

ROCKLAND COUNTY SEWER DISTRICT – DATABASE NOTES

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	Facility BMS System 5-minute Interval Nightly FTP transfer to Frontier Energy servers
Project Information	DER Unit (make & model): Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses:	GE Jenbacher JGS 312 GS-B.L. 633 kW Hot Water Digester heating
DER Electricity Generated (WG)	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh Gross Calculated from accumulated kWh/int from installed Shark 100 power meter
Biogas to Generator (FGBG)	Engineering Units: Measurement type:	cf Accumulated mcf/int from installed Romet rotary flow meter.
Natural Gas to Generator (FGNG)	Engineering Units: Measurement type:	cf Accumulated mcf/int from installed Romet rotary flow meter.
Total Gas to Generator (FGE)	Engineering Units: Measurement type: Calculation:	cf (biogas) Accumulated mcf/int from installed biogas flow meter (FGBG). Accumulated mcf/int from installed natural gas flow meter (FGNG). $FGE = [(FGBG * \% CH_4 * 1.032) + (FGNG * 1.032)] / (\% CH_4 * 1.032)$
Biogas to Flare (FGF)	Engineering Units: Measurement type:	Cf Accumulated cf/int from installed Sage Prime mass flow meter.
H2S to Scrubber (H2S_IN)	Engineering Units: Measurement type:	ppm Sewerin Multitec BioControl 4
H2S to Generator (H2S_OUT)	Engineering Units: Measurement type:	ppm Sewerin Multitec BioControl 4
Methane Content (CH4)	Engineering Units: Measurement type:	% CH ₄ Sewerin Multitec BioControl 4

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Table 2 Event Timeline

Date	Event
July 7, 2021	Data collection begins
August 6, 2021	Data posted to the NYSERDA DER Website
September 12, 2021	A change was made to the % CH4 data reporting causing the first two hours of each day to be zero in the raw data file. The reported 0% CH4 caused a drop in gas consumption and an increase in generation efficiencies.
October 25, 2021	Missing CH4 data is filled in with the average of non-zero CH4 readings of each day during post processing. Gas and efficiency are now displayed correctly.
November 28, 2022	System down from September 2 nd , 2022 through November 10 th , 2022 waiting for replacement parts to replace failed turbo on engine.

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Range Checks

Table 3 Range Checks

Data Point	Units	Database Lower Range	Database Upper Range	Notes
DER Electricity Generated	kWh/hour	0	700	
Natural Gas to Generator	cfh	0	18000	
Biogas to Generator	cfh	0	18000	
Biogas to Flare	cfh	0	18000	
H2S to Scrubber	ppm	0	5000	
H2S to Generator	ppm	0	5000	
Methane Content	%	0	100	
Ambient Temperature	°F	-20	130	NOAA Airport Code - KHPN

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Relational Checks

Table 4 Relational Checks

Evaluated Point(s)	Criteria	Result