

Chelsea Mercantile – Database Notes

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method: Timestamp Reference:	Obvius Aquisuite (CDH) 1-minute Obvius Upload Eastern Standard Time
Site Information	Cogeneration Units: Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat Use:	2 Aegis AGEN-75 150 kW Hot water Domestic Hot Water, Space Heating Rejected from cooling towers connected to heat exchanger with radiator dump
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 Accumulated energy per interval 2 - one for each generator 1 – on parasitic load panel
DG/CHP Generator Electrical Output Demand	Engineering Units: Measurement Type:	kW Average power measurement, based on peak 1-minute power
DG/CHP Generator Fuel Input	Engineering Units: Measurement Type:	CF Pulse utility meter
DG/CHP Useful Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu (calculated value) One thermal loop – Heat rejection BTU meter measurements for flow and one temperature measurement along with 1 additional temperature sensor used to calculate DG/CHP Useful Heat Recovery

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DG/CHP Unused Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu (calculated value) BTU meter records Btu's, flow and 2 temperature measurements.
DG/CHP Status/Runtime	Engineering Units:	0 – 1, System ON/System Off
Facility Purchased Energy	Engineering Units:	kWh
Facility Purchased Demand	Engineering Units:	kW
Other Facility Gas Use	Engineering Units:	Not collected

Note: See addendum for further details

Table 2 Event Timeline

Date	Event
September 20, 2013	Logging begins.
October 2, 2013	CDH on site to terminate gas meter wiring and configure total facility power meters.
October 30, 2013	CDH on site to verify flow measurements.

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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	150/int	-20	800	Database range account for parasitic loads
DG/CHP Generator Output Demand	Max	kW	0	150	-20	800	Database range account for parasitic loads
DG/CHP Generator Gas Use	Sum	cf/int	0	65000	0	65000	
Total Facility Purchased Energy	Sum	kWh/int	0	99999	0	99999	
Total Facility Purchased Demand	Max	kW	0	99999	0	99999	
Other Facility Gas Use	Sum	cf/int	-	-	-	-	Not installed
Useful Heat Recovery	Sum	MBtu/int	0	1800	0	1500	Calculated Value, difference in sensor and database upper range is due to data averaging
Unused Heat Recovery	Sum	MBtu/int	0	1800	0	1500	BTU meter, Calculated Value, difference in sensor and database upper range is due to data averaging
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	300	-30	300	WUG Airport Code - NYC

Notes:

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

Relational Checks

Table 4. Relational Checks

Evaluated Point	Criteria	Result

Notes: