

## THE EXCELSIOR – DATABASE NOTES

**Table 1 Database Notes**

<b>Data Collection</b>	Data Logger: Data Collection Interval: Collection Method:	Tecogen Control System 15 – Minute FTP Upload to Frontier servers
<b>Site Information</b>	DER Unit (make & model): Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	Two (2) Tecogen INV-100 e+ Unit 100 kW Each Hot Water Space heating Rejected by dump radiator
<b>DER Electricity Generated (WG)</b>	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh/hour Net Power (calculated from gross and parasitic measurements) Calculated using kWh measurements from INV-100 units and provided parasitic load data.
<b>Electric Utility Import (WI)</b>	Engineering Units: Measurement Type:	kWh/hour Calculated using accumulated kWh from INV-100 units.
<b>DER Fuel Consumed (FG)</b>	Engineering Units: Measurement type:	cfh Stipulated using measured power and manufacturer ratings. See gas calculation document for details.
<b>DER Heat Used (QU)</b>	Engineering Units: Heat Measurement Type:	MBtu/hour Calculated using flowmeter and two temperature measurements across the heat exchanger.
<b>DER Heat Rejected (QD)</b>	Engineering Units: Heat Measurement Type:	MBtu/hour Calculated using flowmeter and two temperature measurements across CHP dump radiator.

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**Table 2 Event Timeline**

<b>Date</b>	<b>Event</b>
June 1, 2018	Data collection begins
June 10, 2018	Added to NYSERDA website
December 1, 2018	Issues with fouled flowmeter result in bad flow data. Fixed flow stipulated for single unit (37.5 gpm) and dual unit (50.5 gpm) operation.
April 6, 2021	Flow data resumes. Stipulation ended and measured flow data reported going forward.

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### ***Range Checks***

Table 3 Range Checks

<b>Data Point</b>	<b>Units</b>	<b>Database Lower Range</b>	<b>Database Upper Range</b>	<b>Notes</b>
<b>DER Electricity Generated</b>	kWh/hour	-10	250	
<b>Electric Utility Import</b>	kWh/hour	0	800	
<b>DER Fuel Consumed</b>	cfh	0	4,000	
<b>DER Heat Used</b>	MBtu/hour	0	3,000	
<b>DER Heat Rejected</b>	MBtu/hour	0	3,000	
<b>Ambient Temperature</b>	°F	-20	130	NOAA Airport Code - KLGA

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### ***Relational Checks***

**Table 4 Relational Checks**

<b>Evaluated Point(s)</b>	<b>Criteria</b>	<b>Result</b>
Electricity Generated Fuel Consumed	Daily Electric Efficiency < 0% HHV and > 100% HHV	Electricity Generated = invalid Fuel Consumed = invalid Heat Used = invalid Heat Rejected = invalid