

Lordstown Energy Center

1. Name of the facility

- Lordstown Energy Center

2. Location

- Henn Parkway, Lordstown, Ohio

3. Distance from the US/Canada border

- 68 m

4. Type/size of the facility

- a nominal 940 MW combined cycle gas turbine (CCGT) facility

5. Source of emissions

- 2 combustion turbine generators, 2 heat recovery steam generators with supplemental duct firing, 1 steam turbine generator, 1 emergency diesel generator, one auxiliary boiler, 1 emergency fire pump, 1 mechanical draft cooling tower, storage tanks

6. Type of fuel

- Pipeline Quality Natural Gas, Ultra-Low Sulfur Diesel

7. Type/quantity of mass emission rates

Summary of Proposed BACT/BAT Emission Limits and Associated Control Technologies for the Combustion Turbines

Pollutant	Emission Rate (lb/MMBtu)	Emission Rate (ppmv) at 15% O ₂	Control Technology	Represents
NO _x				
CTG only	0.0076	2.0	DLN and SCR	BACT/BAT
CTG w/ DB	0.0077	2.0		
VOC				
CTG only	0.0014	1.0	Good combustion controls and oxidation catalyst	BACT/BAT
CTG w/ DB	0.0027	2.0		

CO CTG only CTG w/ DB	0.0047 0.0047	2.0 2.0	Good combustion controls and oxidation catalyst	BACT/BAT
PM10/PM2.5 CTG only CTG w/ DB	0.0068 0.0049	n/a n/a	Low sulfur fuel	BACT/BAT
SO2 CTG only CTG w/ DB	0.0015 0.0015	n/a n/a	Low sulfur fuel	BAT
H2SO4 CTG only CTG w/ DB	0.0011 0.0011	n/a n/a	Low sulfur fuel	BACT/BAT
GHG	833 lb CO2e/MW-hr (at full load ISO conditions without duct firing)	n/a	High efficient combustion technology	BACT/BAT

Summary of Proposed BACT/BAT Emission Limits and Associated Control Technologies for the Auxiliary Boiler

Pollutant	Emission Rate (lb/MMBtu)	Control Technology	Represents
NOx	0.02	Flue Gas Recirculation (FGR) and low NOx burner	BACT/BAT
VOC	0.006	Good combustion controls	BACT/BAT
CO	0.055	Good combustion controls	BACT/BAT
PM10/PM2.5	0.008	Low sulfur fuel	BACT/BAT
SO2	0.0015	Low sulfur fuel	BAT
H2SO4	0.00011	Low sulfur fuel	BACT/BAT
CO2e (GHG)	119	Good combustion controls and Natural gas combustion	BACT/BAT

Summary of Proposed BACT/BAT Emission Limits and Associated Control Technologies for the Emergency Fire Pump

Pollutant	Emission Rate (g/kW-hr)	Emission Rate (g/hp-hr)	Control Technology	Represents
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NOx	3.5	--	State-of-the-art combustion design	BACT/BAT
VOC	0.5	--	State-of-the-art combustion design	BACT/BAT
CO	5.0	--	State-of-the-art combustion design	BACT/BAT
PM10/PM2.5	0.3	0.15	State-of-the-art combustion design	BACT/BAT
SO2	--	0.0048	Low sulfur fuel	BAT
H2SO4	0.000132	--	Low sulfur fuel	BACT/BAT
CO2e (GHG)	41 tpy		Efficient Design	BACT/BAT

Summary of Proposed BACT/BAT Emission Limits and Associated Control Technologies for the Emergency Generator

Pollutant	Emission Rate (g/kW-hr)	Emission Rate (g/hp-hr)	Control Technology	Represents
NOx	5.2	3.88	State-of-the-art combustion design	BACT/BAT
VOC	0.1	0.09	State-of-the-art combustion design	BACT/BAT
CO	0.6	0.43	State-of-the-art combustion design	BACT/BAT
PM10/PM2.5	0.2	0.15	State-of-the-art combustion design	BACT/BAT
SO2	--	0.0048	Low sulfur fuel	BAT
H2SO4	0.000132	--	Low sulfur fuel	BACT/BAT
CO2e (GHG)	683 tpy		Efficient Design	BACT/BAT

8. Emission control technology

- Dry low NOx burners, Catalytic Oxidation Systems #1 and #2, Selective Catalytic Reduction Systems #1 and #2 and High Efficiency Drift Eliminator

9. Date permit application received

- September 16, 2014

10. Stack height and diameter

- Auxiliary Boiler: 160 ft, 2 ft
- Emergency Generator: 14.9 ft, 1.52 ft
- Emergency Fire Pump: 10 ft, 0.42 ft
- Turbine #1: 160 ft, 22.5 ft
- Turbine #2: 160 ft, 22.5 ft
- Cooling Tower: 54 ft, 28 ft

11. Permit agency's contact name, address, telephone number

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