Cooper Union – Database Notes from Source One M&V Plan

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	Datalogger or Control System 15 min sftp
Site Information	Cogeneration Units: Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	1 – 250 kW Elite Energy 250 kW Hot Water Space Cooling/Heating Rejected from chiller connected to dump radiator
DG/CHP Generator Electrical Output	Engineering Units: Energy Measurement (net/gross): Measurement Type: Parasitic Power Measurements:	kWh Gross 1 total – on single engine None
DG/CHP Generator Electrical Output Demand	Engineering Units: Measurement Type:	kW From energy measurement, based on peak 15-minute power
DG/CHP Generator Fuel Input	Engineering Units: Measurement type:	Therms Utility Gas Meter
DG/CHP Useful Heat Recovery	Engineering Units: Heat Measurement Type:	Calculated in source data file in Therms
DG/CHP Unused Heat Recovery	Engineering Units: Heat Measurement Type:	Calculated from source data as Total – Useful
DG/CHP Status/Runtime	Engineering Units: Measurement Type:	Hrs 0-1, System On/System Off

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Facility Purchased Energy	Engineering Units: Measurement Type:	kWh Metered
Facility Purchased Demand	Engineering Units: Measurement Type:	kW Metered
Other Facility Gas Use	Engineering Units: Measurement Type:	Not collected

Table 2 Event Timeline

Date	**Event**
11/5/2015	Enabled thermal heat recovery channel, a period in 2013 is blanked out due to negative recovery.

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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	100	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	400	
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	1000	
Total Facility Purchased Energy (WT_d)	kWh/int	-	9	500	
Total Facility Purchased Demand (WT_KW_d)	kW	-	0	2000	
Other Facility Gas Use (FT_d)	cf/int	-	0	90000	
Useful Heat Recovery (QHR_d)	MBtu/int	-	-500	1000	
Unused Heat Recovery (QD_d)	MBtu/int	-	0	1000	
Status/Runtime of DG/CHP Generator (SG_d)	hr	-	0	1	0-1, System On/System Off
Ambient Temperature (TAO)	°F	Avg	-20	130	WUG Airport Code: RDU

Notes:

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

Cooper Union – Database Notes

Relational Checks

Table 4. Relational Checks

Evaluated Point	Criteria	Result

Notes:

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