AES-01
AIR EMISSION STATEMENT CERTIFICATION
State Form 52052 (3-05)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality
Technical Support and Modeling Section - Mail Code 61-51
100 N. Senate Avenue
Indianapolis, IN 46204-2251
Telephone: (317) 233-0178 or
Toll Free: 1-800-451-6027 x30178 (within Indiana)
http://www.emissions.IN.gov/

Instructions:
- *This is a required form for each air emission statement as well as any modifications.*
- *The certification supplied with a source's permit may be used in lieu of this form*
- *"Responsible Official" has the same meaning as defined in 326 IAC (34), and is usually designated in the General Information section of the permit.*

Part A: Contact Information

Part A is intended to provide basic information about the company submitting an Air Emission Statement and information on the Air Emission Statement preparer in case there is a question about the report.

1. Company Name:	Duke Energy Indiana LLC Vermillion Gen. Station	2. Source ID:	1816500022
3. Mailing Address:	2777 North State Road 63		
City:	Cayuga	State: IN	ZIP Code: 47928
4. Name of Emission Statement Preparer:	Tena		Hopkins
5. Title of Emission Statement Preparer *(optional)*:	Lead EHS Professional		
6. Telephone Number:	(317)-838-1462	7. Facsimile Number: *(optional)*:	
8. Electronic Mail Address *(optional)*:	tena.hopkins@duke-energy.com		

Part B: Emissions Summary

Part B is intended to aid in the review of data and to collect information about billable hazardous air pollutants

Emissions Statement Pollutants (Plant Wide)	Tons Emitted
Carbon Monoxide (CO)	90.3991
Condensable Particulate Matter (PM-CON)	16.4641
Filterable Particulate Matter <10 Microns (PM10-FIL)	6.5214
Nitrogen Dioxide (NO2)	116.5885
Primary PM2.5, Filterable Portion Only	6.5212
Sulfur Dioxide (SO2)	2.0600
Volatile Organic Compounds (VOC)	7.2105
Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)	**Tons Emitted**
No Billable Hazardous Air Pollutants reported!	0.0000

Recieved
JUN 24 2024
State of Indiana

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the prepares and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Andy Leininger
Name of Responsible Official *(typed or printed)*

General Manager III, Regulated Stations
Title of Responsible Official

Andy Leininger
Signature of Responsible Official

6/20/2024
Date *(month, day, year)*

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Facility Emissions Overview

Pollutant	Pollutant Description	Emissions (Tons)
CO	Carbon Monoxide	90.3991
7439921	Lead	0
NOX	Nitrogen Oxides	116.5885
PM-CON	Primary PM Condensible Only (All Less Than 1 Micron)	16.4641
PM10-FIL	Primary PM10, Filterable Portion Only	6.5214
PM25-FIL	Primary PM2.5, Filterable Portion Only	6.5212
SO2	Sulfur Dioxide	2.06
VOC	Volatile Organic Compounds	7.2105

Group ID: 001 **Group Description:** TURBINE 1

Percent Quarterly Throughput

Winter: 11 **Spring:** 17 **Summer:** 52 **Fall:** 20

Days Per Week: 7 **Weeks Per Year:** 52 **Hours Per Day:** 24 **Hours Per Year:** 8760

Process ID: 01 **Process Description:** NATURAL GAS

SCC:	20100201	**Stack:**	1
	Electric Generation	**Description:**	TURBINE 1
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	772.22 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
NOX	CEMS - Continuous Emission Monitoring System	0	0	11.94
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.23
PM25-FIL	EPA Emission Factor	1.9	0	0.7336
PM10-FIL	EPA Emission Factor	1.9	0	0.7336
VOC	EPA Emission Factor	2.1	0	0.8108
CO	CEMS - Continuous Emission Monitoring System	0	0	10.44
PM-CON	EPA Emission Factor	4.8	0	1.8533

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 002		**Group Description:** TURBINE 2	
Percent Quarterly Throughput			
Winter: 14	**Spring:** 20	**Summer:** 48	**Fall:** 18
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	2
	Electric Generation	**Description:**	TURBINE 2
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	798.19 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
PM10-FIL	EPA Emission Factor	1.9	0	0.7583
NOX	CEMS - Continuous Emission Monitoring System	0	0	15.64
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.24
CO	CEMS - Continuous Emission Monitoring System	0	0	10.19
PM25-FIL	EPA Emission Factor	1.9	0	0.7583
PM-CON	EPA Emission Factor	4.8	0	1.9157
VOC	EPA Emission Factor	2.1	0	0.8381

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 003		**Group Description:** TURBINE 3	
Percent Quarterly Throughput			
Winter: 8	**Spring:** 21	**Summer:** 46	**Fall:** 25
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	3
	Electric Generation	**Description:**	TURBINE 3
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	809.04 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
CO	CEMS - Continuous Emission Monitoring System	0	0	10.53
PM-CON	EPA Emission Factor	4.8	0	1.9417
PM10-FIL	EPA Emission Factor	1.9	0	0.7686
NOX	CEMS - Continuous Emission Monitoring System	0	0	12.45
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.24
VOC	EPA Emission Factor	2.1	0	0.8495
PM25-FIL	EPA Emission Factor	1.9	0	0.7686

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 004		**Group Description:** TURBINE 4	
Percent Quarterly Throughput			
Winter: 11	**Spring:** 30	**Summer:** 39	**Fall:** 20
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	4
	Electric Generation	**Description:**	TURBINE 4
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	1025.846 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
VOC	EPA Emission Factor	2.1	0	1.0771
CO	CEMS - Continuous Emission Monitoring System	0	0	11.57
PM-CON	EPA Emission Factor	4.8	0	2.4620
PM10-FIL	EPA Emission Factor	1.9	0	0.9746
PM25-FIL	EPA Emission Factor	1.9	0	0.9746
NOX	CEMS - Continuous Emission Monitoring System	0	0	19.52
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.31

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 005		**Group Description:** TURBINE 5	
Percent Quarterly Throughput			
Winter: 2	**Spring:** 18	**Summer:** 54	**Fall:** 26
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	5
	Electric Generation	**Description:**	TURBINE 5
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	688.223 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
PM25-FIL	EPA Emission Factor	1.9	0	0.6538
VOC	EPA Emission Factor	2.1	0	0.7226
CO	CEMS - Continuous Emission Monitoring System	0	0	13.49
NOX	CEMS - Continuous Emission Monitoring System	0	0	10.01
PM-CON	EPA Emission Factor	4.8	0	1.6517
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.21
PM10-FIL	EPA Emission Factor	1.9	0	0.6538

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 006		**Group Description:** TURBINE 6	
Percent Quarterly Throughput			
Winter: 12	**Spring:** 29	**Summer:** 40	**Fall:** 19
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	6
	Electric Generation	**Description:**	TURBINE 6
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	1018.904 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
VOC	EPA Emission Factor	2.1	0	1.0698
PM25-FIL	EPA Emission Factor	1.9	0	0.9680
CO	CEMS - Continuous Emission Monitoring System	0	0	11.59
NOX	CEMS - Continuous Emission Monitoring System	0	0	18.14
PM-CON	EPA Emission Factor	4.8	0	2.4454
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.31
PM10-FIL	EPA Emission Factor	1.9	0	0.9680

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 007		**Group Description:** TURBINE 7	
Percent Quarterly Throughput			
Winter: 8	**Spring:** 19	**Summer:** 46	**Fall:** 27
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	7
	Electric Generation	**Description:**	TURBINE 7
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	868.893 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
PM10-FIL	EPA Emission Factor	1.9	0	0.8254
NOX	CEMS - Continuous Emission Monitoring System	0	0	14.41
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.26
CO	CEMS - Continuous Emission Monitoring System	0	0	12.54
PM25-FIL	EPA Emission Factor	1.9	0	0.8254
PM-CON	EPA Emission Factor	4.8	0	2.0853
VOC	EPA Emission Factor	2.1	0	0.9123

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 008		**Group Description:** TURBINE 8	
Percent Quarterly Throughput			
Winter: 11	**Spring:** 18	**Summer:** 45	**Fall:** 26
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** NATURAL GAS	
SCC:	20100201	**Stack:**	8
	Electric Generation	**Description:**	TURBINE 8
	Natural Gas	**Stack Type:**	Vertical
	Turbine	**Height:**	900
Heat Content:	1	**Diameter:**	14.75
Sulfur Content:	0	**Temperature:**	929
Ash Content:	0	**Velocity:**	160.80
Throughput:	878.41 Million Cubic Feet	**Gas Flow:**	1648810
Material:	Natural Gas	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
CO	CEMS - Continuous Emission Monitoring System	0	0	9.97
PM-CON	EPA Emission Factor	4.8	0	2.1082
PM10-FIL	EPA Emission Factor	1.9	0	0.8345
NOX	CEMS - Continuous Emission Monitoring System	0	0	14.18
SO2	CEMS - Continuous Emission Monitoring System	0	0	0.26
VOC	EPA Emission Factor	2.1	0	0.9223
PM25-FIL	EPA Emission Factor	1.9	0	0.8345

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 009		**Group Description:** EMERGENCY GENERATOR	
Percent Quarterly Throughput			
Winter: 10	**Spring:** 80	**Summer:** 10	**Fall:** 0
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** DIESEL	
SCC:	20200401	**Stack:**	0
	Industrial	**Description:**	No Stack Associated
	Large Bore Engine	**Stack Type:**	Fugitive
	Diesel	**Height:**	0
Heat Content:	1	**Diameter:**	0
Sulfur Content:	0	**Temperature:**	0
Ash Content:	0	**Velocity:**	0
Throughput:	0.662 1000 Gallons	**Gas Flow:**	0
Material:	Diesel	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
PM10-FIL	EPA Emission Factor	6.8	0	0.0023
7439921	State/Local Speciation Profile	0	0	0
CO	EPA Emission Factor	116	0	0.0384
SO2	EPA Emission Factor	138	0	0
PM25-FIL	EPA Emission Factor	6.5	0	0.0022
PM-CON	EPA Emission Factor	1.05	0	0.0003
NOX	EPA Emission Factor	438	0	0.1450
VOC	EPA Emission Factor	11.5	0	0.0038

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 010		**Group Description:** EMERGENCY GENERATOR	
Percent Quarterly Throughput			
Winter: 10	**Spring:** 76	**Summer:** 6	**Fall:** 8
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** DIESEL	
SCC:	20200401	**Stack:**	0
	Industrial	**Description:**	No Stack Associated
	Large Bore Engine	**Stack Type:**	Fugitive
	Diesel	**Height:**	0
Heat Content:	1	**Diameter:**	0
Sulfur Content:	0	**Temperature:**	0
Ash Content:	0	**Velocity:**	0
Throughput:	0.6962 1000 Gallons	**Gas Flow:**	0
Material:	Diesel	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
PM-CON	EPA Emission Factor	1.05	0	0.0004
PM10-FIL	EPA Emission Factor	6.8	0	0.0024
7439921	State/Local Speciation Profile	0	0	0
CO	EPA Emission Factor	116	0	0.0404
NOX	EPA Emission Factor	438	0	0.1525
SO2	EPA Emission Factor	138	0	0
VOC	EPA Emission Factor	11.5	0	0.0040
PM25-FIL	EPA Emission Factor	6.5	0	0.0023

Facility Emission Detail

Duke Energy Indiana LLC Vermillion Gene

Plant ID:1816500022 **Report for 2023**

Location: 2777 N SR 63,Cayuga,47928

NAICS: 221112 Fossil Fuel Electric Power Generation

Group ID: 011		**Group Description:** FIRE PUMP	
Percent Quarterly Throughput			
Winter: 32	**Spring:** 13	**Summer:** 17	**Fall:** 38
Days Per Week: 7	**Weeks Per Year:** 52	**Hours Per Day:** 24	**Hours Per Year:** 8760
Process ID: 01		**Process Description:** DIESEL	
SCC:	20200401	**Stack:**	0
	Industrial	**Description:**	No Stack Associated
	Large Bore Engine	**Stack Type:**	Fugitive
	Diesel	**Height:**	0
Heat Content:	1	**Diameter:**	0
Sulfur Content:	0	**Temperature:**	0
Ash Content:	0	**Velocity:**	0
Throughput:	0.0047 1000 Gallons	**Gas Flow:**	0
Material:	Diesel	**Input/Output:**	Process Material Used (Input)

Pollutant	Emission Method	Emission Factor	Overall Ctrl Efficiency	Emissions(Tons)
NOX	EPA Emission Factor	438	0	0.0010
VOC	EPA Emission Factor	11.5	0	0.0000
PM-CON	EPA Emission Factor	1.05	0	0.0000
PM10-FIL	EPA Emission Factor	6.8	0	0.0000
PM25-FIL	EPA Emission Factor	6.5	0	0.0000
7439921	State/Local Speciation Profile	0	0	0
CO	EPA Emission Factor	116	0	0.0003
SO2	EPA Emission Factor	138	0	0