

Hilton Anaergia – Database Notes

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method: Timestamp Reference:	PCS 15-minute FTP over site internet/daily Eastern Standard Time
Site Information	Cogeneration Units: Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat Use:	7 – 250 kW SDP energy Reciprocating Generators 1750 kW Hot water and Steam Service Hot Water, Boiling Steam Rejected from engine jacket coolers on thermal glycol/water loop return
DG/CHP Generator Electrical Output	Engineering Units: Energy Measurement (net/gross): Measurement Type: Generator Power Measurements: Parasitic Power Measurements:	kW/kWh Net calculated: Gross minus parasitic Average kW/kWh per interval 4 total - One for generator #1 and #2, one for generator #3,#4,#5, one for generator #6, one for generator #7 2 total – One for each parasitic panel
DG/CHP Generator Electrical Output Demand	Engineering Units: Measurement Type:	kW Average energy measurement, based on peak 15-minute power
DG/CHP Generator Fuel Input	Engineering Units: Measurement Type:	CFH/CF 1000 cf/pulse
DG/CHP Useful Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu (calculated value) One thermal loop – flowmeter and multiple temperature measurements (across all useful loads). HSRG Steam flow meter. Heat content calculated using fixed steam enthalpy and measured feedwater enthalpy 1 - temperature measurement on HRSG feedwater at TFW

Hilton Anaergia – Database Notes

DG/CHP Unused Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu (calculated value) Flowmeter and multiple temperature measurements (across heat exchanger to dump radiator).
DG/CHP Status/Runtime	Engineering Units:	0 – 1, System ON/System Off
Facility Purchased Energy	Engineering Units:	Not collected
Facility Purchased Demand	Engineering Units:	Not collected
Other Facility Gas Use	Engineering Units:	Not collected

Note: See addendum for further details

Table 2 Event Timeline

Date	Event
April 1, 2013	Logging begins.
November 26, 2013	CDH on site to verify flow and temperature sensor measurements and collect instantaneous DG/CHP output data to quantify system performance.

Hilton Anaergia – Database Notes

Range Checks

Table 3. Range Checks

Data Point	Hourly Data Method	Units	Sensor Lower Range	Sensor Upper Range	Database Lower Range	Database Upper Range	Notes
DG/CHP Generator Output	Sum	kWh/int	0	1750/int	-200	2000	Database lower range account for parasitic loads
DG/CHP Generator Output Demand	Max	kW	0	1750	-500	5000	Database lower range account for parasitic loads
DG/CHP Generator Gas Use	Sum	cfh/int	0	22000	0	25000	
Total Facility Purchased Energy	Sum	kWh/int	-	-	-	-	Not installed
Total Facility Purchased Demand	Max	kW	-	-	-	-	Not installed
Other Facility Gas Use	Sum	cf/int	-	-	-	-	Not installed
Useful Heat Recovery	Sum	MBtu/int	0	600	0	600	Calculated Value
Unused Heat Recovery	Sum	MBtu/int	-	-	-	-	Calculated Value
Status/Runtime of DG/CHP Generator	On/Off	On/Off	0	1	0	1	0 – 1, System ON/System Off
Ambient Temperature	Avg	°F	-30	130	-30	130	WUG Airport Code - NYC

Notes:

1. This table contains values from *hilton.csv*
2. Values may change based on results of data analysis

Hilton Anaergia - Database Notes

Relational Checks

Table 4. Relational Checks

Evaluated Point	Criteria	Result

Notes: