LEFRAK - WEST SIDE MANOR – DATABASE NOTES

Table 1 Database Notes

Data Collection	Data Logger: Data Collection Interval: Collection Method:	Tecogen Installed CHPInsight 15 – Minute Nightly FTP upload to Frontier Energy (FE) servers
Project Information	DER Unit (make & model): Nameplate Capacity: Heat Recovery Medium: Heat Recovery Uses: Excess Heat:	One (1) Tecogen Tedom Micro T35 35 kW Hot Water Domestic Hot Water (DHW) No heat rejection
DER Electricity Generated (WG)	Engineering Units: Energy Measurement (net/gross): Measurement Type:	kWh/hour Net Power Net power calculated using kW measurements from Tecogen Tedom Micro T35 Unit and stipulated parasitic loads
DER Fuel Consumed (FG)	Engineering Units: Measurement type:	cfh Calculated using accumulated cf from gas meter
DER Heat Used (QU)	Engineering Units: Heat Measurement Type:	MBtu/hour Calculated from accumulated BTU values from installed Onicon System-10 meter

LEFRAK - WEST SIDE MANOR – DATABASE NOTES

Table 2 Event Timeline

Date	Event
November 10, 2020	Data collection begins.
January 25, 2021	Added to NYSERDA website.
January 26, 2021	0.88 correction factor applied to heat recovery (QU) to bring the measured full load heat recovery into alignment with the rated full heat output.

LEFRAK - WEST SIDE MANOR – DATABASE NOTES

Range Checks

Table 3 Range Checks

Data Point	Units	Database Lower Range	Database Upper Range	Notes
DER Electricity Generated	kWh/hour	0	40	
DER Fuel Consumed	cfh	0	500	
DER Heat Used	MBtu/hour	0	250	
Ambient Temperature	°F	-20	130	NOAA Airport Code - KLGA

# LEFRAK - WEST SIDE MANOR – DATABASE NOTES

Relational Checks

Table 4 Relational Checks

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

APPENDIX A – HEAT RECOVERY ADJUSTMENT CALCULATIONS

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Reported heat recovery regularly exceeds manufacturers ratings by 10%, resulting in a high calculated system efficiency. Frontier Energy developed and employed a correction factor of 0.88 to bring the measured full load heat recovery into alignment with the rated full heat output.
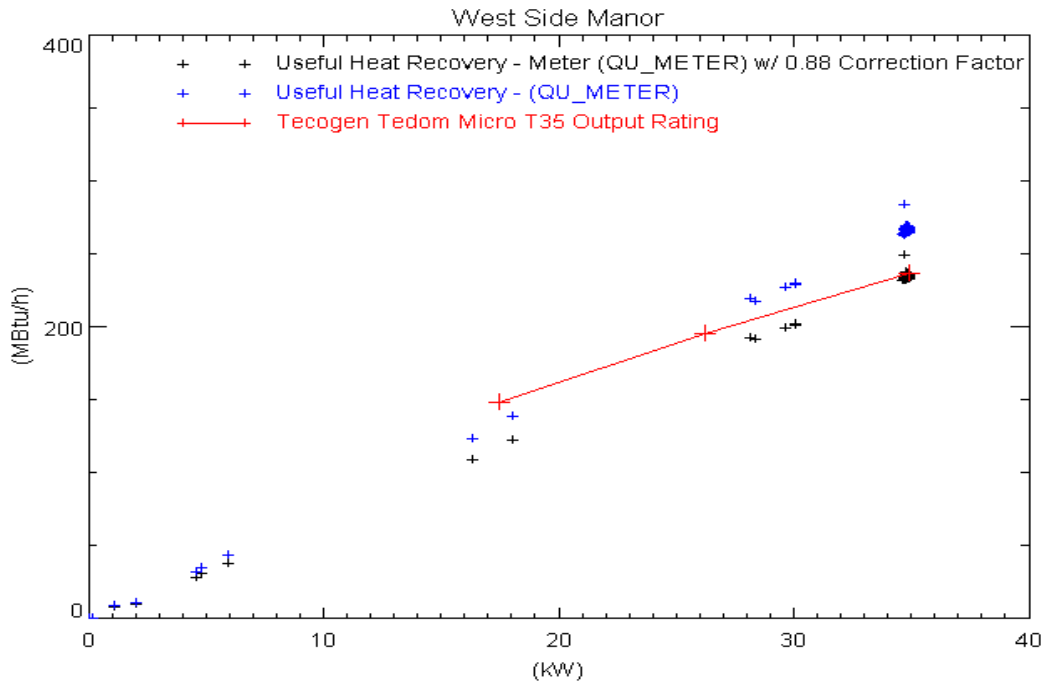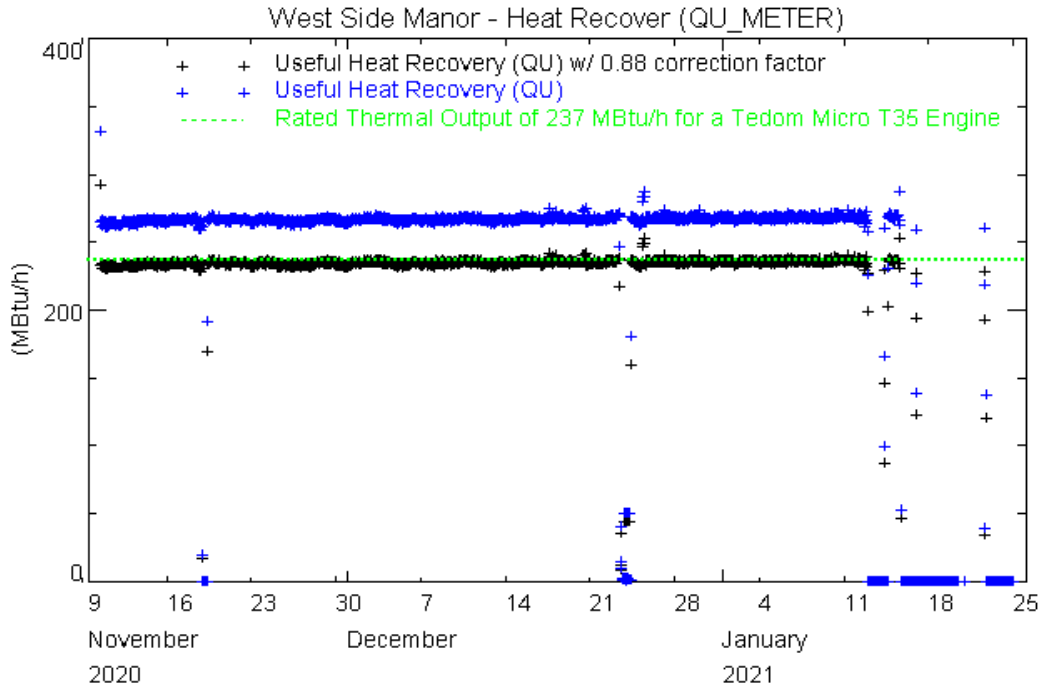
APPENDIX A – HEAT RECOVERY ADJUSTMENT CALCULATIONS

Fundamental flow and temperature data was reviewed to identify the cause of the high heat recovery measurements. Measured flow is under the design flow (13.16 gpm) and measured supply temperature is in alignment with the HX-1 supply temperature (194 °F) called out on the mechanical drawings. The measured return temperature from HX-1 is considerably lower than the design temperature (150 °F) on the drawings. The HX-1 return temperature sensor should be inspected to ensure it is fully inserted into thermowell and that thermal paste has been applied.