

Times Square Apartments – Database Notes

Table 1 Database Notes

Data Collection	<u>Data Logger:</u> <u>Data Collection Interval:</u> <u>Collection Method:</u>	Obvius AcquiSuite A8812 1 – Minute Obvius Upload Manager to CDH Servers
Site Information	<u>Cogeneration Units:</u> <u>Nameplate Capacity:</u> <u>Heat Recovery Medium:</u> <u>Heat Recovery Uses:</u> <u>Excess Heat:</u>	2 (two) Aegen Aegis PowerVerter PV-100 100 kW Hot Water Domestic hot water Rejected to atmosphere by dump radiator
DG/CHP Generator Electrical Output	<u>Engineering Units:</u> <u>Energy Measurement (net/gross):</u> <u>Measurement Type:</u>	kWh Net Power (calculated from gross and parasitic measurements) Accumulated kWh
DG/CHP Generator Electrical Output Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Net Power (calculated from gross and parasitic measurements) Measured kW
DG/CHP Generator Fuel Input	<u>Engineering Units:</u> <u>Measurement type:</u>	CF Accumulated cubic feet
DG/CHP Useful Heat Recovery	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	MBtu/hr Calculated from 1 minute analog flow and temperature data
DG/CHP Unused Heat Recovery	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	MBtu/hr Calculated from 1 minute analog flow and temperature data
DG/CHP Status/Runtime	<u>Engineering Units:</u> <u>Measurement Type:</u>	Hours Calculated based on generator output

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Facility Purchased Energy	<u>Engineering Units:</u> <u>Measurement Type:</u>	kWh Accumulated kWh
Facility Purchased Demand	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Measured kW
Other Facility Gas Use	<u>Engineering Units:</u> <u>Measurement Type:</u>	- -

Table 2 Event Timeline

Date	Event
March 14, 2017	On site to install datalogger, terminate meter wiring, setup communications, and verify sensor readings. Data collection begins.
March 20, 2017	Added to NYSERDA website.
October 2, 2021	Gas reporting stops. Gas accumulator went flat.
October 20, 2022	Gas data stipulated, from 10/2/21 to present, using measured power and gas prior to gas meter failure. See Appendix – Gas Calc for details.

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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	-10	220	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	-10	220	
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	2400	
Total Facility Purchased Energy (WT_d)	kWh/int	Sum	0	800	
Total Facility Purchased Demand (WT_KW_d)	kW	Max	0	800	
Other Facility Gas Use (FT_d)	cf/int	-	-	-	
Useful Heat Recovery (QHR_d)	MBtu/hr	Avg	0	2000	
Unused Heat Recovery (QD_d)	MBtu/hr	Avg	0	2000	
Status/Runtime of DG/CHP Generator (SG_d)	hr	-	0	1	System Off/System On
Ambient Temperature (TAO)	°F	Avg	-20	130	<i>WUG Airport Code - LGA</i>

Notes:

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

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Relational Checks

Table 4. Relational Checks

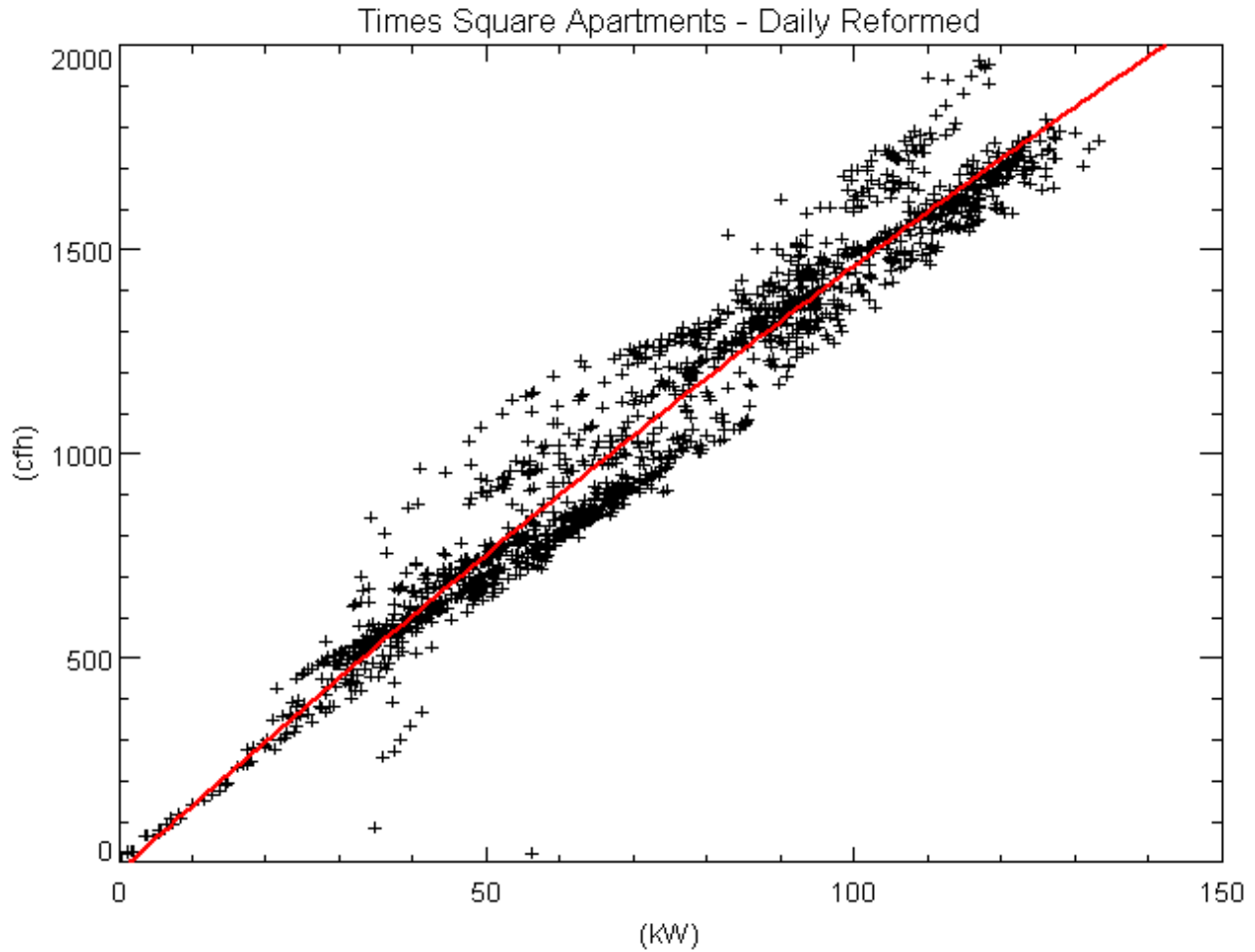
Evaluated Point	Criteria	Result

Notes:

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

TIMES SQUARE APARTMENTS – 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 10/2/21, for the two Aegen PowerVerter PV-100 units.



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

$$FG = -0.014343(WT_KW)^2 + 16.26934(WT_KW) - 22.88607$$