Findlay Plaza – Database Notes

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	TBS Control System 5 minute Email
Site Information	Cogeneration Units: Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	2 Engines 100 kW each Hot Water Domestic hot water Dump radiator
DG/CHP Generator Electrical Output	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh Calculated from power
DG/CHP Generator Electrical Output Demand	Engineering Units: Measurement Type:	kW Rate
DG/CHP Generator Fuel Input	Engineering Units: Measurement type:	Cf Pulse counter from utility meter
DG/CHP Useful Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu/h Calculated from flow and temperatures
DG/CHP Unused Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu/h Calculated from flow and temperatures
DG/CHP Status/Runtime	Engineering Units: Measurement Type:	

Findlay Plaza – Database Notes

Table 2 Event Timeline

Date	Event
2/5/2018	Data has been posted to NYSERDA DG website
3/27/2019	Gas meter was shut off from 3/27 to 6/13. No gas data available during this period.
5/29/2019	CHP unit was shut off in order to repair a gas leak from 5/29 to 6/13.
4/16/2020	Gas meter was shut off from 4/16/20 to 5/24/21. Meter was replaced during this period – No gas data available.
8/27/21	Gas data from 5/24/21 to present has been flagged as invalid. Site is reporting low gas use vs. power production resulting in unrealistic electrical efficiencies.
12/22/22	Gas data stipulated, from 4/15/20 to present, using measured power and gas prior to gas meter failure. See Appendix – Gas Calc for details.

Findlay Plaza – Database Notes
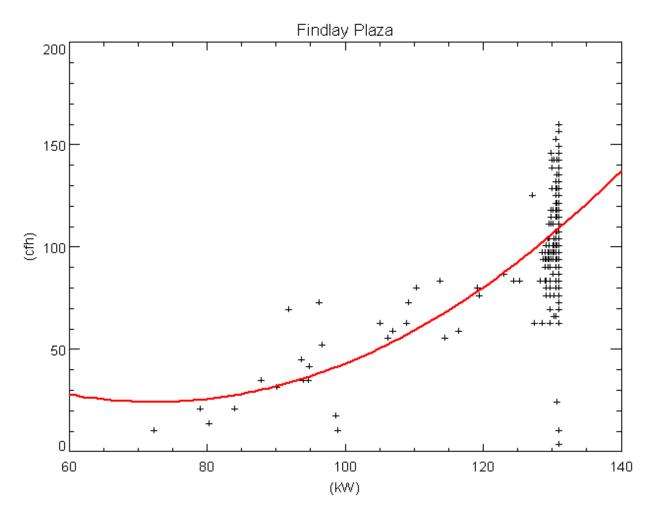
Range Checks

Table 3. Range Checks

Data Point	Units	Hourly Data Calculation Method	Database Lower Range	Database Upper Range	Notes
DG/CHP Generator Output (WG_d)	kWh/int	Sum	0	300	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	300	
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	36000	Gas Pulse is course at 1000cf/pulse with 5 minute data, this results in a higher range
Useful Heat Recovery (QHR_d)	MBtu/int	-	-500	6000	
Unused Heat Recovery (QD_d)	MBtu/int	-	0	6000	
Ambient Temperature (TAO)	°F	Avg	-20	130	

Notes:

1. This table contains values from *Findlay_plaza.csv*

FINDLAY PLAZA – APPENDIX A

Gas data is calculated from power generation by using gas curve developed from the measured power and gas data, prior to the gas meter failure on 4/15/20, for the two 100 kW units.

Findlay Plaza

Power generation (WT_KW), gas consumption (FG):

$FG = 0.024674(WT\_KW)^2 - 3.570406(WT\_KW) + 153.43272$