SILVER TOWERS - KEW GARDENS – DATABASE NOTES

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	Tecogen control system 15 – Minute FTP Upload to Frontier servers
Site Information	DER Unit (make & model): Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	One (1) Tecogen Inverde-100 e+ Unit 100 kW Hot Water Domestic Hot Water (DHW) and space heating Rejected by dump radiator
DER Electricity Generated (WG)	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh Net Power (calculated from gross and parasitic measurements) kW measurements from INV-100 Unit
Electric Utility Import (WI)	Engineering Units: Measurement Type:	kWh kW measurements from INV-100 Unit
DER Fuel Consumed (FG)	Engineering Units: Measurement type:	cfh Calculated using accumulated cf from gas meter
DER Heat Used (QU)	Engineering Units: Heat Measurement Type:	MBtu/hour Calculated using accumulated MBtu from BTU meters installed on HW loop.
DER Heat Rejected (QD)	Engineering Units: Heat Measurement Type:	MBtu/hour Calculated using provided flow and temperature data across dump radiator.

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Table 2 Event Timeline

Date	Event
June 1, 2017	Data collection begins. Issues with raw data files. Gas and heat recovery data missing.
December 17, 2018	Gas and heat recovery data begins. Due to concerns about the measured gas and heat recovery data, these values have been flagged as invalid. This data can be viewed on the website by turning off data quality checks.
January 31, 2020	Added to NYSERDA website.
May 26, 2021	Gas meter repaired; data point changed to accumulator from 15-minute average.

Range Checks

Table 3 Range Checks

Data Point	Units	Database Lower Range	Database Upper Range	Notes
DER Electricity Generated	kWh/hour	-10	220	
Electric Utility Import	kWh/hour	-10	400	
DER Fuel Consumed	cfh	0	2,000	
DER Heat Used	MBtu/hour	-10	2,000	
DER Heat Rejected	MBtu/hour	0	1,000	
Ambient Temperature	°F	-20	130	NOAA Airport Code - KJFK

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Relational Checks

Table 4 Relational Checks

Evaluated Point(s)	Criteria	Result
Electricity Generated Fuel Consumed	Daily Electric Efficiency < 0% HHV and > 100% HHV	Electricity Generated = invalid Fuel Consumed = invalid Heat Used = invalid Heat Rejected = invalid
Fuel Consumed Heat Used	All Data before 5/26/21 (power vs. gas and power vs. heat recovery trends are perfectly linear, indicating calculated values as opposed to measured values)	Fuel Consumed = invalid Heat Used = invalid Heat Rejected = invalid