or planned maintenance, a rental unit may be necessary in case an additional unit fails during repairs. Additionally, the rental unit would only operate in the event a second air compressor were to fail.

To meet operational needs, the rental unit would consist of an 1,800 CFM diesel-fired portable air compressor. A typical unit would include a 540 hp diesel-fired non-road engine and meet EPA Tier 4 emission requirements for non-road engines under 40 CFR Part 1039, Subpart B. Emission calculations for a typical rental unit are included on the attached Table 1 Emission Calculations. The emission calculations use the Part 1039 Tier 4 emission limits from Subpart B, 1039.101 and assume the unit would operate for up to 720 hours per year. Hazardous air pollutant (HAP) and sulfur dioxide emission factors are from AP-42 Tables 3.4-1, 3.4-3 and 3.4-4. Calculated criteria pollutant emissions are less than 5 tons per year and HAP emissions are less than 1,000 lbs per year.

The described rental air compressor utilizes a non-road engine and would not be considered a stationary RICE under 40 CFR Part 60 Subpart IIII or 40 CFR Part 63 Subpart ZZZZ. Non-road engines are excluded

from the definition of stationary internal combustion engine (ICE) and are defined at 40 CFR 1068.30(1) as any ICE meeting the following criteria:

- An ICE used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function
- An ICE used in or on a piece of equipment that is intended to be propelled while performing its function; or
- An ICE that, by itself or on a piece of equipment, is portable or transportable, meaning that it is designed to be and is capable of being carried or moved from one location to another. Indications of transportability include, but not limited to, wheels, skids, carrying handles, dollies, trailers, or platforms.

However, pursuant to 40 CFR 1068.30(2), an ICE is not a nonroad engine if it meets any of the following except (ii):

- (i): An ICE used to propel a motor vehicle, an aircraft, or equipment used solely for competition:
- (ii): An ICE that is regulated under 40 CFR 60 (or otherwise regulated by a federal NSPS promulgated under Section 111 of the Clean Air Act)
- (iii): An ICE otherwise included in 40 CFR 1068.30(1)(iii) that remains or will remain at a location for more than twelve consecutive months or a shorter period of time for an engine located at a seasonal source.

The temporary portable diesel-fired air compressor is not intended to be stationary and will be onsite for a short period of time, significantly less than 12 consecutive months. Therefore, the engine on the temporary air compressor is a nonroad engine and exempt from the requirements of 40 CFR 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.

This insignificant activity will not be subject to federally enforceable requirements, other than generally applicable requirements and does not cause the source to become a major source of HAPs.

Insignificant Activity IA8 and IA9 – Rental Portable Generators

The facility undergoes a black plant outage every three years for major maintenance and may occasionally occur as a non-scheduled event. During a black plant outage, no utility power is available to the site and rental generators will be necessary to complete necessary work. In these situations, the facility would require two portable diesel-fired generators, typically a 60-kilowatt unit and a 100-kilowatt unit.

To meet operational needs, the rental unit would consist of an 1,800 CFM diesel-fired portable air compressor. A typical unit would include an 80-130 hp diesel-fired non-road engine and meet EPA Tier 4 emission requirements for non-road engines under 40 CFR Part 1039, Subpart B. Emission calculations for a typical rental unit are included on the attached Table 1 Emission Calculations. The emission calculations utilize the Part 1039 Tier 4 emission limits from Subpart B, 1039.101 and assume the unit would operate for up to 720 hours per year. Hazardous air pollutant (HAP) and sulfur dioxide emission factors are from AP-42 Tables 3.4-1, 3.4-3 and 3.4-4. Calculated criteria pollutant emissions are less than 5 tons per year and HAP emissions are less than 1,000 lbs per year.

The described rental generators utilize a non-road engine and would not be considered a stationary RICE under 40 CFR Part 60 Subpart IIII or 40 CFR Part 63 Subpart ZZZZ.

The temporary portable diesel-fired generators are not intended to be stationary and will be onsite for a short period of time, significantly less than 12 consecutive months. Therefore, the engine on the temporary air compressor is a nonroad engine and exempt from the requirements of 40 CFR 60 Subpart IIII and 40 CFR Part 63 Subpart ZZZZ.

This insignificant activity will not be subject to federally enforceable requirements, other than generally applicable requirements and does not cause the source to become a major source of HAPs.

Attached are the required forms for the Title V renewal. If you have any questions about this submittal, please contact Scott Klipa, Environmental Supervisor, at (586) 612-1607 or scott.klipa@dteenergy.com, or the Plant Manager, Russell Presswood, at (270) 395-5699, Russell.presswood@dteenergy.com.

Based on information and belief formed after reasonable inquiry, the statements and information contained in the following documents are true, accurate, and complete.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott D. Geordt", with a long horizontal flourish extending to the right.

Scott D. Geordt
Director of Operations, Onsite Energy

Enclosures: DEP7007 AI Form
 DEP7007 DD Form
 Insignificant Activity Emission Calculations

CC: Russell Presswood, DTE Calvert City
 Mark Norris, DTE Calvert City
 Jeff Wilkins, DTE Energy Services

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007AI

Administrative Information

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

Additional Documentation

Additional Documentation attached

Source Name: DTE Calvert City LLC

KY EIS (AFS) #: 21- 157-00070

Permit #: V-17-009

Agency Interest (AI) ID: 111104

Date: 15-Nov-21

Section AI.1: Source Information

Physical Location	Street:	<u>480 N. Main Street</u>		
Address:	City:	<u>Calvert City</u>	County:	<u>Marshall</u>
			Zip Code:	<u>42029</u>
Mailing Address:	Street or P.O. Box:	<u>480 N. Main Street, PO Box 1329</u>		
	City:	<u>Calvert City</u>	State:	<u>Kentucky</u>
			Zip Code:	<u>42029</u>

Standard Coordinates for Source Physical Location

Longitude: -88.353389 (decimal degrees) **Latitude:** 37.048111 (decimal degrees)

Primary (NAICS) Category: Steam and air conditioning supply **Primary NAICS #:** 221330

Classification (SIC) Category:		<u>Steam and Air conditioning supply</u>		Primary SIC #: <u>4961</u>	
Briefly discuss the type of business conducted at this site:		<u>Cogeneration facility supplying steam, plant air and electricity to multiple local industrial customers</u>			
Description of Area Surrounding Source:	<input type="checkbox"/> Rural Area	<input type="checkbox"/> Industrial Park	<input type="checkbox"/> Residential Area	Is any part of the source located on federal land?	<input type="checkbox"/> Yes
	<input type="checkbox"/> Urban Area	<input checked="" type="checkbox"/> Industrial Area	<input type="checkbox"/> Commercial Area		<input checked="" type="checkbox"/> No
					Number of Employees: 11
Approximate distance to nearest residence or commercial property: <u>.5 miles</u>		Property Area: <u>3 acres</u>		Is this source portable? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?					
NPDES/KPDES:	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A		
Solid Waste:	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A		
RCRA:	<input checked="" type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input type="checkbox"/> N/A		
UST:	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A		
Type of Regulated Waste Activity:	<input type="checkbox"/> Mixed Waste Generator	<input checked="" type="checkbox"/> Generator	<input type="checkbox"/> Recycler	<input type="checkbox"/> Other: _____	
	<input type="checkbox"/> U.S. Importer of Hazardous Waste	<input type="checkbox"/> Transporter	<input type="checkbox"/> Treatment/Storage/Disposal Facility	<input type="checkbox"/> N/A	

Section A1.2: Applicant Information

Applicant Name:	<u>DTE Calvert City LLC</u>			
Title: (if individual)	<u></u>			
Mailing Address:	Street or P.O. Box:	<u>480 N. Main Street</u>		
	City:	<u>Calvert City</u>	State:	<u>Kentucky</u>
	Zip Code:	<u>42029</u>		
Email: (if individual)	<u></u>			
Phone:	<u>270.395.5699</u>			

Technical Contact

Name:	<u>Scott Klipa</u>			
Title:	<u>Environmental Supervisor</u>			
Mailing Address:	Street or P.O. Box:	<u>One Energy Plaza, 400 WCB</u>		
	City:	<u>Detroit</u>	State:	<u>Michigan</u>
	Zip Code:	<u>48226</u>		
Email:	<u>scott.klipa@dteenergy.com</u>			
Phone:	<u>586.612.1607</u>			

Air Permit Contact for Source

Name:	<u>Scott Klipa</u>			
Title:	<u>Environmental Supervisor</u>			
Mailing Address:	Street or P.O. Box:	<u>One Energy Plaza, 400 WCB</u>		
	City:	<u>Detroit</u>	State:	<u>Michigan</u>
	Zip Code:	<u>48226</u>		
Email:	<u>Scott.klipa@dteenergy.com</u>			
Phone:	<u>586.612.1607</u>			

Section AI.3: Owner Information

Owner same as applicant

Name: _____

Title: _____

Mailing Address: **Street or P.O. Box:** _____
City: _____ **State:** _____ **Zip Code:** _____

Email: _____

Phone: _____

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name

Position

Section AI.4: Type of Application

Current Status: Title V Conditional Major State-Origin General Permit Registration None

Requested Action:
(check all that apply)

Name Change Initial Registration Significant Revision Administrative Permit Amendment

Renewal Permit Revised Registration Minor Revision Initial Source-wide Operating Permit

502(b)(10) Change Extension Request Addition of New Facility Portable Plant Relocation Notice

Revision Off Permit Change Landfill Alternate Compliance Submittal Modification of Existing Facilities

Ownership Change Closure

Requested Status: Title V Conditional Major State-Origin PSD NSR Other: _____

Is the source requesting a limitation of potential emissions? Yes No

Pollutant:	Requested Limit:	Pollutant:	Requested Limit:
<input type="checkbox"/> Particulate Matter	_____	<input type="checkbox"/> Single HAP	_____
<input type="checkbox"/> Volatile Organic Compounds (VOC)	_____	<input type="checkbox"/> Combined HAPs	_____
<input type="checkbox"/> Carbon Monoxide	_____	<input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)	_____
<input type="checkbox"/> Nitrogen Oxides	_____	<input type="checkbox"/> Carbon Dioxide	_____
<input type="checkbox"/> Sulfur Dioxide	_____	<input type="checkbox"/> Greenhouse Gases (GHG)	_____
<input type="checkbox"/> Lead	_____	<input type="checkbox"/> Other	_____

For New Construction:

Proposed Start Date of Construction: **Proposed Operation Start-Up Date:** *(MM/YYYY)*

(MM/YYYY) _____ _____

For Modifications:

Proposed Start Date of Modification: **Proposed Operation Start-Up Date:** *(MM/YYYY)*

(MM/YYYY) _____ _____

Applicant is seeking coverage under a permit shield. Yes No **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- | | |
|--|---|
| <input type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines | <input checked="" type="checkbox"/> DEP7007CC Compliance Certification See CY2020 Compliance Certification. |
| <input type="checkbox"/> DEP7007B Manufacturing or Processing Operations | <input checked="" type="checkbox"/> DEP7007DD Insignificant Activities |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners | <input type="checkbox"/> DEP7007EE Internal Combustion Engines |
| <input type="checkbox"/> DEP7007F Episode Standby Plan | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage | <input type="checkbox"/> DEP7007GG Control Equipment |
| <input type="checkbox"/> DEP7007K Surface Coating or Printing Operations | <input type="checkbox"/> DEP7007HH Haul Roads |
| <input type="checkbox"/> DEP7007L Mineral Processes | <input type="checkbox"/> Confidentiality Claim |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers | <input type="checkbox"/> Ownership Change Form |
| <input type="checkbox"/> DEP7007N Source Emissions Profile | <input type="checkbox"/> Secretary of State Certificate |
| <input type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems | <input type="checkbox"/> Flowcharts or diagrams depicting process |
| <input type="checkbox"/> DEP7007R Emission Offset Credit | <input type="checkbox"/> Digital Line Graphs (DLG) files of buldings, roads, etc. |
| <input type="checkbox"/> DEP7007S Service Stations | <input type="checkbox"/> Site Map |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations | <input type="checkbox"/> Map or drawing depicting location of facility |
| <input type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities | <input type="checkbox"/> Safety Data Sheet (SDS) |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination | <input type="checkbox"/> Emergency Response Plan |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> DEP7007BB Certified Progress Report | |

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

 Authorized Signature

 Scott D. Geordt
 Type or Printed Name of Signatory

 29-Nov-21
 Date

 Director of Operations
 Title of Signatory

*Responsible official as defined by 401 KAR 52:001.

Division for Air Quality
 300 Sower Boulevard
 Frankfort, KY 40601
 (502) 564-3999

DEP7007DD

Insignificant Activities

- ___ Section DD.1: Table of Insignificant Activities
- ___ Section DD.2: Signature Block
- ___ Section DD.3: Notes, Comments, and Explanations

Source Name: DTE Calvert City LLC

KY EIS (AFS) #: 21- 157-00070

Permit #: V-17-009

Agency Interest (AI) ID: 111104

Date: 15-Nov-21

Section DD.1: Table of Insignificant Activities

*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
IA7	Portable compressor w/CI RICE 540 hp	Various - Rental Equipment	NA	Criteria Pollutants < 5tpy, HAPs <0.5 tpy, see Calculation Spreadsheet
IA8	60kw Portable Generator w/CI RICE	Various - Rental Equipment	NA	Criteria Pollutants < 5tpy, HAPs <0.5 tpy, see Calculation Spreadsheet
IA9	100kw Portable Generator w/CI RICE	Various - Rental Equipment	NA	Criteria Pollutants < 5tpy, HAPs <0.5 tpy, see Calculation Spreadsheet

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions

Section DD.2: Signature Block

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:



Authorized Signature

Scott D Geordt

Type/Print Name of Signatory

November 29, 2021

Date

Director of Operations

Title of Signatory

Section DD.3: Notes, Comments, and Explanations

See cover letter for description of activities performed by Insignificant Activities IA7, IA8 and IA9

See attached spreadsheet for emission calculations for Insignificant Activities IA7, IA8 and IA9

Table 1: Emission Calculations for Insignificant Activities IA7 IA8 and IA9

Calvert City Insignificant Activities															
Emission Unit/Group Identification	Emission Unit Description	Source Rating (HP)	Potential Hours of Operation	CRITERIA POLLUTANTS								CO			
				PM-10 (filterable and condensable)				NO _x				EF	EF Units	Potential (lb/hr)	Potential (tpy)
				EF	EF Units	Potential (lb/hr)	Potential (tpy)	EF	EF Units	Potential (lb/hr)	Potential (tpy)				
IA-7	Diesel Fired Air Compressor - 1800 CFM	540 hp	720	0.00003288	lb/hp-hr	0.018	0.006	0.00066	lb/hp-hr	0.355	0.13	0.0058	lb/hp-hr	3.107	1.119
IA-8	Diesel Fired Back-up Generator 60 kw	80 hp	720	0.00003288	lb/hp-hr	0.003	0.001	0.00066	lb/hp-hr	0.053	0.02	0.0058	lb/hp-hr	0.460	0.166
IA-9	Diesel Fired Back-up Generator 100kw	134 hp	720	0.00003288	lb/hp-hr	0.004	0.002	0.00066	lb/hp-hr	0.088	0.03	0.0058	lb/hp-hr	0.771	0.278

Emission Unit/Group Identification	Emission Unit Description	Source Rating (HP)	Potential Hours of Operation	VOCs				SO ₂				HAP			
				EF	EF Units	Potential (lb/hr)	Potential (tpy)	EF	EF Units	Potential (lb/hr)	Potential (tpy)	EF	EF Units	Potential (lb/hr)	Potential (tpy)
				IA-7	Diesel Fired Air Compressor - 1800 CFM	540 hp	720	0.000312	lb/hp-hr	0.169	0.061	1.2150E-05	lb/hp-hr	0.007	0.002
IA-8	Diesel Fired Back-up Generator 60 kw	80 hp	720	0.000312	lb/hp-hr	0.025	0.009	1.2150E-05	lb/hp-hr	0.001	0.000	0.00001	lb/hp-hr	0.001	0.0003
IA-9	Diesel Fired Back-up Generator 100kw	134 hp	720	0.000312	lb/hp-hr	0.042	0.015	1.2150E-05	lb/hp-hr	0.002	0.001	0.00001	lb/hp-hr	0.001	0.0005

Tier 4 Standards 40 CFR Part 1039 Subpart B
 g/kw-hr lb/hp-hr

NOx 0.4 0.0006576
 CO 3.5 0.005754
 HC 0.19 0.00031236
 PM 0.02 0.00003288

Convert g/kw-hr to lb/hp-hr multiply by 0.001644

SO2 Emissions per AP-42 Table 3.4-1
 SO2 (lb/hp-hr) 0.0081*S

S= % sulfur
 S= 0.0015

SO2 (lb/hp-hr) 0.00001215

HAP
 AP42 3.4 Tables 3 & 4
 0.00149 lb/mmbtu Combined HAP Factors
 0.007 mmbtu/hp-hr Brake Specific Fuel Conversion
 0.00001 lb HAP/hp-hr