

## DHL Express – Database Notes

Table 1 Database Notes

<b>Data Collection</b>	<u>Data Logger:</u> <u>Data Collection Interval:</u> <u>Collection Method:</u>	Obvius 1 – Minute Obvius Upload Manager to CDH servers
<b>Site Information</b>	<u>Cogeneration Units:</u> <u>Nameplate Capacity:</u> <u>Heat Recovery Medium:</u> <u>Heat Recovery Uses:</u> <u>Excess Heat:</u>	Capstone Turbine 800 kW Hot Water Space Heating and Domestic Hot Water Rejected to atmosphere by dump radiator
<b>DG/CHP Generator Electrical Output</b>	<u>Engineering Units:</u> <u>Energy Measurement (net/gross):</u> <u>Measurement Type:</u>	kWh Gross Power Measurement Accumulated kWh
<b>DG/CHP Generator Electrical Output Demand</b>	<u>Engineering Units:</u> <u>Measurement Type:</u>	kW Calculated : accumulated kWh/int * # intervals
<b>DG/CHP Generator Fuel Input</b>	<u>Engineering Units:</u> <u>Measurement type:</u>	CF -
<b>DG/CHP Useful Heat Recovery</b>	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	- -
<b>DG/CHP Unused Heat Recovery</b>	<u>Engineering Units:</u> <u>Heat Measurement Type:</u>	- -
<b>DG/CHP Status/Runtime</b>	<u>Engineering Units:</u> <u>Measurement Type:</u>	- -

## DHL Express – Database Notes

<b>Facility Purchased Energy</b>	<u>Engineering Units:</u> <u>Measurement Type:</u>	- -
<b>Facility Purchased Demand</b>	<u>Engineering Units:</u> <u>Measurement Type:</u>	- -
<b>Other Facility Gas Use</b>	<u>Engineering Units:</u> <u>Measurement Type:</u>	- -

**Table 2 Event Timeline**

<b>Date</b>	<b>Event</b>
April 3, 2015	Data collection begins.

## DHL Express – Database Notes

### *Range Checks*

**Table 3. Range Checks**

<b>Data Point</b>	<b>Units</b>	<b>Hourly Data Calculation Method</b>	<b>Database Lower Range</b>	<b>Database Upper Range</b>	<b>Notes</b>
DG/CHP Generator Output (WG_d)	kWh/int	Sum	0	250	<i>Pulse output</i>
DG/CHP Generator Output Demand (WG_KW_d)	kW	Max	0	1000	$WG\_KW\_d = WG\_d * \# \text{ Intervals}$
DG/CHP Generator Gas Use (FG_d)	cf/int	Sum	0	3000	
Total Facility Purchased Energy (WT_d)	kWh/int	-	-	-	
Total Facility Purchased Demand (WT_KW_d)	kW	-	-	-	
Other Facility Gas Use (FT_d)	cf/int	-	-	-	
Useful Heat Recovery (QHR_d)	MBtu/int	-	-	-	
Unused Heat Recovery (QD_d)	MBtu/int	-	-	-	
Status/Runtime of DG/CHP Generator (SG_d)	hr	-	-	-	
Ambient Temperature (TAO)	°F	Avg	-20	130	<i>WUG Airport Code - JFK</i>

Notes:

1. This table contains values from *dhl\_chp.csv*

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## *Relational Checks*

**Table 4. Relational Checks**

<b>Evaluated Point</b>	<b>Criteria</b>	<b>Result</b>
FG_d	$FG\_d < 0$ and $WG\_KW\_d > 10$	DQ flag $FG\_d = 2$

Notes:

1. This table contains values from *relational\_checks.pro*