

Gateway One Building – Database Notes

Table 1 Database Notes

Data Collection	<u>Data Logger:</u> <u>Data Collection Interval:</u> <u>Collection Method:</u>	No dedicated data logger. Data collected using the SCADA system. 15 – Minute Nightly upload to CDH servers from PI Historian.
Site Information	<u>Cogeneration Units:</u> <u>Nameplate Capacity:</u> <u>Heat Recovery Medium:</u> <u>Heat Recovery Uses:</u> <u>Excess Heat:</u>	Caterpillar 3520C CHP Gen set. 2,055 kW Hot Water Space heating and Space cooling Rejected to atmosphere using cooling tower
DG/CHP Generator Electrical Output	<u>Engineering Units:</u> <u>Energy Measurement (net/gross):</u> <u>Measurement Type:</u>	kW Net Calculated: Average kW / Intervals per hour
DG/CHP Generator Electrical Output Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Average kW
DG/CHP Generator Fuel Input	<u>Engineering Units:</u> <u>Measurement type:</u>	CF Pulse output from Con Ed utility gas meter
Other Fuel Input	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	CF Measured boiler gas use
Utility Energy Import	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Calculated: Average Import kW from Con Ed utility meters / Intervals per hour
Utility Energy Import Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Import kW from Con Ed utility meters

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DG/CHP Useful Heat Recovery	<u>Engineering Units:</u> <u>Measurement Type:</u>	<u>MBtu/hr</u> When the absorption chiller is running: Calculated using flow and temperature on each side of absorption chiller. Otherwise the measured heat recovery from the HHW loop is used.
DG/CHP Rejected Heat Recovery	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	MBtu/hr Calculated using flow and temperature data after all useful heat exchangers.
Generator Status	<u>Engineering Units:</u> <u>Measurement Type:</u>	Hours 0 to 1, system on / system off. Generator output must be above 200 kW to be considered on.
Ambient Temperature	<u>Engineering Units:</u> <u>Measurement Type:</u>	Deg. F Measured on site.

Table 2 Event Timeline

Date	Event
September 1, 2015	Logging begins.
October 1, 2015	Useful, uninterrupted data begins
December 21, 2015	Data posted to NYSERDA DG/CHP website

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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	500	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	2000	
DG/CHP Generator Gas Use (FG_d)	Cfh/int	Sum	0	5000	
Total Facility Purchased Energy (WT_d)	kWh/int	-	0	300	
Total Facility Purchased Demand (WT_KW_d)	kW	-	0	1000	
Other Facility Gas Use (FT_d)	cf/int	-	-	-	
Useful Heat Recovery (QHR_d)	MBtu/int	-	0	6000	
Unused Heat Recovery (QD_d)	MBtu/int	-	0	6000	
Status/Runtime of DG/CHP Generator (SG_d)	hr	-	0	1	0-1, System On/System Off
Ambient Temperature (TAO)	°F	Avg	-20	130	

Notes:

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

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Relational Checks

Table 4. Relational Checks

Evaluated Point	Criteria	Result

Notes:

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