RIT – Database Notes

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	Obvius Acquisuite Data logger samples all sensors approximately once per second and records one-minute totals (of pulse or digital sensors) or averages (of analog sensors) Obvius upload to CDH Energy Server and to the Obvius Building Manager Online (BMO) system
Site Information	Cogeneration Units: Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	UTC Power 400 kW Fuel Cell 400 kW Hot water loop Space Heating/Domestic Hot Water Pre-heat Rejected through the hot water/glycol loop to heat exchanger with dump radiator
DG/CHP Generator Electrical Output	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh Net Accumulated energy per interval
DG/CHP Generator Electrical Output Demand	Engineering Units: Measurement Type:	kW Read from Shark Meter
DG/CHP Generator Fuel Input	Engineering Units: Measurement type:	CF Calculated from total gas use accumulator
DG/CHP Useful Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu Onicon F-1211 Flow meters and Veris 10k Type 2 thermistors measure flow and temperatures across useful loads

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DG/CHP Unused Heat Recovery	Engineering Units: Heat Measurement Type:	MBtu Onicon F-1111 Flow meters and Veris 10k Type 2 thermistors measure flow and temperatures across useful loads
DG/CHP Status/Runtime	Engineering Units: Measurement Type:	Hr Runtime accumulator is used to calculate runtime per interval
Facility Purchased Energy	Engineering Units: Measurement Type:	Not Collected
Facility Purchased Demand	Engineering Units: Measurement Type:	Not Collected
Other Facility Gas Use	Engineering Units: Measurement Type:	Not Collected

Table 2 Event Timeline

Date	**Event**
April 22, 2013	All heat recovery sensors installed
January 28, 2014	Shark Meter installed

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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	10	
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	500	
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	100	
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	Avg	0	3000	Calculated Value
Unused Heat Recovery (QD_d)	MBtu/int	Avg	0	3000	Calculated Value
Status/Runtime of DG/CHP Generator (SG_d)	hr	Sum	0	1	Calculated Value
Ambient Temperature (TAO)	°F	Avg	-30	120	WUG Airport Code - ROC

Notes:

1. This table contains values from *rit.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*