

## Citylights - Upstairs

4-74 48<sup>th</sup> Ave.

Long Island City, NY 11109

## Site Contact

Brad Walker

Project Engineer

Aegis Energy Services Inc.

55 Jackson St Holyoke MA, 10603

413-536-1156

[BWalker@aegisenergyservices.com](mailto:BWalker@aegisenergyservices.com)

- CDH was on site December 7, 2015 to install a datalogger, terminate meter wiring, and setup communications. Unit not running.
- Aegis was on site April 18, 2016 to install parasitic power meters and generator power meters.

## Outstanding Items

- CDH to install IVFD sensor in CCP panel.
- CDH to verify all installed metering when next on site.

## Summary

CDH provided the data logger and enclosure. Aegis provided and installed the gas, power, and BTU meters. Aegis installed the CDH enclosure and performed all of the necessary wire pulls while CDH terminated wiring to the data logger and sensors.

## IT Information

<b>External IP:</b>	71.183.52.243:4082
<b>Internal IP:</b>	10.0.5.142
<b>Netmask:</b>	255.255.255.0
<b>Gateway:</b>	10.0.5.1
<b>DNS #1:</b>	8.8.8.8
<b>DNS #2:</b>	8.8.4.4

## Monitored Data Points

Logger Channel	Data Point	Description	Eng Units	Instrument / Transducer	Output
MB-002	WT	Gross Generator Power Output	kWh	Veris H-8035-300	Modbus RS-485
MB-008	WP	Parasitic Loads	kWh	Veris H-8035-100	Modbus RS-485
-	WG	Net Power Output	kWh	-	Calculated
IN 1	FGU	Gas to Upstairs Cogen	cf	Romet RM2000	Pulse
IN 2	THW1	Recovered Heat Loop - Temp. After Dump Radiator	°F	MAMAC 10k Type II Thermistor	Resistance
MB-005	THW2	Recovered Heat Loop - Supply Temp.	°F	Badger Series 380	Modbus RS-485
MB-005	THW3	Recovered Heat Loop - Temp. After HX1 (DHW)	°F	Badger Series 380	Modbus RS-485
MB-005	FHW	Recovered Heat loop Flow	gpm	Badger Series 380	Modbus RS-485
-	QR	Rejected Heat Recovery	Mbtu/h	-	Calculated
-	QU	Total Useful Heat Recovery	Mbtu/h	-	Calculated

## Site Photos



Aegen TP75-LE cogen units located in roof mechanical room.



Roof mechanical room HX skids (2x).



Veris 10k Type 2 Thermistor (THW1).



Badger 380 BTU meter (FHW, THW2, THW3).



Romet RM2000 gas meter (FG).



CDH enclosure with Obvius A8812 datalogger.



PUMP SCHEDULE						
PUMP NO.	SERVICE	FLOW	HEAD	H.P.	PHASE	MODEL
P-1	COGEN MODULE	25 GPM	70 FT	3/4	3	BELL & GOSSETT SERIES 153S 345T
P-2	1-5 DHW LOOP	30 GPM	15 FT	1/6	1	BELL & GOSSETT PL-45B
P-3	GLYCOL LOOP	30 GPM	33 FT	3/4	3	BELL & GOSSETT SERIES 60 613T

CONTROL VALVE SCHEDULE						
VALVE NO.	SERVICE	FLOW TYPE	SIZE	VOLTAGE	VALVE MODEL	ACTUATOR
V-1	COGEN DHW	MIXING	1 1/2"	24 V	TAC VS2313-526-9-54	MS40-7043M MODULATING

HEAT EXCHANGERS HX-1			
DESIGN MANUFACTURER	API HEAT TRANSFER		
MODEL	SBM7M-40		
TYPE	BRAZED PLATE		
MATERIAL	COPPER		
SERVICE	DHW		
SIDE		HOT	COLD
FLUID TYPE	WATER	WATER	
FLUID FLOW	22 GPM	30 GPM	
TEMPERATURE IN	225 DEG F	172 DEG F	
TEMPERATURE OUT	176 DEG F	207 DEG F	
PRESSURE DROP	0.91 PSI	1.55 PSI	
INLET SIZE	2" NPT	2" NPT	

HEAT EXCHANGER HX-2			
DESIGN MANUFACTURER	API HEAT TRANSFER		
MODEL	SBM7M-40		
TYPE	BRAZED PLATE		
MATERIAL	COPPER		
SERVICE	GLYCOL DUMP LOOP		
SIDE		HOT	COLD
FLUID TYPE	WATER	40% P.G.	
FLUID FLOW	22 GPM	30 GPM	
TEMPERATURE IN	225 DEG F	160 DEG F	
TEMPERATURE OUT	176 DEG F	194 DEG F	
PRESSURE DROP	0.77 PSI	1.73 PSI	
INLET SIZE	2" NPT	2" NPT	

DUMP RADIATOR HX-3	
DESIGN MANUFACTURER	IEA OR EQUAL
SERVICE	HEAT DISSIPATION
FLOW RATE	30 GPM
GROSS HEAT LOAD	500 MBH
INLET WATER TEMP	196 DEG F
OUTLET WATER TEMP	160 DEG F
BLOWER FAN	2 HP
NUMBER OF FANS	1
MODEL	HCR-M-14-02-08-502
FAN SPEED	1160 RPM
METIUM	40% P.G.

TEMPERATURE SENSOR SCHEDULE			
TS NO.	SERVICE	MODEL	WELL TYPE
TS-1	COGEN SUPPLY	MAMAC TE-703-C-5A	AT-225
TS-2	DHW TO GLYCOL	MAMAC TE-703-C-5A	AT-225
TS-3	COGEN RETURN	MAMAC TE-703-C-5A	AT-225
TS-11	DHW TO HX	MAMAC TE-703-C-5A	AT-225
TS-12	HX TO DHW	MAMAC TE-703-C-5A	AT-225
TS-21	GLYCOL LOOP FROM RADIATOR	MAMAC TE-703-C-5A	AT-225
TS-22	GLYCOL LOOP TO HX	MAMAC TE-703-C-5A	AT-225
TS-B1	COGEN SUPPLY BTU	BADGER 380	AT-225
TS-B2	COGEN USEFUL RETURN	BADGER 380	N/A
TS-B3	COGEN REJECTED BTU	VERIS TIDB1D0	AT-225

COGENERATION SCHEDULE	
DESIGN MANUFACTURER	AEGENCO
FUEL	NATURAL GAS
FUEL INPUT	865 SCFH
THERMAL OUTPUT	484 MBTU/H
ELECTRICAL OUTPUT	75 KW
GENERATION TYPE	INVERTER
ACOUSTIC LEVEL	70 dBA @ 20 FT
VIBRATION ISOLATION	YES
CONTROLS	MICROPROCESSOR BASED
UNIT WEIGHT	3050
MODEL	POWERVERTER
AVG INLET TEMP	170 DEG F
AVG OUTLET TEMP	220 DEG F
MA GAS BOARD APPROVAL #	G1-04-06-12
DIMENSIONS	51"W X 101"L X 51"H

- NOTES:
1. ALL PIPE TO BE COPPER "1" UNLESS OTHERWISE NOTED.
  2. COGEN HEAT DISSIPATION LOOP TO BE 40% PROP. GLYCOL. ALL FILLING OF GLYCOL LOOP BY AEGIS.
  3. CONTRACTOR SHALL PROTECT FROM HARM AND MAINTAIN ALL EXISTING EQUIPMENT, PLANT, FACILITY, ETC. TO REMAIN.

