

Parker Jewish Institute – Database Notes

Table 1 Database Notes

Data Collection	<u>Data Logger:</u> <u>Data Collection Interval:</u> <u>Collection Method:</u>	Obvius Aquisuite 1 – minute Obvius Upload
Site Information	<u>Cogeneration Units:</u> <u>Nameplate Capacity:</u> <u>Heat Recovery Medium:</u> <u>Heat Recovery Uses:</u> <u>Excess Heat:</u>	4 Tecogen CM - 75 300 kW Hot Water Space Heating, domestic Hot Water, boiler Feedwater Preheat Rejected from hot glycol/water loop to heat exchanger with dedicated dump radiator
DG/CHP Generator Electrical Output	<u>Engineering Units:</u> <u>Energy Measurement (net/gross):</u> <u>Measurement Type:</u> <u>Generator Power Measurements:</u> <u>Parasitic Power Measurements:</u>	kWh Net Accumulated energy per interval One for all three engines combined One for entire parasitic panel
DG/CHP Generator Electrical Output Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW From energy measurement, based on peak 1-min power
DG/CHP Generator Fuel Input	<u>Engineering Units:</u> <u>Measurement type:</u>	CF Monthly billing data collected via internet 11/15/2013 Pulse meter installed at 1000 cf/pulse
DG/CHP Useful Heat Recovery	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	MBtu (calculated value) Two thermal loops - flowmeter and two temperature sensors per loop. Data is sum of heat transfer on both loops

Parker Jewish Institute – Database Notes

DG/CHP Unused Heat Recovery	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	MBtu (calculated value) DHW flowmeter and 2 temperature measurements across dump HX. No heat rejected from boiler loop
DG/CHP Status/Runtime	<u>Engineering Units:</u> <u>Measurement Type:</u>	0 – 1, System On/System Off
Facility Purchased Energy	<u>Engineering Units:</u> <u>Measurement Type:</u>	Not collected
Facility Purchased Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	Not collected
Other Facility Gas Use	<u>Engineering Units:</u> <u>Measurement Type:</u>	Not collected

Parker Jewish Institute – Database Notes

Table 2 Event Timeline

Date	Event
May 1, 2012	Logging begins.
July 12, 2012	CDH on site to verify sensor locations and readings TLS1 and TLR1 had been switched and TLS2 and TLR3 had been labeled incorrectly due to FL2 flow meter had been installed upstream of the boilers
September 7, 2012	CDH on site to verify sensor locations and readings FL2 meter was oriented correctly Flow measured by the flow meter and data logger was 9.5 GPM higher than the flow measured simultaneously by a portable ultrasonic flow meter. A correction for this deviation was applied to the flow data after this date, and data before that date, a constant flow of 77.8 GPM based on the ultrasonic measurement was applied
11/1/2012–4/24/2013	Flow meter calibrated to ultrasonic readings. Apply fixed flow rate adjustment of -9.5 GPM based on ultrasonic verification readings. Flow meter: 87 GPM Ultrasonic: 77.5 GPM
4/24/2013 - present	Flow meter no longer functioning. Apply fixed flow rate of 74.7 GPM based on average of steady-state measured flow for 6-months
10/17/2013	Ultrasonic flow verification Ultrasonic: 77.5 GPM

Parker Jewish Institute – 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	5	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	300	
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	90	
Total Facility Purchased Energy (WT_d)	kWh/int	-	-	-	Not collected
Total Facility Purchased Demand (WT_KW_d)	kW	-	-	-	Not collected
Other Facility Gas Use (FT_d)	cf/int	-	-	-	Not collected
Useful Heat Recovery (QHR_d)	MBtu/int	-	0	50	Calculated Value
Unused Heat Recovery (QD_d)	MBtu/int	-	0	50	Calculated Value
Status/Runtime of DG/CHP Generator (SG_d)	hr	-	0	1	0 – 1, System On/System Off
Ambient Temperature (TAO)	°F	Avg	-30	130	WUG Airport Code - JFK

Notes:

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

Parker Jewish Institute – Database Notes

Relational Checks

Table 4. Relational Checks

Evaluated Point	Criteria	Result

Notes:

1. This table contains values from *relational_checks.pro*