Appendix F

SUNRAIN SOLAR HEAT PIPE COLLECTOR

TZ58/1800- R SERIES

Welcome to the **SUNRAIN** Vaccum Tube Solar Collector!

Vacuum tube solar collectors are amongst the most efficient and most costly types of solar collectors. These collectors are best suited for moderate temperature applications where the demand temperature is 50-95C. Vacuum tube solar collectors have a selective absorber for collecting sunlight that is in vacuum-sealed tube, so the thermal losses are very low even in cold climates.

Applications of vacuum tube collectors include heating of domestic and commercial hot water, buildings, and indoor swimming pools. Due to their ability to deliver high temperatures efficiently another potential application is for the cooling of buildings by regenerating refrigeration cycles.

Our solar collector has been manufactured to the very highest standards, and will provide you with many years of service, with the minimum of maintenance required. This brochure explains how it works, and provides information of a solar water heating installation.

Before assembly and installation, please read this brochure carefully.

CONTENTS

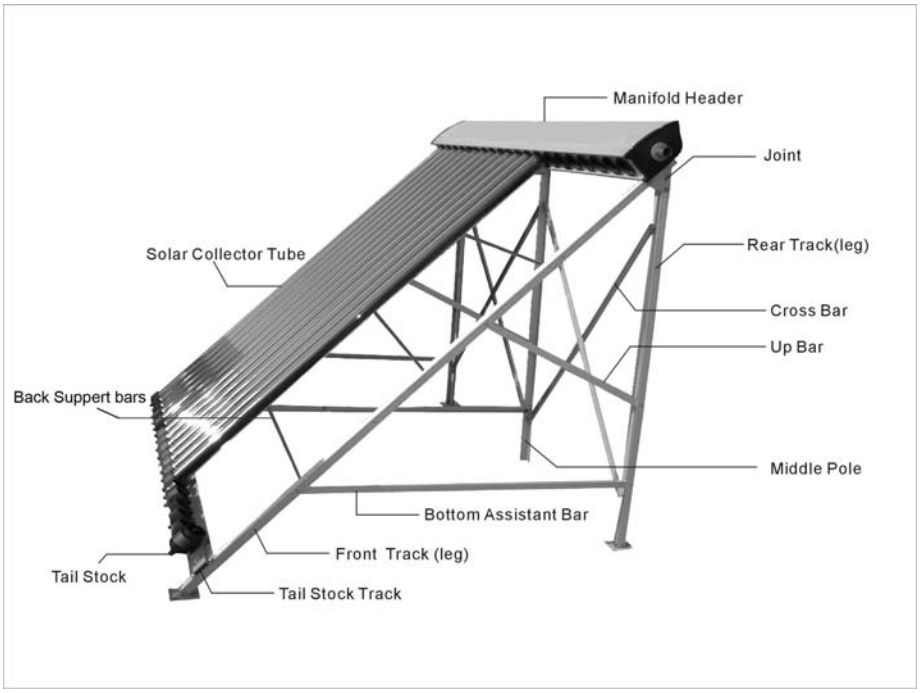
1. STRUCTURE

TZ58/1800-10-15R

TZ58/1800-10R WITH STAND

TZ58/1800-20-30R

TZ58/1800-30R WITH STAND



R1 series

R2 series

2. COMPONENTS

VACUUM TUBE 58/1800mm, selective absorber AL/N-AL

HEAT PIPE, SILICON COTTON STOPPLE AND ALUMINUM FIN

dia. 24mm, length 9mm, copper

MANIFOLD Aluminum 1”

INSULATION CFC Polyurethane foam & Rock Wool

TAIL STOCK ABS Plastic (UV stabilized)

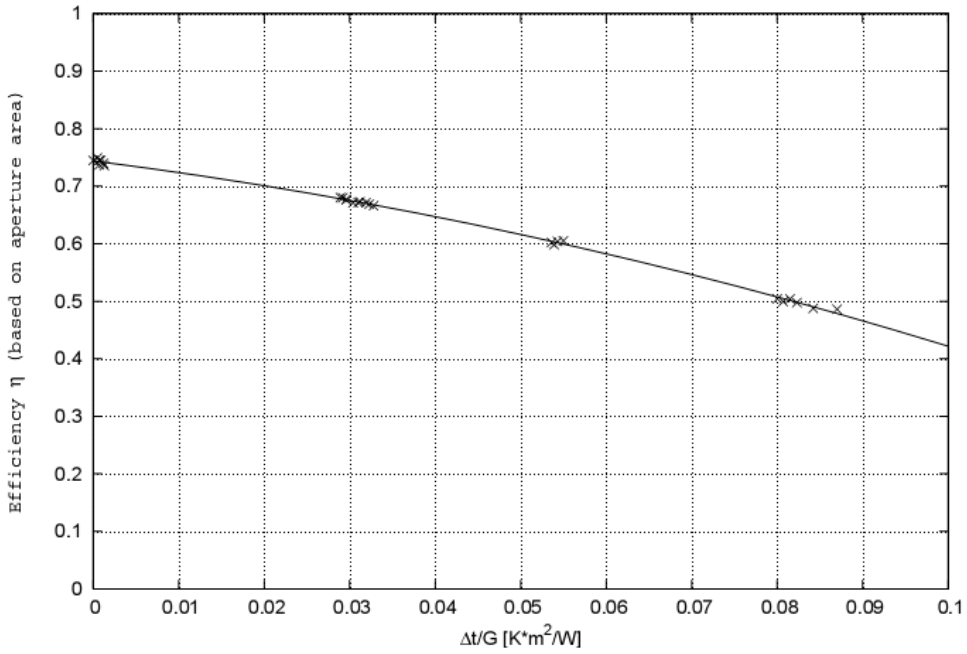
FRAME

STAND (OPTIONAL) Aluminum or Stainless steel 304, 30 or 45°

3. TECHNICAL DATA

	TZ58-1800-10R	TZ58-1800-15R	TZ58-1800-20R	TZ58-1800-25R	TZ58-1800-30R
Total area	1.1715 ㎡	2.563 ㎡	3.377 ㎡	4.121 ㎡	4.901 ㎡
Collector depth	0.189 m	0.189 m	0.189 m	0.189 m	0.189 m
Aperture area	0.936 ㎡	1.395 ㎡	1.860 ㎡	2.326 ㎡	2.791 ㎡
Absorber area	0.808 ㎡	1.206 ㎡	1.607 ㎡	2.009 ㎡	2.411 ㎡
Weight empty	39.6 kg	54.8 kg	73 kg	91.5 kg	106 kg
Volume of the fluid	0,7 l (MS)	1,065 l (MS)	1,4 l (MS)	1.85 l (MS)	2,3 l (MS)

Efficiency Curve



The calculated parameters are based on following areas:

aperture area of 0.936 m : $\eta_{0a} = 0.734$

absorber area of 0.808 m : $\eta_{0A} = 0.850$

$a_{1a} = 1.529$ W/m² K $a_{1A} = 1.771$ W/m² K

$a_{2a} = 0.0166$ W/m² K² $a_{2A} = 0.0192$ W/m² K²

4. PACKING DETAIL

TZ58/1800-20, 25, 30R with flat roof stand (For example 25R)

NAME	DESCRIPTION
All-Glass Evacuated Solar Collector Tube (with heat pipe)	15 PCS/CTN
Solar Collector with heat pipe (with stand)	1 SET/CTN 1 Manifold header, 25 tail stocks, 1 tail stock track, 3 back support bars, 3 joints
Solar Collector Frame (with stand)	1 SET/CTN 3 front tracks, 3 rear tracks, 3 up bars, 3 bottom assistant bars, 4 cross bars

TZ58/1800-20, 25, 30R without flat roof stand (For example 25R)

NAME	DESCRIPTION
All-Glass Evacuated Solar Collector Tube (with heat pipe)	15 PCS/CTN
Solar Collector with heat pipe	1 SET/CTN 1 Manifold header, 25 tail stocks, 1 tail stock track, 3 back support bars, 3 joints

TZ58/1800-10, 15R with flat roof stand (For example 15R)

NAME	DESCRIPTION
All-Glass Evacuated Solar Collector Tube (with heat pipe)	15 PCS/CTN
Solar Collector with heat pipe (with stand)	1 SET/CTN 1 Manifold header, 15 tail stocks, 1 tail stock track, 3 back support bars, 2 joints
Solar Collector Frame (with stand)	1 SET/CTN 2 front tracks, 2 rear tracks, 2 up bars, 2 bottom assistant bars, 2 cross bars

TZ58/1800-10, 15R without flat roof stand (For example 15R)

NAME	DESCRIPTION
All-Glass Evacuated Solar Collector Tube (with heat pipe)	15 PCS/CTN
Solar Collector with heat pipe	1 SET/CTN 1 Manifold header, 15 tail stocks, 1 tail stock track, 3 back support bars, 2 joints

5. MOUNTING ROOF BRACKET INSTALLATION


Step 1


Step 2


Step 3


Step 4


Step 5


Step 6

Step 7


Step 8

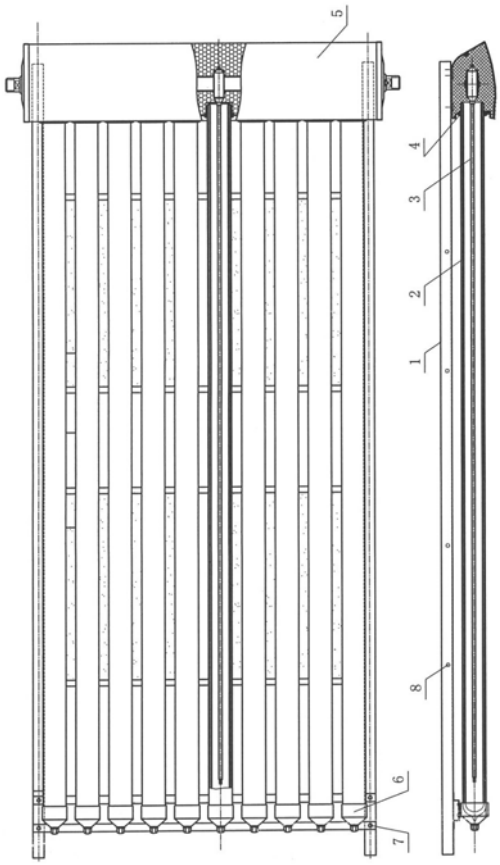

Step 9


Step 10


Step 11

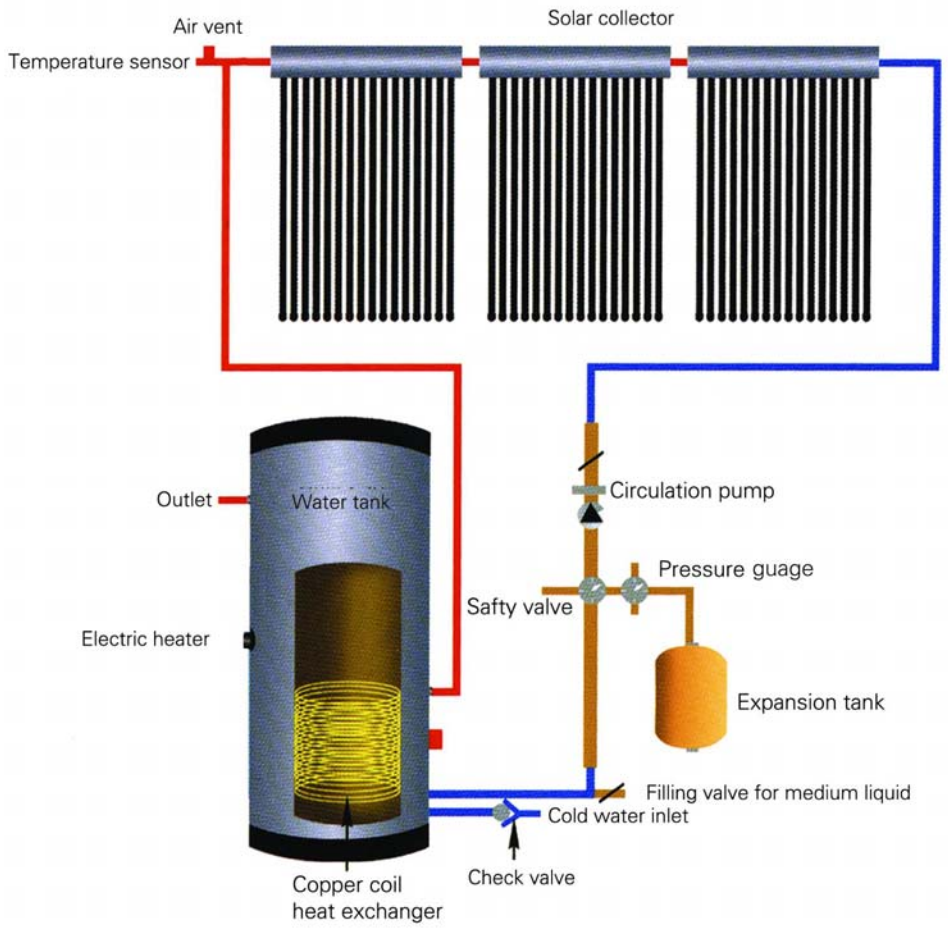

Step 12

6. COLLECTOR DIMENSIONS



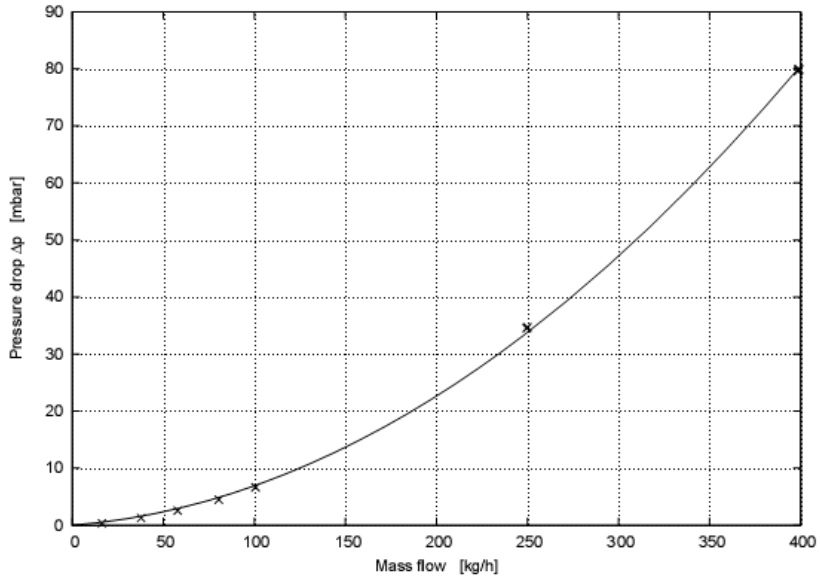
10R 2010*854*189 mm
15R 2010*1275*189 mm
20R 2010*1680*189 mm
25R 2010*2050*189 mm
30R 2010*2420*189 mm

7. COLLECTOR IN SYSTEM

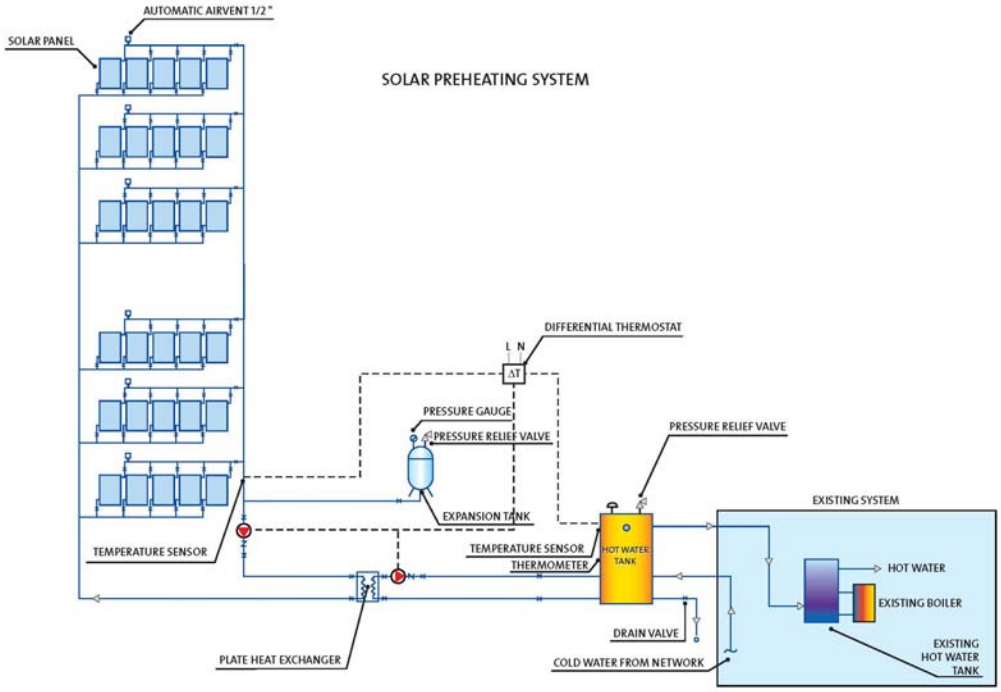


8. PROJECT SUGGESTION

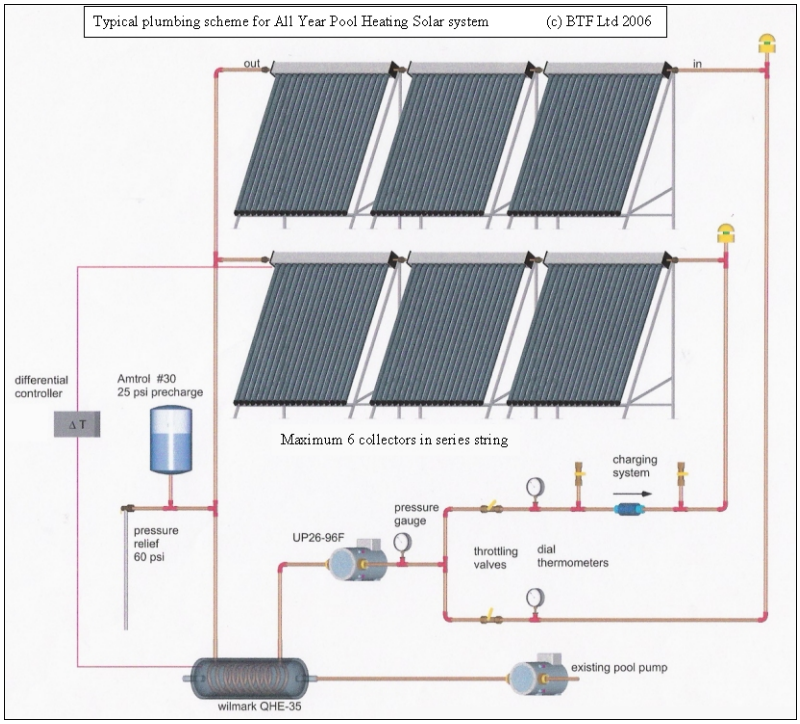
Pressure Drop

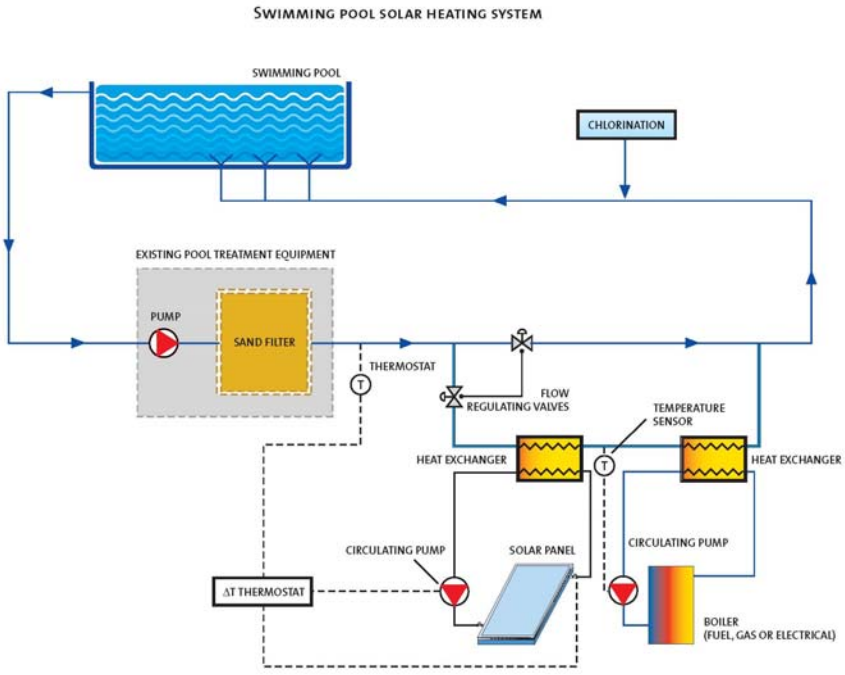


Sample Project



Swimming pool





9. WARRANTY

No liability is accepted for incorrect use, unauthorized changes to the assembly components, or the resulting con-sequences.

The warranty for the collector lasts for 3years and 1 years for the accessories.

All information and instructions in this manual refer to the current state of development. Please always use the respective assembly instructions supplied with the collectors. Figures and illustrations used. Due to the possibility of setting and printing errors, and to the need for continuous technical change, please understand that we cannot accept liability for the correctness of the data. The current version of the General Terms of Business applies. All photographs used are for illustrative purposes only. These assembly instructions contain proprietary information protected by copyright laws.

10. CONTACT INFORMATION

JIANGSU SUNRAIN SOLAR ENERGY CO., LTD.
Ninghai Industry Zone, Lianyungang, China
Contact: Eddy Cheng
Tel: +86 518 8505 1886, +86 518 8505 1806
Fax: +86 518 8505 1808
Web: http://en.sunrain.com
E-mail:eddy@sunrain.com

Fraunhofer Institut
Solare Energiesysteme

Test Report: KTB Nr. 2007-07-en

Collector test according to EN 12975-1,2:2006

for:
Jiangsu sunrain solar energy co. ltd , P.R. China

Brand name:
TZ58-1800

Responsible for testing:
Dipl.-Ing. (FH) K. Kramer

Date:
23rd March 2007

Address:
Fraunhofer-Institute for Solar Energy Systems ISE
Heidenhofstraße 2, D-79110 Freiburg
Tel.: +49-761-4588-5354; Fax.: +49-761-4588-9354
E-mail: korbinian.kramer@ise.fraunhofer.de
Internet: www.kollektortest.de

Accredited according to DIN EN ISO/IEC 17025:2005

Deutscher Akkreditierungs Rat DAR

ilac-MRA

DIN CERTCO Anerkanntes Prüflaboratorium

Registration No.:
DAP-PL-3926.00

Fraunhofer Institut Solare Energiesysteme

Contents

1 Summary

1.1 Preliminary remark

The tests have been performed according to EN 12975-1,2:2006. Main purpose for testing has been, to fulfill all requirements of the SolarKeymark Scheme rules (version 8.0, January 2003).
All requirements have been met.
The certificate of the collector minimum gain of 525 kwh/m^{2}a is handed.

The present report is valid for the series TZ58-1800 including the collectors TZ 58/1800-10R, TZ 58/1800-12R, TZ 58/1800-14R, TZ 58/1800-15R, TZ 58/1800-16R, TZ 58/1800-18R, TZ 58/1800-20R, TZ 58/1800-24R, TZ 58/1800-25R, TZ 58/1800-28R and TZ58-1800-30R of the company Jiangsu sunrain solar energy co. ltd . The tests were performed at the largest and at the smallest collector of the series.

1.2 Collector efficiency parameters determined

Results:
The calculated parameters are based on following areas of the collector TZ58-1800-10R . These parameters are valid for the complete series.

aperture area of 0.936 m^2:	absorber area of 0.808 m^2:
η_{0a} = 0.734	η_{0A} = 0.850
a_{1a} = 1.529 W/m^{2}K	a_{1A} = 1.771 W/m^{2}K
a_{2a} = 0.0166 W/m^{2}K^2	a_{2A} = 0.0192 W/m^{2}K^2

1.3 Incidence angle modifier - IAM

θ:	0°	10°	20°	30°	40°	50°	53°	60°	70°	80°	90°
$K_{\theta T}$:	**1.00**	1.00	**1.03**	1.11	**1.25**	1.37	1.40	**1.36**	1.11	0.70	0.05
$K_{\theta L}$:	**1.00**	1.00	1.00	0.99	0.96	**0.92**	0.88	0.84	0.69	0.44	0.00

Table 1: Measured **(bold)** and calculated IAM data for TZ58-1800-10R

1.4 Effective thermal capacity of the collector

Effective thermal capacity (TZ58-1800-10R):

14.6 kJ/K

The effective thermal capacity per square meter is (valid for the series):

15.6 kJ/K m^2

1.5 Schedule of tests and callculations

Test	Date	Result
Date of delivery:	October 26th 2006	
1st internal pressure	November 9th 2006	passed
High temperature resistance	March 3rd 2006	passed
Exposure	October 26th 2006 - 14th March 2007	passed
1st external thermal shock	November 15th 2006	passed
2nd external thermal shock	March 8th 2006	passed
1st internal thermal shock	November 7th 2006	passed
2nd internal thermal shock	February 15th 2007	passed
Rain penetration	November 15th 2006	passed
Freeze resistance		not relevant
Mechanical load		passed
Stagnation temperature		200.3 °C
Final inspection		passed
Determination of collector parameters	13th March 2006 - 15th March 2006	passed
Determination of IAM		passed
Effective thermal capacity		performed

1.6 Summary statement

No problems or distinctive observations occured during the measurements.

2 Test Center

Test Center for Thermal Solar Systems of Fraunhofer ISE
Heidenhofstraße 2, D-79110 Freiburg
Tel.: +49-761-4588-5139 or -5141; Fax.: +49-761-4588-9139
E-mail: korbinian.kramer@ise.fraunhofer.de; rommel@ise.fraunhofer.de
Internet: http://www.kollektortest.de

3 Orderer, Expeller, Manufacturer

Orderer:	Jiangsu sunrain solar energy co. ltd Mr. Jiao Qingtai Ning hai industrial Zone Lianyungang P.R. China Tel: 0086 518 505 180 6 Fax: 0086-518-505 180 8
Expeller and Manufacturer:	see orderer

4 Overview of series TZ58-1800 collectors

According to the SolarKeymark Scheme rules (version 8.0, January 2003) there is an agreement concerning collectors, wich differ only in size, so called series or families. Only the biggest and the smallest collector have to be tested in this case. A complete collector test according to EN 12975-1,2 has to be performed at the biggest collector. The efficiency test only is sufficient at the smallest collector. The SolarKeymark label based on this tests is valid for the whole series.

(MS) = Manufacturer Specification

Brand name	test collector	number of tubes	length of tubes
TZ58-1800-10R	yes	10	1.800 m (MS)
TZ 58/1800-12R	no	12 (MS)	1.800 m (MS)
TZ 58/1800-14R	no	14 (MS)	1.800 m (MS)
TZ 58/1800-15R	no	15 (MS)	1.800 m (MS)
TZ 58/1800-18R	no	18 (MS)	1.800 m (MS)
TZ 58/1800-20R	no	20 (MS)	1.800 m (MS)
TZ 58/1800-24R	no	24 (MS)	1.800 m (MS)
TZ 58/1800-25R	no	25 (MS)	1.800 m (MS)
TZ 58/1800-28R	no	28 (MS)	1.800 m (MS)
TZ58-1800-30R	yes	30	1.800 m (MS)

4.1 Specific data of the largest collector of the series (TZ58-1800-30R)

Brand name:	TZ58-1800-30R
Serial no.:	
Year of production:	2006
Number of test collectors:	1
Collector reference no. (ISE):	2 KT 57 001 102006 (function tests)
Total area:	2.025 m * 2.420 m = 4.901 m^2
Collector depth:	0.189 m
Aperture area:	1.710 m x 0.0544 m x 30 tubes = 2.791 m^2
Absorber area:	1.710 m x 0.0470 m x 30 tubes = 2.411 m^2
Weight empty:	106 kg
Volume of the fluid:	2,3 l (MS)

4.2 Specific data of the smallest collector of the series (TZ58-1800-10R)

Brand name:	TZ58-1800-10R
Serial no.:	
Year of production:	2006
Number of test collectors:	1
Collector reference no.(ISE):	2 KT 57 003 102006
Total area:	2.008 m * 0.854 m = 1.715 m^2
Collector depth:	0.189 m
Aperture area:	1.720 m x 0.0544 m x 10 tubes = 0.936 m^2
Absorber area:	1.720 m x 0.0470 m x 10 tubes = 0.808 m^2
Weight empty:	39.6 kg
Volume of the fluid:	0,7 l (MS)

4.3 Specification of the tubes

	(MS) = Manufacturer Specification
Type:	vacuum tube collector heat pipe, dry conection without mirror
Material of the cover tube:	borosilicate glass (MS)
Transmission of the cover tube:	$\geq$ 91 % (MS)
Outer diameter of the cover tube:	0.058 m (MS)
Thickness of the cover tube:	0.0018 m (MS)
Outer diameter of the inner tube	0.047 m (MS)
Thickness of the inner tube:	0.0016 m (MS)
Distance from tube to tube:	0.078 m (MS)

4.4 Absorber

Material of the absorber:	Cu/Al/SS/N_2 on borosilicate glass (MS)
Kind/Brand of selective coating:	ALN/SS-ALN/Cu (MS)
Absorptivity coefficient α:	$\geq$ 94 % (MS)
Emissivity coefficient ε:	$\leq$ 7 % (MS)
Material of the absorber pipes:	copper (MS)
Layout of the absorber pipes:	heat pipe, dry conection (MS)
Outer diameter:	0.008 m (MS)
Inner diameter:	0.0068 m (MS)
Material of the header pipe:	copper (MS)
Outer diameter of the header pipe:	0.038 m (MS)
Inner diameter of the header pipe:	0.034 m (MS)
Material of the contact sheets:	aluminium (MS)
Thickness of the contact sheets:	0.0002 m (MS)

4.5 Insulation and Casing

Medium between the inner and outer tubes of the vacuum flask:	high vacuum (MS)
Thickness of the insulation in the header:	0.040 m (MS)
Material:	polyurethane, mineral wool (MS)
Material of the casing:	aluminium (MS)
Sealing material:	silicon rubber (MS)

4.6 Limitations

Maximum fluid pressure:	1000 kPa (MS)
Operating fluid pressure:	600 kPa (MS)
Maximum service temperature:	95 °C (MS)
Maximum stagnation temperature:	200.3 °C
Maximum wind load:	not spezified
Recommended tilt angle:	15 °- 75 °(MS)
Flow range recommendation:	50 -150 l/m^{2}h (MS)

4.7 Kind of mounting

Flat roof - mounted on the roof:	yes (MS)
Tilted roof - mounted on the roof:	no (MS)
Tilted roof - integrated:	yes (MS)
Free mounting:	no (MS)
Fassade:	yes (MS)

4.8 Picture and cut drawing of the collector

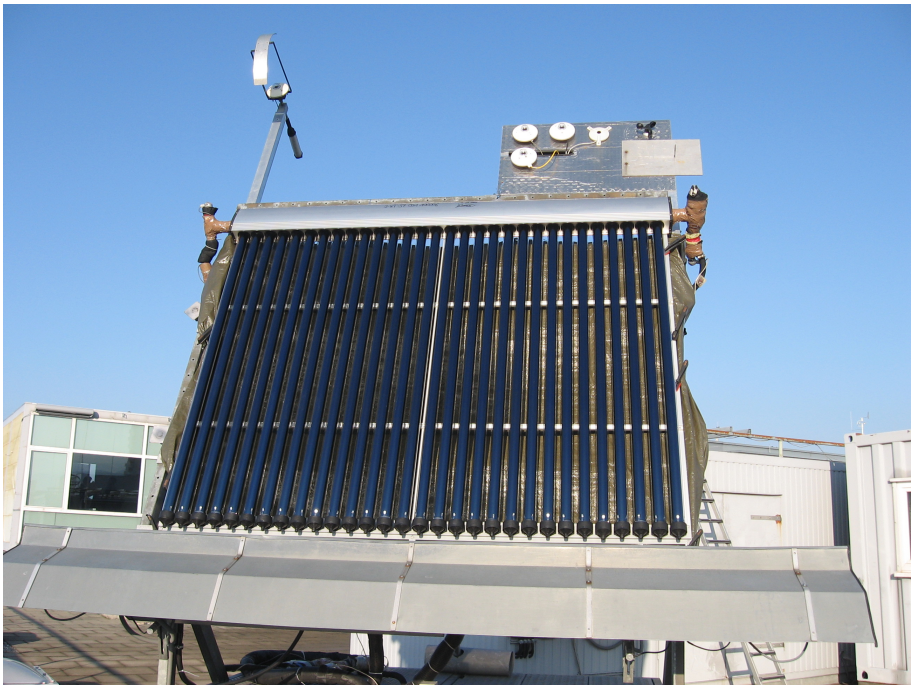


Figure 1: Picture of the collector TZ58-1800-30R mounted on the test facility of Fraunhofer ISE

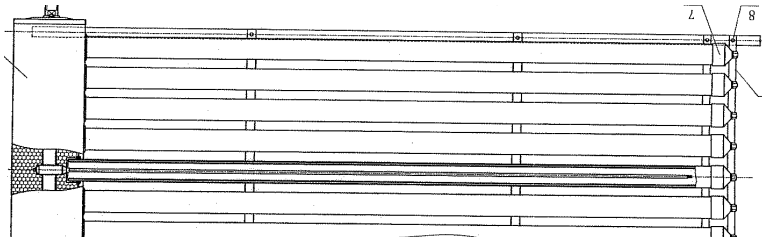


Figure 2: Cut drawing of the collector TZ58-1800-10R

5 Collector efficiency parameters

5.1 Test method

Outdoor, steady state according to EN 12975-2:2006 (tracker)
Thermal solar systems and components - solar collectors,
Part 2: Test methods

5.2 Description of the calculation

The functional dependence of the collector efficiency on the meteorological and system operation values can be represented by the following mathematical equation:

$$\eta_{(G,(t_m-t_a))} = \eta_0 - a_{1a}\frac{t_m - t_a}{G} - a_{2a}\frac{(t_m - t_a)^2}{G} \quad (1)$$

(based on aperture area)

$$t_m = \frac{t_e+t_{in}}{2}$$

where:
G = global irradiance on the collector area (W/m^2)
t_{in} = collector inlet temperature (°C)
t_e = collector outlet temperture (°C)
t_a = ambient temperature (°C)

The coefficients η_0, a_{1a} and a_{2a} have the following meaning:

η_0: Efficiency without heat losses, which means that the mean collector fluid temperature is equal to the ambient temperature:

$$t_m = t_a$$

The coefficients a_{1a} and a_{2a} describe the heat loss of the collector. The temperature depedency of the collector heat loss is described by:

$$a_{1a} + a_{2a} * (t_m - t_a)$$

5.3 Efficiency parameters

Boundary conditions:

As the collector is constructed without a reflector or another defined reflecting backside, the effincy messurements were performed by using a tarpaulin with a defined absorption coefficient of 83 %. This corresponds to typical absorption coefficients of common rooftile.

Test method:	outdoor, steady state
Latitude:	48.0°
Longitude:	7.8°
Collector tilt:	tracked between 35°and 55°
Collector azimuth:	tracked
Mean irradiation :	936 W/m^2
Mean wind speed:	3 m/s
Mean flow rate:	66 kg/h
Kind of fluid:	water
date of the Measurement	February 2007

Results:
The calculated parameters are based on following areas of the collector TZ58-1800-10R . These values are also valid for the complete series.[1]:

aperture area of 0.936 m^2:	absorber area of 0.808 m^2:
η_{0a} = 0.734	η_{0A} = 0.850
a_{1a} = 1.529 W/m^{2}K	a_{1A} = 1.771 W/m^{2}K
a_{2a} = 0.0166 W/m^{2}K^2	a_{2A} = 0.0192 W/m^{2}K^2

The determination for the standard deviation (k=2) was performed according ENV 13025 (GUM). Based on this calculation the uncertainty is less than 2%-points of the efficiency values over the complete measured temperature range (η_{0a} = 0.734 +/- 0.02). Based on our experience with the test facilities the uncertainty is much smaller and in a range of **+/- 1%-point**. The standard deviation of the heat loss parameters resulting from the regression fit curve through the measurement points is:
a_{1a} = 1.529 +/- 0.0686 and a_{2a} = 0.0166 +/- 0.0008 .

For more detailed data and the calculated efficiency curve please see annex B.

[1] absorber area - projected area of absorber tube,
aperture area - projected area of inner diameter of cover tube

5.4 Power output per collector unit

The power output per collector unit will be documented for the largest collector of the series TZ58-1800-30R with the highest output per collector unit and for the smallest collector of the series TZ58-1800-10R with the lowest output per collector unit.

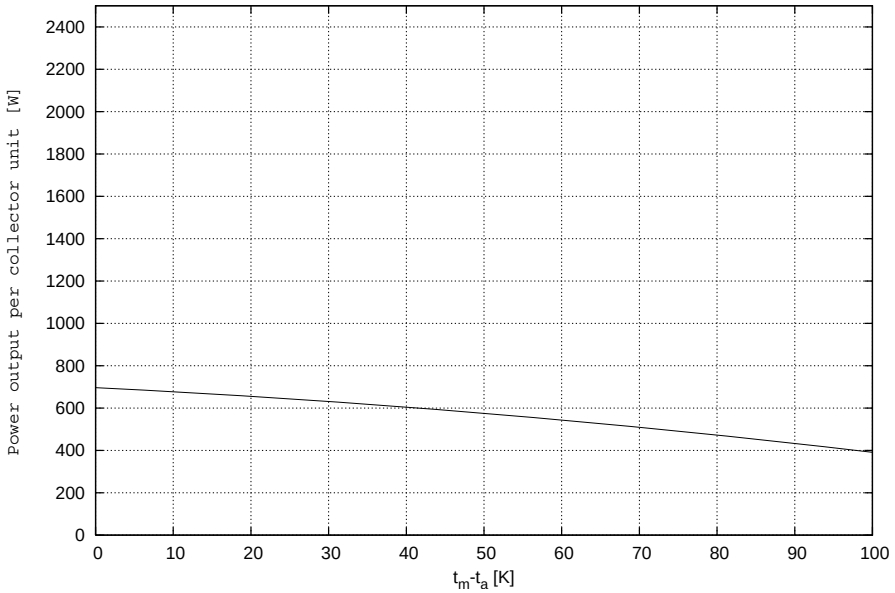


Figure 3: Power output for collector TZ58-1800-10R based on 1000 W/m^2

Power output per collector unit [W] for collector TZ58-1800-10R (aperture area of 0.936 m^2):

$t_m - t_a$ [K]	400 [W/m^2]	700 [W/m^2]	1000 [W/m^2]
10	259	465	671
30	218	424	630
50	164	371	577

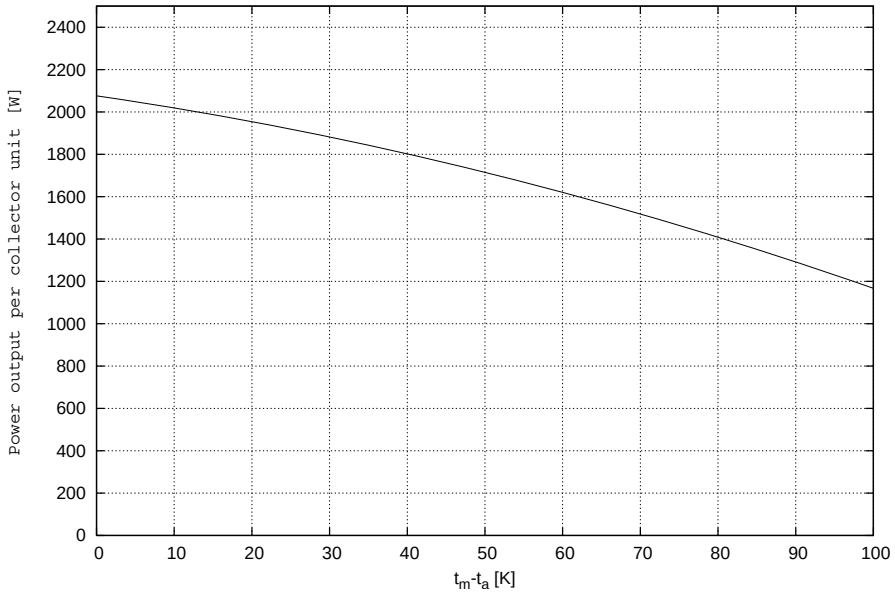


Figure 4: Power output for collector TZ58-1800-30R based on 1000 W/m^2

Power output per collector unit [W] for collector TZ58-1800-30R (aperture area of 2.791 m^2):

$t_m - t_a$ [K]	400 [W/m^2]	700 [W/m^2]	1000 [W/m^2]
10	772	1387	2001
30	650	1264	1879
50	490	1105	1719

The power output per collector unit can be calculated for other collectors of this series according to the follwoing procedure:

$$P = P_{ref} * \frac{A_a}{A_{a,ref}}$$

with:

P = Collector output for a different collector of the series
P_{ref} = Collector output for collector TZ58-1800-10R , (values see table)
A_a = Aperture area of a different collector of the series
$A_{a,ref}$ = Aperture area of collector TZ58-1800-10R = 0.936 m^2

6 Incidence angle modifier IAM

The IAM (= Incidence Angle Modifier) is a correction factor representing how the angle of incident radiation affects the performance of a collector. For collectors which have a direction-depending IAM behaviour (for example vacuum tube collectors and collectors with CPC reflectors), it is necessary to meassure the IAM for more than one direction, to have a proper determination of the IAM.

The complex IAM can be estimated by calculating it as the product of both separately meassured incidence angle modifiers $K_{\theta L}$ and $K_{\theta T}$ of two orthogonal planes (equation 2).

$$K_\theta = K_{\theta L} x K_{\theta T} \tag{2}$$

The longitudinal plane (index L) is orientated parallelly to the optical axsis of the collector. The transversal plane is orientated orthogonally to the optical axsis of the collector. The angles θT and θL are the projection of the incidance angle of the radiation on the transversal or longitudinal plane.

Test method:	outdoor, steady state
Latitude:	48.0°
Longitude:	7.8°
Collector tilt:	tracked
Collector azimuth:	tracked

θ:	0°	10°	20°	30°	40°	50°	53°	60°	70°	80°	90°
$K_{\theta T}$:	**1.00**	1.00	**1.03**	1.11	**1.25**	1.37	1.40	**1.36**	1.11	0.70	0.05
$K_{\theta L}$:	**1.00**	1.00	1.00	0.99	0.96	**0.92**	0.88	0.84	0.69	0.44	0.00

Table 2: Measured **(bold)** and calculated IAM data for TZ58-1800-10R

The angles for the transversal IAM in table 2 were calculated according to Ambrosetti [1](equation 3).

$$K_\theta = 1 - [tan\frac{\theta}{2}]^{\frac{1}{r}} \tag{3}$$

[1] P.Ambrosetti. Das neue Bruttowärmeertragsmodell für verglaste Sonnenkollektoren, Teil 1 Grundlagen. EIR, Wurenlingen 1983

7 Effective thermal capacity of the collector

The effective thermal capacity of the collector is calculated according to section 6.1.6.2 of EN 12975-2:2006. For the heat transfer fluid a mixture 2/1 of water/propylenglycol at a temperature of 50°C has been chosen.

Effective thermal capacity (TZ58-1800-10R):

14.6 kJ/K

The effective thermal capacity per square meter is (valid for the series):

15.6 kJ/K m^2

8 Internal pressure test

Maximum pressure:	1000 kPa (MS)
Test temperature:	12.3 °C
Test pressure:	1500 kPa (1.5 times the maximum pressure)
Test duration:	15 min

Result:
During and after the test no leakage, swelling or distortion was observed or measured.

9 High temperature resistance test

Method:	Indoor testing
Collector tilt angle:	45°
Average irradiance during test:	1011 W/m^2
Average surrounding air temperature:	25.3 °C
Average surrounding air speed:	< 0.5 m/s
Average absorber temperature:	197,5 °C
Duration of test:	1 h

Result:
No degradation, distortion, shrinkage or outgassing was observed or measured at the collector.

10 Exposure test

The collector tilt angle was 45° facing south. Annex C shows all test days of the exposure test.

Result:
The number of days when the daily global irradiance was more than 14 MJ/m^{2}d was 41 . The periods when the global irradiance G was higher than 850 W/m^2 and the surrounding air temperature t_a was higher than 10 °C was 41.7 h.

The evaluation of the exposure test is described in the chapter 17 "Final inspection".

11 External thermal shock tests

Test conditions	1st test	2nd test
Outdoors:	yes	yes
Combined with exposure test:	yes	yes
Combined with high temperatur resistance test:	no	no
Collector tilt angle:	45°	45°
Average irradiance:	850 W/m^2	860 W/m^2
Average surrounding air temperature:	17.8 °C	12.6°C
Period during which the required operating conditions were maintained prior to external thermal shock:	1 h	1 h
Flowrate of water spray:	0.05 l/m^2 s	0.05 l/m^2 s
Temperature of water spray:	16.6 °C	16.0 °C
Duration of water spray:	15 min	15 min
Absorber temperature immediately prior to water spray:	162.0 °C	159.1°C

Result:
No cracking, distortion, condensation or water penetration was observed or measured at the collector.

12 Internal thermal shock tests

Test conditions	1st test	2nd test
Outdoors:	yes	yes
Combined with exposure test:	yes	yes
Combined with high temperature resistance test:	no	no
Collector tilt angle:	45°	45°
Average irradiance:	884 W/m^2	957 W/m^2
Average surrounding air temperature:	9.8 °C	10.4 °C
Period during which the required operating conditions were maintained prior to internal thermal shock:	1 h	1 h
Flowrate of heat transfer fluid:	0.02 l/m^2 s	0.02 l/m^2 s
Temperature of heat transfer fluid:	16.6 °C	16.4 °C
Duration of heat transfer fluid flow:	5 min	5 min
Absorber temperature immediately prior to heat transfer fluid flow:	160.0 °C	180.2 °C

No cracking, distortion or condensation was observed or measured at the collector.

13 Rain penetration test

Collector mounted on:	Open frame
Method to keep the absorber warm:	Exposure of collector to solar radiation
Flowrate of water spray:	0.05 l/m^2 s
Duration of water spray:	4 h

Result:
No water penetration was observed or measured at the collector.

14 Freeze resistance test

The freeze resistance test is not relevant, because the manufacturer suggeststa application of the collector only with a freeze resistance fluid.

15 Mechanical load test

15.1 Positive pressure test of the collector cover

This test was not performed by means of implementing pressure. The collector was visualy observed and the structur was checked from a technical point of view.

15.2 Negative pressure test of fixings between the cover and the collector box

This test was not performed by means of implementing pressure. The collector was visualy observed and the structur was checked from a technical point of view.

15.3 Negative pressure test of mountings

The mechanical load test is not reasonable for this collector because of the vacuum tube type without reflector.

16 Stagnation temperature

The stagnation temperature was measured outdoors. The measured data are shown in the table below. To determine the stagnation temperature, these data were extrapolated to an irradiance of 1000 W/m^2 and an ambient temperatur of 30 °C. The calculation is as follows:

$$t_s = t_{as} + \frac{G_s}{G_m} * (t_{sm} - t_{am}) \quad (4)$$

t_s: Stagnation temperature
t_{as}: 30 °C
G_s: 1000 W/m^2
G_m: Solar irradiance on collector plane
t_{sm}: Absorber temperature
t_{am}: Surrounding air temperature

Irradiance	Surrounding air temperature	Absorber temperature
[W/m^2]	[°C]	[°C]
1008	13.1	182.8
994	13.5	181.7
967	13.8	179.2
948	13.8	174.7
988	12.4	183.3

The resulting stagnation temperature is:

200.3 °C

17 Final inspection

The following table shows an overview of the result of the final inspection.

Collector component	Potential problem	Evaluation
Collector box/ fasteners	Cracking/ wraping/ corrosion/ rain penetration	0
Mountings/ structure	Strength/ safety	0
Seals/ gaskets	Cracking/ adhesion/ elasticity	0
Cover/ reflector	Cracking/ crazing/ buckling/ de-lamination/ wraping/ outgassing	0
Absorber coating	Cracking/ crazing/ blistering	0
Absorber tubes and headers	Deformation/ corrosion/ leak-age/ loss of bonding	0
Absorber mountings	Deformation/ corrosion	0
Insulation	Water retention/ outgassing/ degradation	0

0: No problem
1: Minor problem
2: Severe problem
x: Inspection to establish the condition was not possible

18 Collector identification

The collector identification/documentation according EN 12975-1 chapter 7 was complete, see the following items:

- Drawings and data sheet
- Labeling of the collector
- Installer instruction manual
  (not for mounting integrated in tilted roof or fassade mounting, no pressure lost)
- List of used materials

19 Summary statement

The measurements were carried out from
October 2006 until February 2007 .

No problems or distinctive observations occured during the measurements.

20 Annotation to the test report

The results described in this test report refer only to the test collector. It is not allowed to make extract copies of this test report.

Test report: KTB Nr. 2007-07-en

Freiburg, 23rd March 2007
Fraunhofer-Institute for Solar Energy Systems ISE

Dipl.-Phys. M. Rommel
Head of the Test Center for
Thermal Solar Systems

Dipl.-Ing. (FH) K. Kramer
Responsible for testing
and report

A Drawing of absorber layout

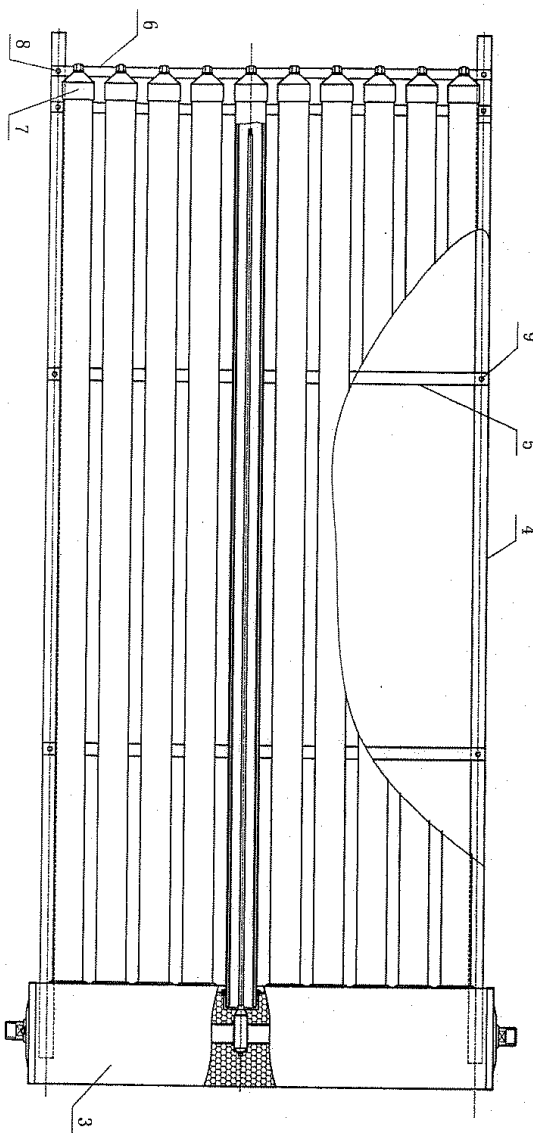


Figure 5: Drawing of absorber layout TZ58-1800-10R

B Efficiency curve

B.1 Efficiency curve with measurement points based on aperture area 0.936 m^2

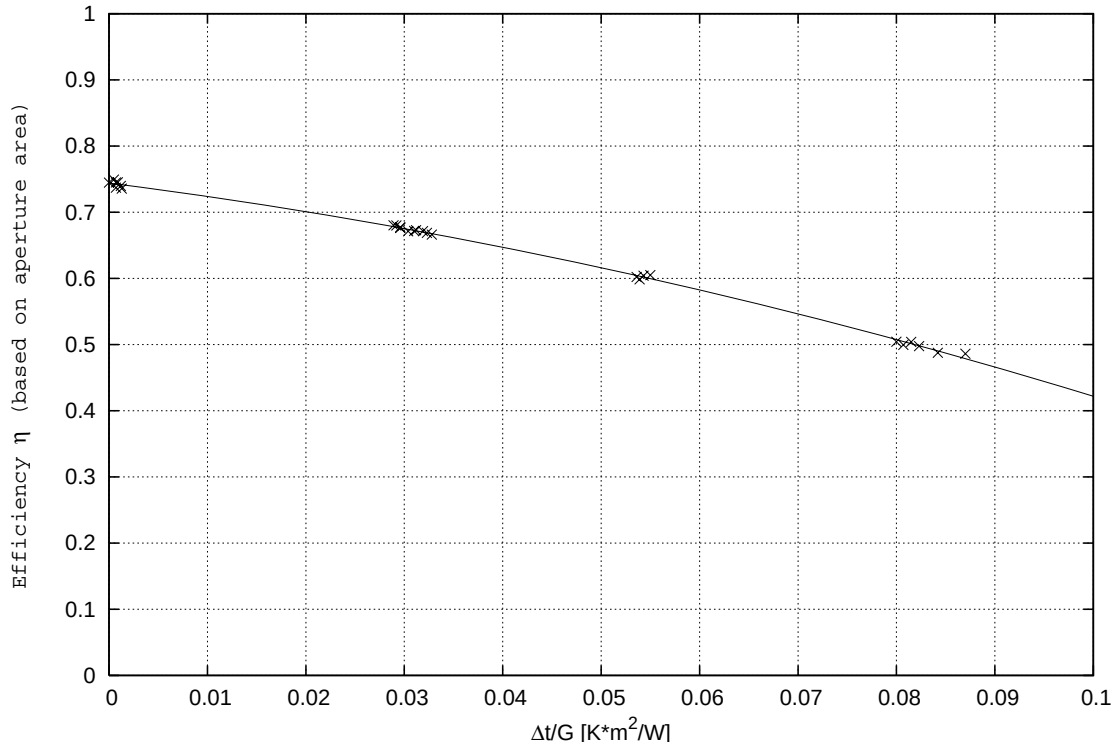


Figure 6: Efficiency curve with measurement points based on aperture area 0.936 m^2

Results:

The calculated parameters are based on following areas:

aperture area of 0.936 m^2:	absorber area of 0.808 m^2:
η_{0a} = 0.734	η_{0A} = 0.850
a_{1a} = 1.529 W/m^{2}K	a_{1A} = 1.771 W/m^{2}K
a_{2a} = 0.0166 W/m^{2}K^2	a_{2A} = 0.0192 W/m^{2}K^2

B.2 Efficiency curve for the determined coefficients and for an assumed irradiation of 800 W/m^2 based on aperture area

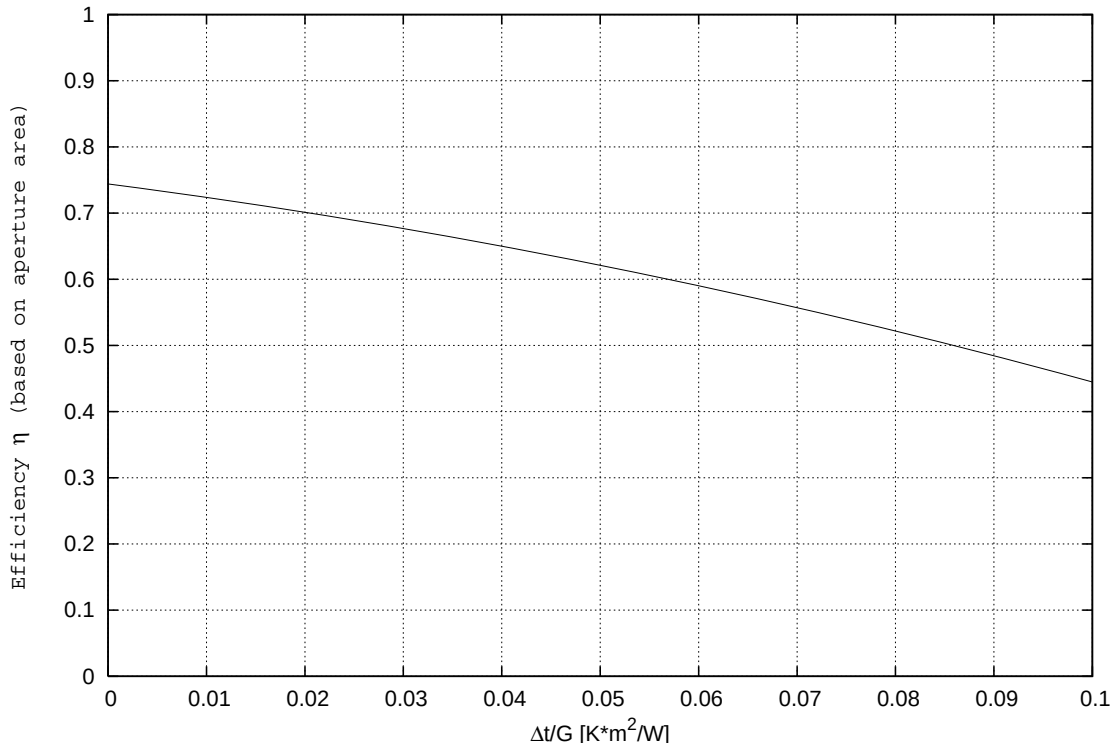


Figure 7: Efficiency curve scaled to 800 W/m^2 based on aperture area 0.936 m^2

The calculated parameters are based on following areas:

aperture area:	absorber area:
$\eta_{0.05a}$ = 0.624	$\eta_{0.05A}$ = 0.723

$\eta_{0.05}$ is the efficiency of the collector for typical conditions of solar domestic hot water systems:
irradiation of 800 W/m^2,
ambient temperature of 20 °C
mean collector temperture of 60 °C.

B.3 Measured data for efficiency curve

G [W/m^2]	G_d/G [-]	m [kg/h]	t_{in} [°C]	t_e [°C]	$t_e - t_{in}$ [K]	t_m [°C]	t_a [°C]	$t_m - t_a$ [K]	$(t_m - t_a)/G$ [K m^2/W]	η_a [-]
980	0.14	67.7	6.79	15.38	8.60	11.08	9.88	1.21	0.0012	0.740
992	0.13	67.7	6.81	15.46	8.65	11.14	9.88	1.26	0.0013	0.736
969	0.11	67.7	6.84	15.39	8.55	11.12	11.14	-0.02	-0.0000	0.745
937	0.09	67.8	7.78	16.05	8.27	11.91	11.05	0.86	0.0009	0.745
944	0.08	67.8	7.82	16.06	8.24	11.94	11.27	0.67	0.0007	0.737
852	0.17	60.8	6.76	15.14	8.38	10.95	10.39	0.56	0.0007	0.745
843	0.16	60.9	6.78	15.11	8.33	10.95	10.50	0.44	0.0005	0.749
892	0.12	66.1	33.03	40.28	7.25	36.66	7.43	29.23	0.0328	0.666
898	0.12	66.0	33.08	40.42	7.34	36.75	7.75	29.00	0.0323	0.669
905	0.12	66.1	33.10	40.52	7.42	36.81	7.97	28.84	0.0319	0.671
909	0.12	66.0	33.13	40.61	7.48	36.87	8.46	28.41	0.0312	0.673
916	0.12	65.8	33.15	40.69	7.54	36.92	8.56	28.36	0.0310	0.672
923	0.12	65.8	33.18	40.77	7.59	36.97	8.96	28.01	0.0304	0.671
921	0.12	65.9	33.26	40.87	7.61	37.07	9.85	27.21	0.0296	0.676
921	0.12	65.8	33.31	40.96	7.64	37.14	9.89	27.25	0.0296	0.678
919	0.12	65.9	33.36	41.00	7.64	37.18	10.33	26.85	0.0292	0.680
922	0.13	65.9	33.38	41.06	7.67	37.22	10.59	26.63	0.0289	0.680
967	0.09	66.6	60.04	67.08	7.04	63.56	11.76	51.80	0.0536	0.602
960	0.09	66.2	60.06	67.04	6.99	63.55	11.79	51.76	0.0539	0.599
944	0.09	66.3	60.04	66.97	6.93	63.50	11.58	51.92	0.0550	0.605
914	0.10	67.3	60.10	66.71	6.61	63.40	13.83	49.57	0.0543	0.604
931	0.10	65.7	85.10	90.63	5.53	87.87	6.87	80.99	0.0870	0.486
957	0.09	65.7	85.21	90.90	5.69	88.05	7.48	80.57	0.0842	0.488
980	0.08	65.6	85.47	91.43	5.97	88.45	7.81	80.64	0.0823	0.498
985	0.08	65.4	85.50	91.59	6.09	88.54	8.33	80.21	0.0815	0.504
987	0.08	64.9	85.57	91.66	6.09	88.61	8.92	79.69	0.0807	0.499
991	0.08	65.2	85.50	91.65	6.15	88.58	9.31	79.27	0.0800	0.504

Table 3: Data of measured efficiency points

C Data of the exposure test

H: daily global irradiation

$valid\ period$: periods when the global irradiance G is higher than 850 W/m^2 and the surrounding air temperature t_a is higher than 10 °C

t_a: surrounding air temperature

$rain$: daily rain [mm]

$Date$	H [MJ/m^2]	$valid\ period$ [h]	t_a [°C]	$rain$ [mm]
20061026	20.0	1.6	16.8	0
20061027	3.5	0.0	19.7	0
20061028	7.0	0.3	16.2	0
20061029	1.3	0.0	15.4	5
20061030	16.2	1.6	11.2	0
20061031	8.3	0.1	12.7	2
20061101	10.7	0.8	9.6	0
20061102	20.3	0.0	4.2	0
20061103	10.1	0.0	3.7	0
20061104	14.9	0.1	5.0	0
20061105	9.2	0.0	4.1	0
20061106	16.6	0.2	5.2	0
20061107	17.4	0.8	5.3	0
20061108	3.4	0.0	12.5	0
20061109	1.9	0.0	12.7	1
20061110	16.8	0.1	6.1	0
20061111	1.0	0.0	8.0	5
20061112	5.1	0.0	8.8	5
20061113	2.3	0.0	9.1	1
20061114	2.1	0.0	12.9	0
20061115	17.8	0.0	14.1	0
20061116	16.1	0.2	13.2	1
20061117	1.8	0.0	13.8	0
20061118	16.1	0.4	12.1	0
20061119	3.1	0.0	9.6	10
20061120	13.3	0.2	7.7	3
20061121	2.5	0.0	10.1	11
20061122	7.9	0.0	5.8	0
20061123	2.8	0.0	12.3	1
20061124	6.8	0.1	14.1	0
20061125	4.8	0.0	14.4	0
20061126	7.0	0.0	11.9	0
20061127	7.2	0.0	11.0	0
20061128	14.4	0.0	8.4	3
20061129	1.2	0.0	8.9	4
20061130	1.3	0.0	6.9	0

Continuation, see next page:

Date	*H* [MJ/m^2]	*valid period* [h]	t_a [°C]	*rain* [mm]
20061201	14.8	0.0	7.0	0
20061202	9.0	0.1	7.8	0
20061203	8.2	0.0	13.7	0
20061204	3.5	0.0	11.6	4
20061205	4.1	0.1	15.3	12
20061206	0.9	0.0	9.9	4
20061207	11.5	0.1	8.6	1
20061208	1.3	0.0	9.2	20
20061209	1.3	0.0	6.2	6
20061210	7.3	0.0	4.9	0
20061211	1.7	0.0	4.4	3
20061212	1.5	0.0	7.2	0
20061213	15.4	0.0	6.2	0
20061214	14.9	0.0	3.9	0
20061215	16.1	0.0	5.5	0
20061216	6.2	0.0	10.4	0
20061217	1.8	0.0	5.8	4
20061218	9.2	0.0	2.3	not spezified
20061219	13.9	0.0	3.1	not spezified
20061220	15.5	0.0	2.1	not spezified
20061221	15.7	0.0	2.0	not spezified
20061222	14.4	0.0	2.0	not spezified
20061223	0.9	0.0	-1.3	not spezified
20061224	1.0	0.0	0.1	not spezified
20061225	0.6	0.0	-0.9	not spezified
20061226	1.1	0.0	-0.9	not spezified
20061227	9.4	0.0	-1.7	not spezified
20061228	11.0	0.0	-1.5	not spezified
20061229	12.3	0.0	1.4	not spezified
20061230	5.0	0.0	5.8	not spezified
20061231	9.3	0.0	12.0	not spezified
20070101	1.6	0.0	10.9	not spezified
20070102	2.0	0.0	4.7	not spezified
20070103	3.7	0.0	5.5	not spezified
20070104	1.0	0.0	7.4	not spezified
20070105	1.1	0.0	7.5	not spezified
20070106	1.7	0.0	10.1	not spezified
20070107	2.5	0.0	9.8	not spezified
20070108	1.0	0.0	10.8	not spezified
20070109	1.5	0.0	12.6	not spezified
20070110	13.4	0.0	13.5	not spezified

Continuation, see next page:

Date	*H* [MJ/m^2]	*valid period* [h]	t_a [°C]	*rain* [mm]
20070111	5.6	0.0	10.3	not spezified
20070112	4.1	0.0	9.3	not spezified
20070113	17.0	0.1	10.7	not spezified
20070114	4.3	0.1	9.1	not spezified
20070115	2.4	0.0	2.2	not spezified
20070116	3.0	0.0	6.2	not spezified
20070117	1.8	0.0	11.0	not spezified
20070118	0.3	0.0	13.1	not spezified
20070119	1.5	0.0	12.8	not spezified
20070120	7.6	0.2	12.7	not spezified
20070121	9.6	0.1	8.9	not spezified
20070122	2.1	0.0	4.6	not spezified
20070123	0.8	0.0	0.4	not spezified
20070124	1.7	0.0	-4.4	not spezified
20070125	3.6	0.0	-5.3	not spezified
20070126	19.2	0.0	-4.1	not spezified
20070127	2.0	0.0	-0.6	not spezified
20070128	16.5	0.0	2.9	not spezified
20070129	2.1	0.0	4.3	not spezified
20070130	18.1	0.0	3.5	not spezified
20070131	3.0	0.0	2.0	not spezified
20070201	4.0	0.0	3.6	0
20070202	18.0	0.0	4.7	0
20070203	19.5	0.0	6.3	0
20070204	21.0	0.7	5.0	1
20070205	6.5	0.0	5.9	5
20070206	0.8	0.0	3.6	1
20070207	1.6	0.0	5.0	4
20070208	2.5	0.0	7.5	6
20070209	18.9	1.7	8.0	3
20070210	2.3	0.0	7.7	3
20070211	5.0	0.7	8.8	3
20070212	1.6	0.0	9.3	5
20070213	2.9	0.0	7.2	0
20070214	1.5	0.0	5.5	12
20070215	16.5	1.6	8.3	0
20070216	20.6	1.7	5.3	0
20070217	11.2	0.0	4.9	0

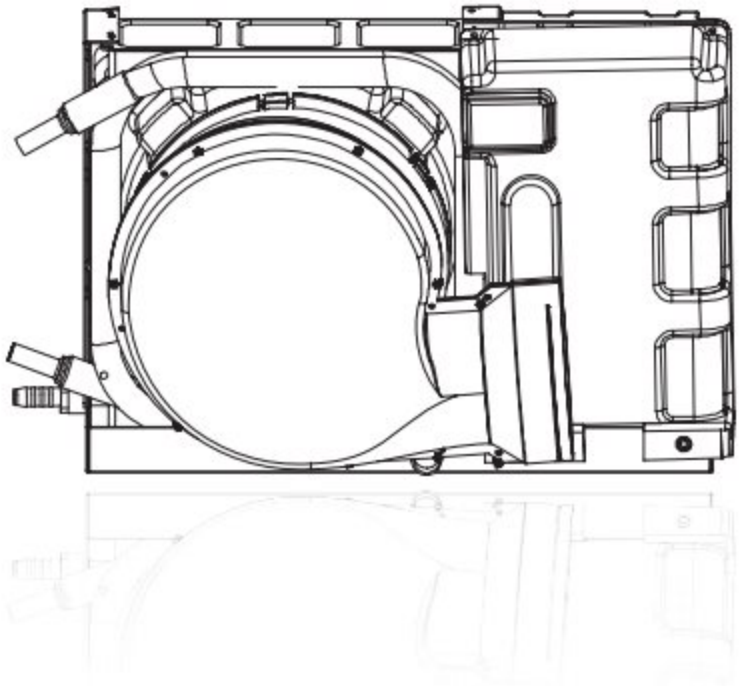
Continuation, see next page:

Date	*H* [MJ/m^2]	*valid period* [h]	t_a [°C]	*rain* [mm]
20070218	19.4	1.6	6.4	0
20070219	14.9	0.0	5.5	0
20070220	13.0	0.0	3.1	0
20070221	21.1	2.6	7.3	0
20070222	18.6	0.4	11.2	0
20070223	16.3	1.1	11.7	6
20070224	4.0	0.0	10.7	5
20070225	4.2	0.0	8.9	3
20070226	3.1	0.0	6.9	5
20070227	7.1	0.0	6.7	2
20070228	6.6	0.2	10.9	2
20070301	1.9	0.0	9.4	0
20070302	11.3	0.1	8.1	0
20070303	12.7	1.7	12.0	0
20070304	23.7	4.0	11.2	0
20070305	9.1	0.1	10.3	0
20070306	9.8	0.4	9.5	0
20070307	8.9	0.5	10.3	0
20070308	20.8	3.5	8.4	0
20070309	14.8	0.8	7.6	0
20070310	22.2	1.1	6.7	0
20070311	25.7	2.6	7.4	0
20070312	25.5	3.6	8.6	0
20070313	23.6	3.0	10.1	0
20070314	21.3	2.3	9.5	0

Appendix H

MarinAire®

Marine Air Conditioner
User's and Installation Manual

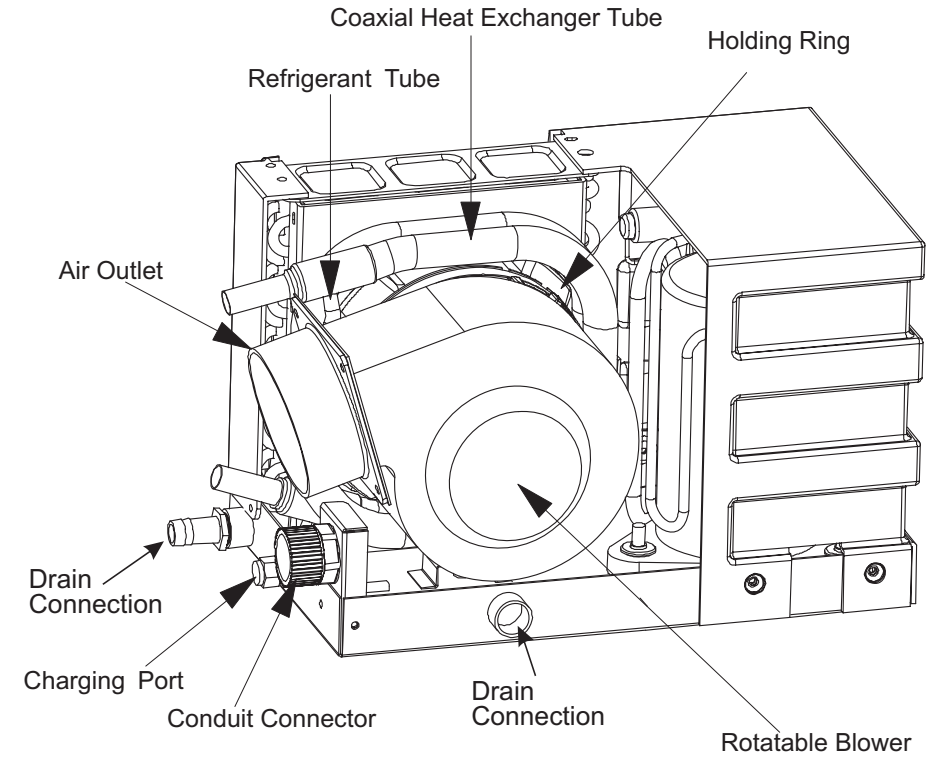


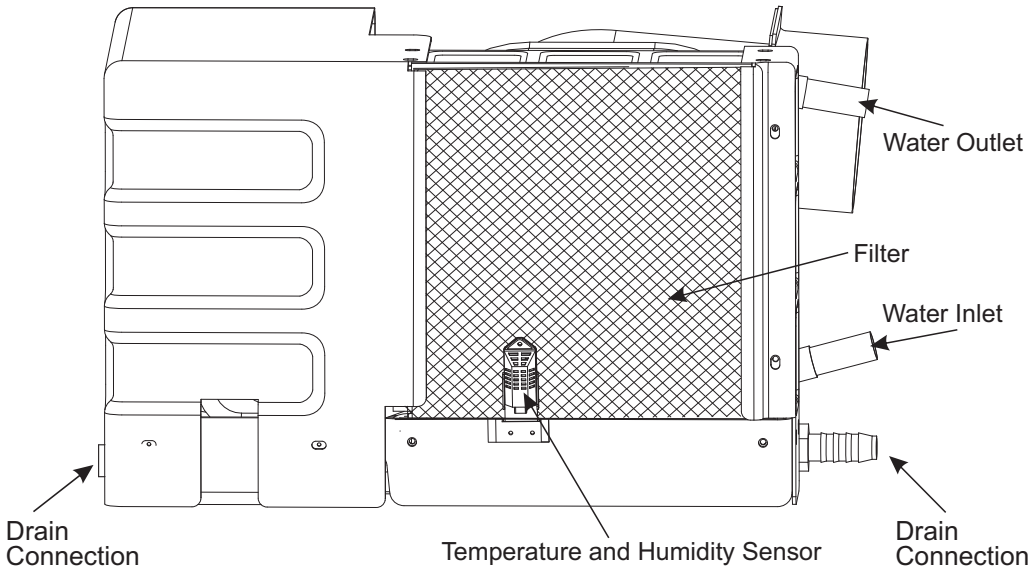
Applies to all self contained models

- Please read this manual before use
- Keep this manual safe for future reference
- Installation and after sales services should be performed by marine AC mechanics

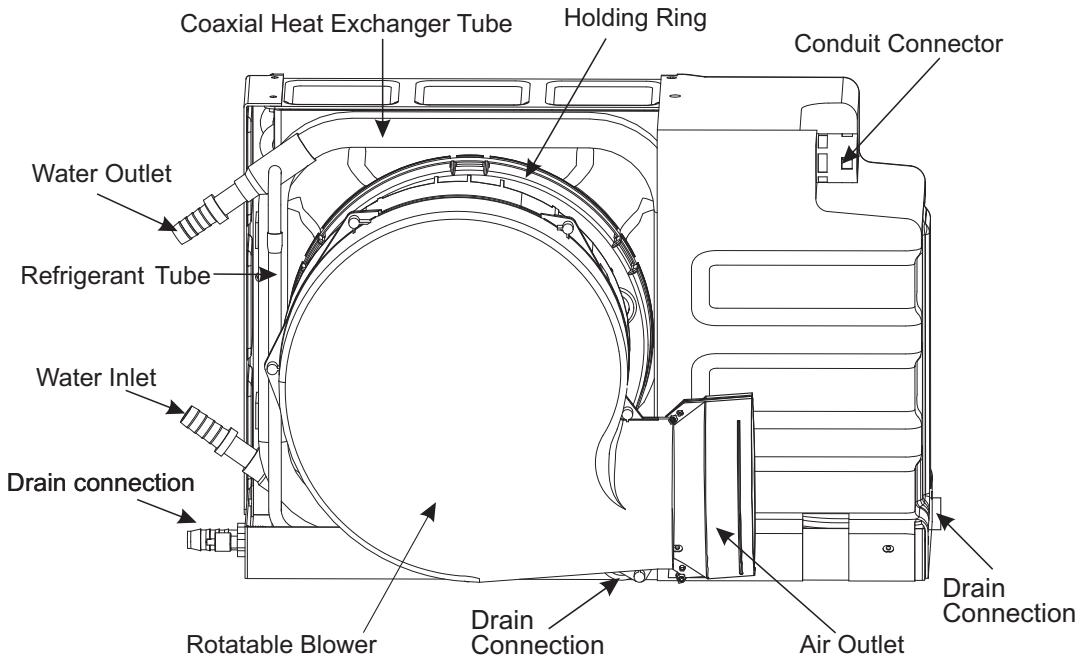
TABLE OF CONTENTS

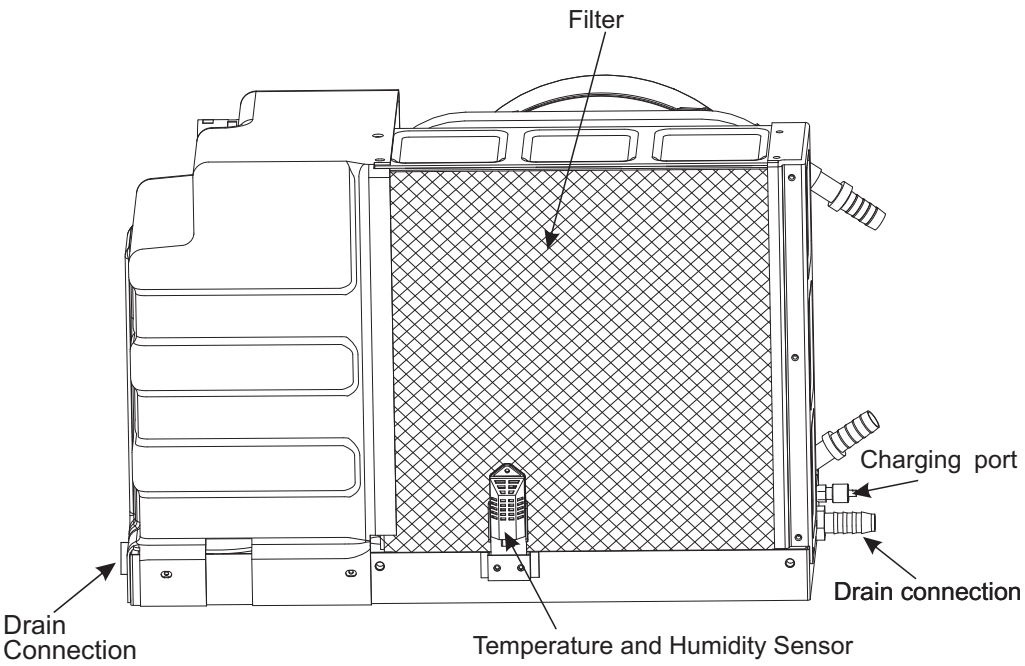
Components MSBA6



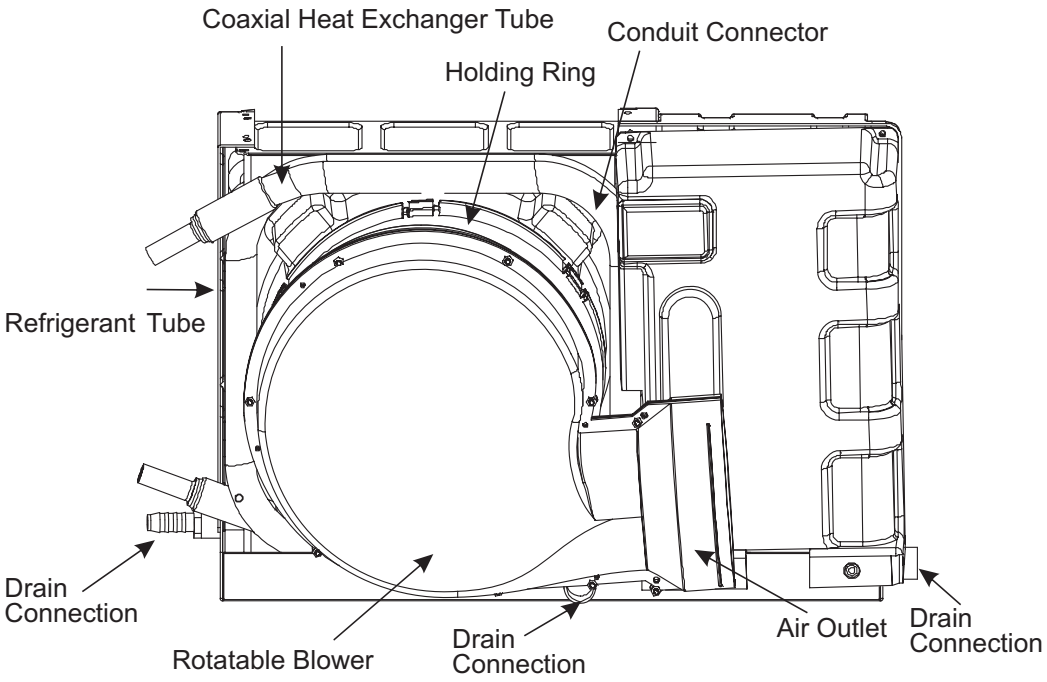


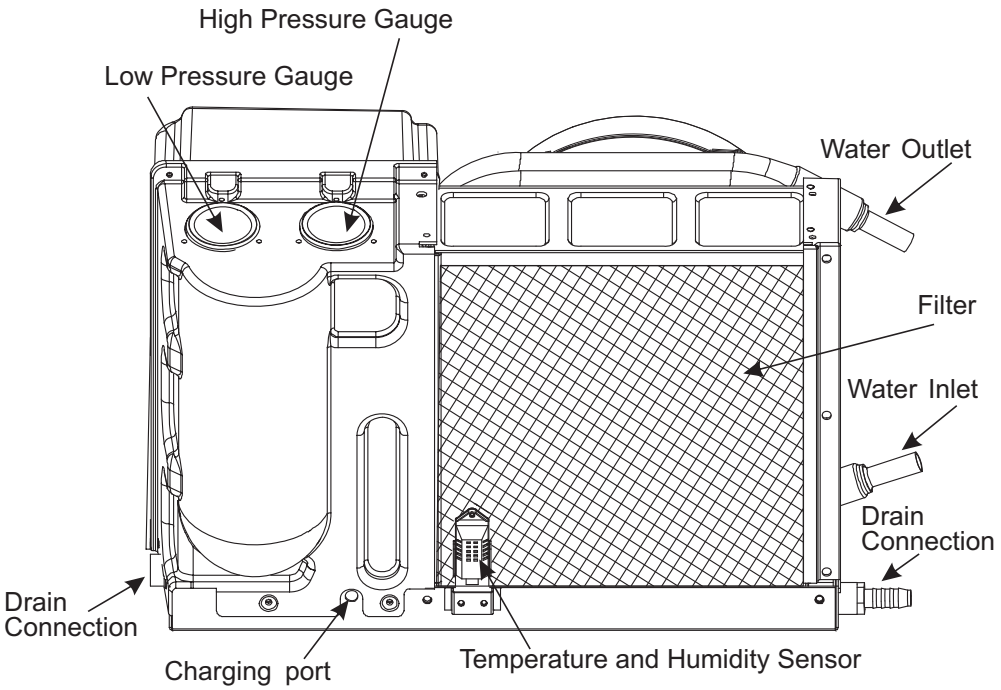
Components MSBA9





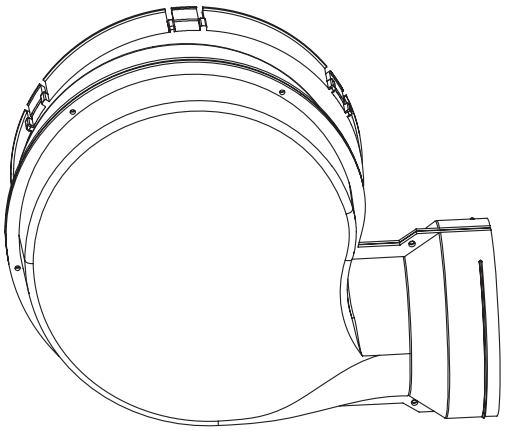
Components MSBA11、MSBA14、MSBA16





A/C Features

MSBA9, **MSBA11**, **MSBA14**, **MSBA16**. **360 Degree Rotatable Blower**



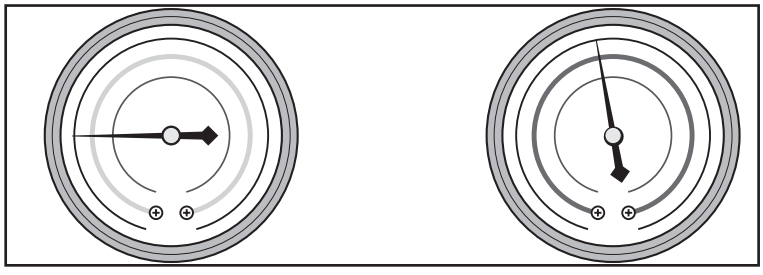
Fan

※ 360 Degree Rotatable Blower.
The unique design makes it very easy to rotate the blower outlet.
The blower can be rotated in any angle within minutes.

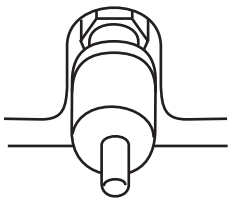
※ MSBA6 can be rotated only up to 90° angle.

(To change air direction, just loosen the metal clamp, then adjust it to the desired angle and re-tighten the metal clamp)

High, low pressure gauge and charging port



Low pressure gauge (Blue) High pressure gauge (Red)

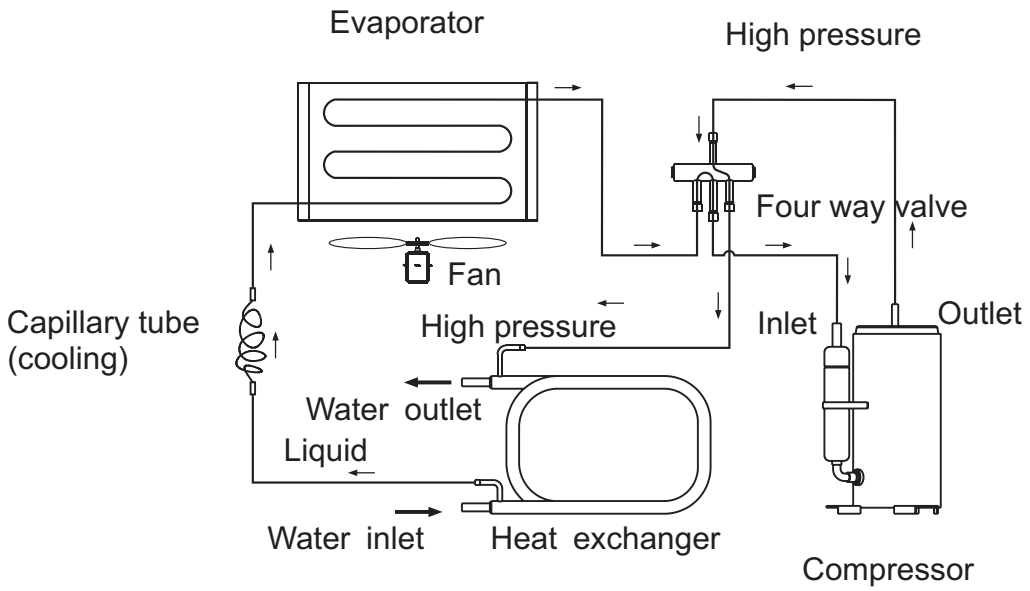


Charging Port

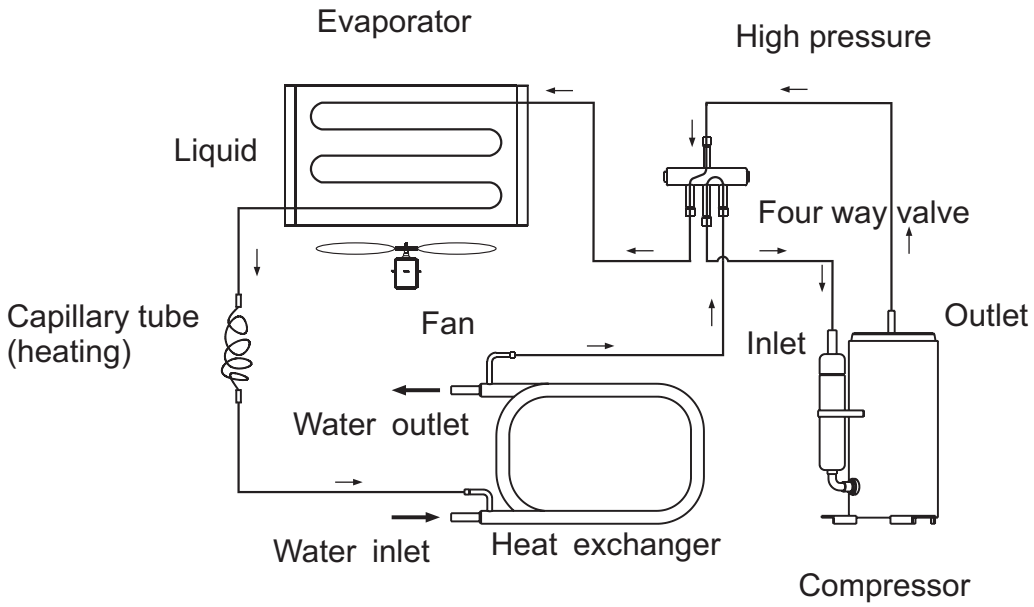
Entering Water Temperature	40	50	60	70	80	90	95	—°F
Low Pressure at Cooling operation	No oper ation	No oper ation	116	121.8	127.6	130.5	159.5	—PSI
High Pressure at Cooling operation	No oper ation	No oper ation	290	333.6	355.3	442.4	464.1	—PSI
Low Pressure at Heating operation	101.5	123.3	137.8	159.5	No oper ation	No oper ation	No oper ation	—PSI
High Pressure at Heating operation	391.6	435.1	493.1	551.1	No oper ation	No oper ation	No oper ation	—PSI

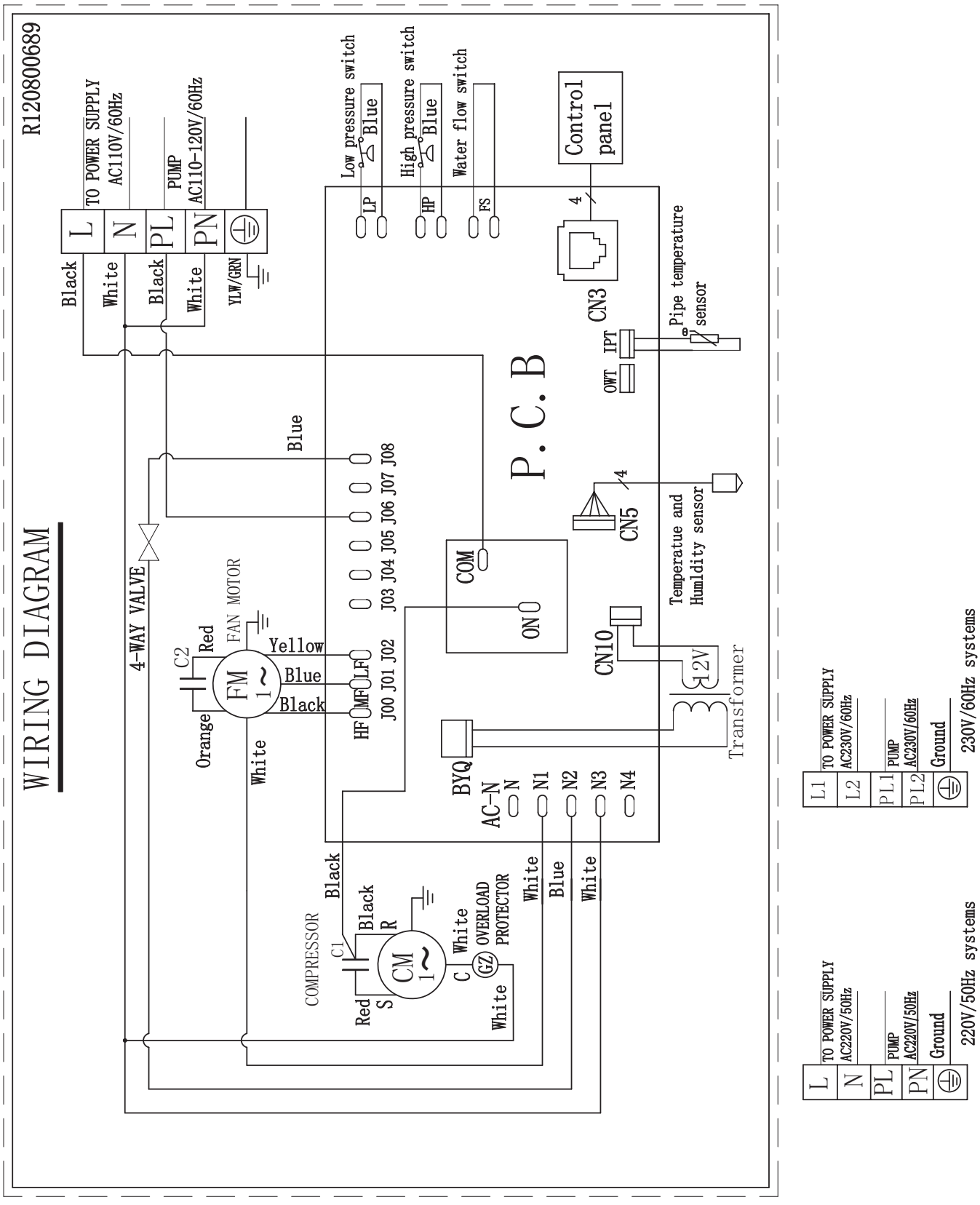
Principles of Refrigeration and Heating

Cooling mode



Heating mode



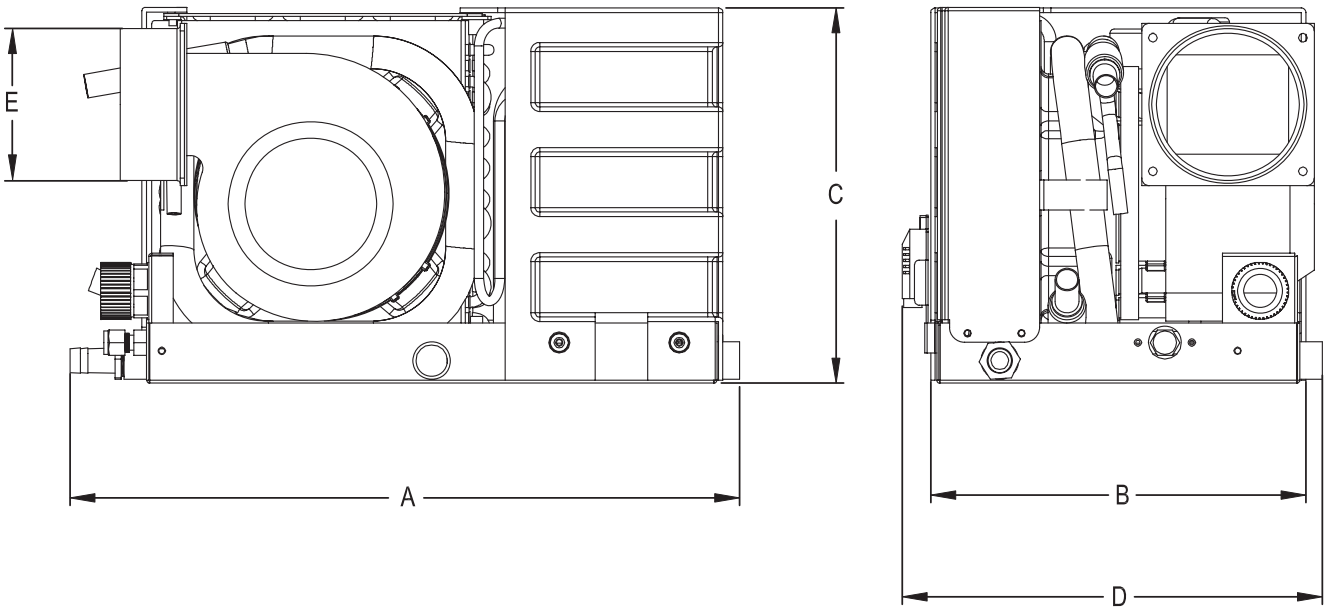


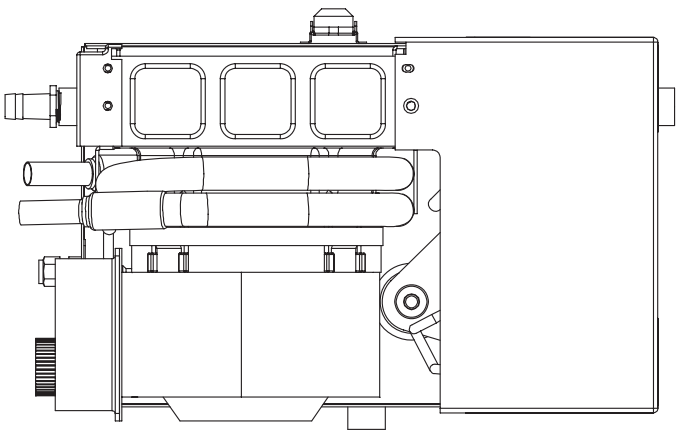
※ Some models may have single speed motor please refer to the wiring diagram in the electric box.

Dimensions

MSBA6K2

Dimensions	(in/mm)
A	17. 5/445
B	9. 5/242
C	10/251
D	11/280
E	4/101

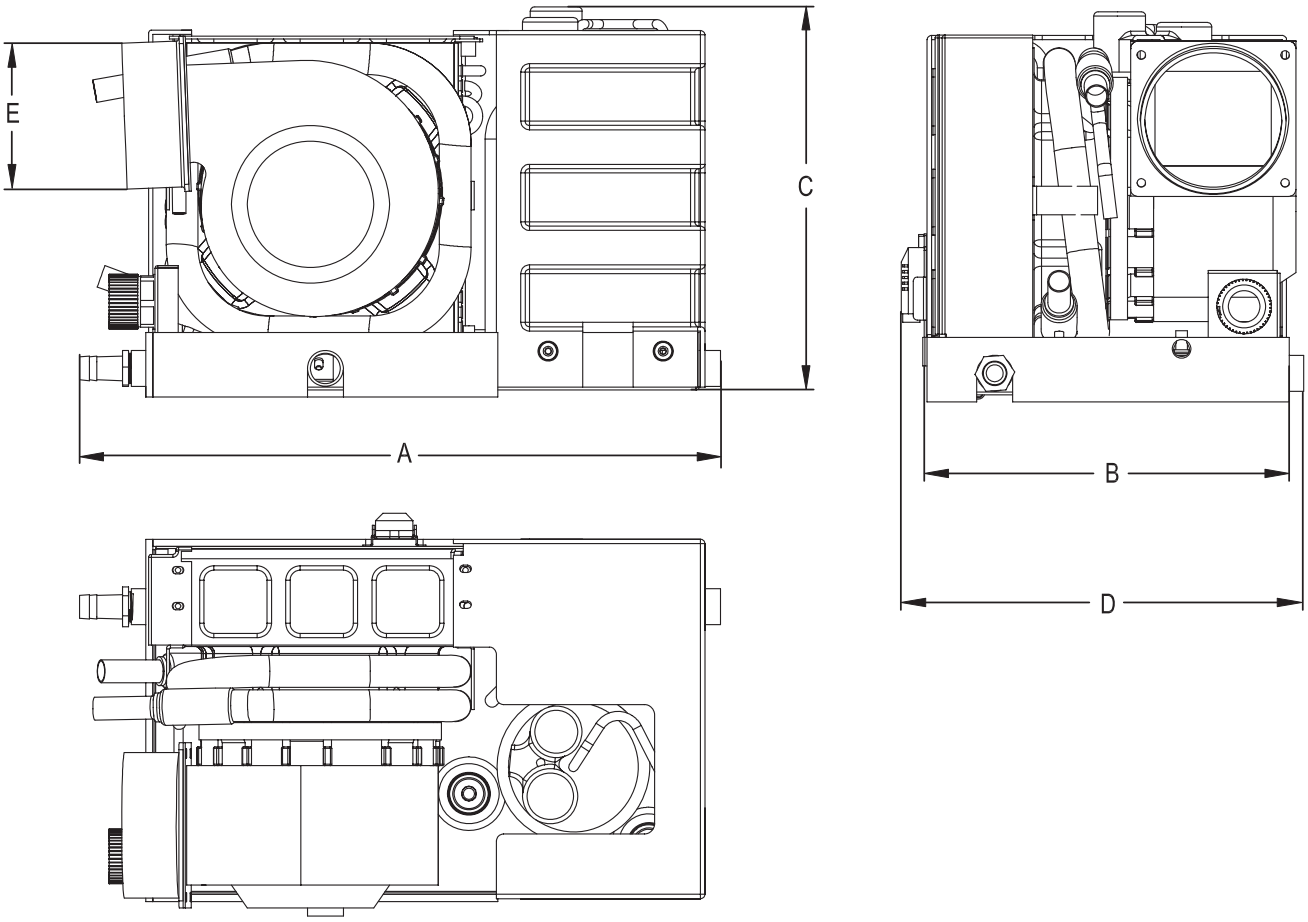




Dimensions

MSBA6C2

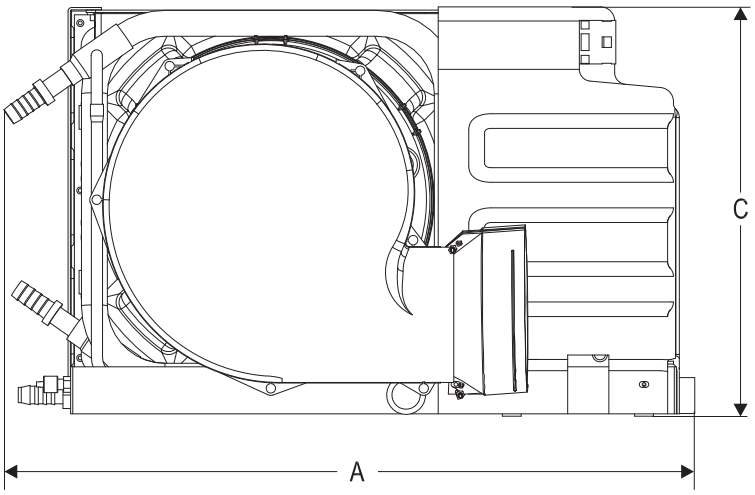
Dimensions	(in/mm)
A	17. 5/445
B	9. 5/242
C	11/280
D	11/280
E	4/101

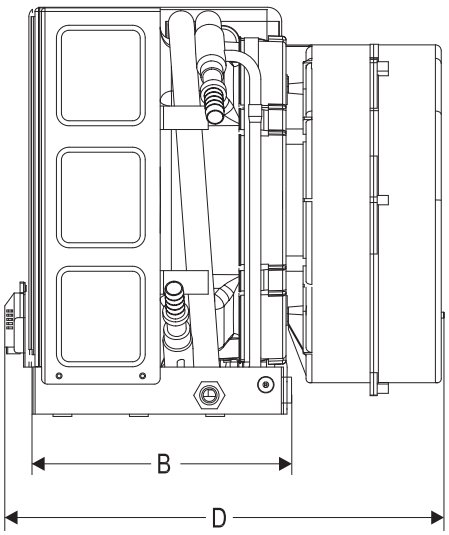


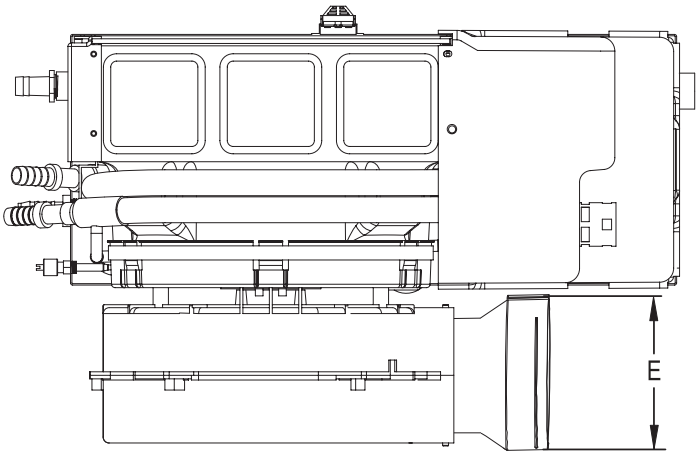
Dimensions

MSBA9

Dimensions	(in/mm)
A	22.7/577
B	8.9/226
C	13.7/348
D	14.7/374
E	6/152



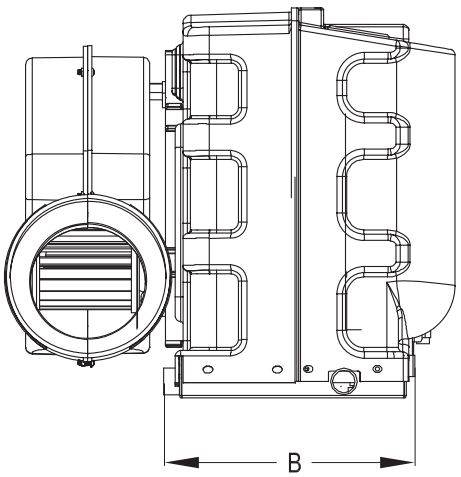


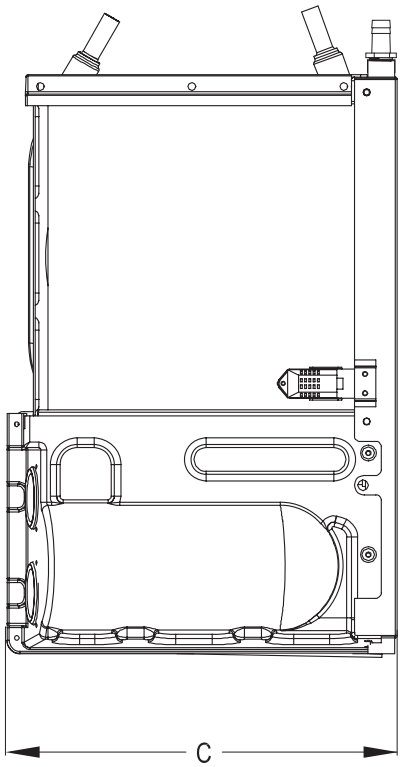


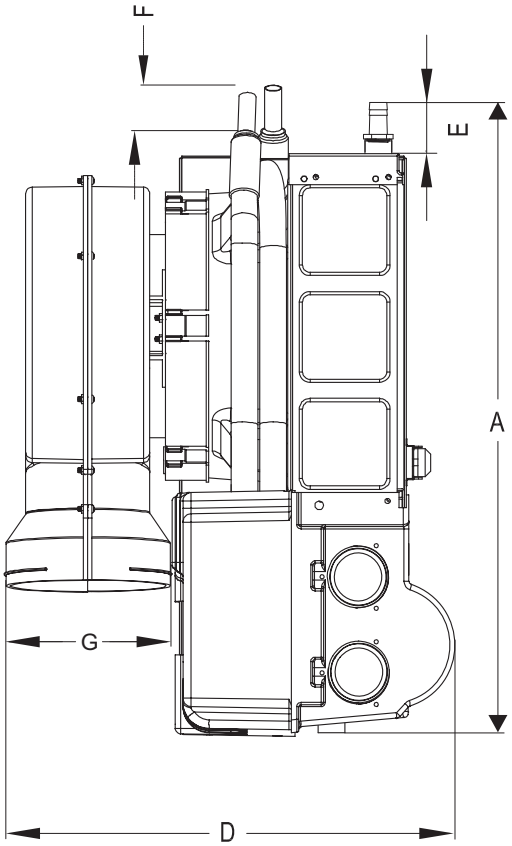
Dimensions

MSBA11, MSBA14, MSBA16

Dimensions	(in/mm)
A	23.2/590
B	8.9/227
C	14.4/365
D	16.5/419
E	1.9/50
F	1.4/35
G	6/152







Clean Air Act

MarinAire MSBA series use environmentally friendly refrigerant R410A. Refer to www.epa.gov for rules & regulations on how to handle R410A.

Operation Limits

Cooling Operation: Incoming Water temperature (sea, river, lake water temperature) of 60 °F to 95 °F
Heating Operation: Incoming Water temperature (sea, river, lake water temperature) of 40 °F to 77 °F

Caution: Operating your air conditioner & heat pump out of above mention ranges might cause permanent damage to the compressor, heat exchangers, pump, and other plumbing components.

⚠ Warning

The location of the ac must be sealed from bilge and/or engine room vapors. Do not install your air conditioner in the bilge or engine room areas.. Condensate drain hose should not be terminated closed to any outlet of engine, generator exhaust systems, in a bilge. Air conditioner or electric box must not be placed in an explosive environment or exposed to an explosive environment or explosive materials, explosion could occur resulting in serious injury or death and/or destruction of the boat. This equipment does not meet requirements for ignition protection. Do not install in spaces containing gasoline engines, lpg/cpg cylinders, tanks, valves, regulators or fuel line fittings. Failure to comply may result in damages, serious injury or death. Drain line should be connected properly to a sealed condensate tank or shower sump pump.

Installation and servicing of this system can be hazardous. Similar to other air conditioning systems, this equipment involves electrical and high pressure components. Always disconnect power supply prior to perform installation, servicing or maintenance. To minimize the hazard of electrical shock and personal injury, this equipment must be grounded. All Instructions labels and safety codes must be followed when working with this unit. When running, the compressor, and heat exchangers may be hot. Do not touch the equipment when running.

Sizing

Make sure the selected capacity is not oversized for the applicable are. Over sizing might cause damage to the electrical components and/or to the power supply due to frequent start and stop. Over sized air conditioning will not effectively remove the humidity and this may cause high humidity and mold in the cabin. This may also cause high energy consumption. Slightly under sizing may be applicable but significantly under sizing your air conditioning will cause discomfort when you need it the most! The general rule of thumb for sizing a pleasure boat is 14BTU's/cubic foot Use the formula of 16 to 19 BTU's/cubic foot for areas that are used during the heat of the day that have a lot of sunlight coming in such as a pilothouse, especially if the roof is not shaded or well insulated. For areas below deck that are primarily used after sunset such as a stateroom, you can use the formula of 10 - 12 BTU's/cubic foot

Location of the system

Typical spots are under the V-berth, in hanging lockers, under dinette seats, in cabinets or in outside dry lazarets and bottom of lockers. The equipment and peripheral components must fit in and/or be accessible to the selected spot. The unit should be positioned on a firm, level, horizontal (flat) surface and the condensate drain line should run down slope from the unit to a suitable drain location. Drain works with gravity. If you can not find a location for the size of the air conditioner base plate, a mounting shelf or platform must be built. Typically the shelf may be made from 3/4 inch marine grade plywood which can be either fiber glassed or mechanically attached to the boat's sole or superstructure. Do not screw directly into the hull. Never place the electrical box below the air conditioning unit. It is strongly recommended that you locate the return grille as low as possible and the supply air grilles as high as possible in the cabin. This will provide better air circulation. You should plan all connections including ducting, splitter, grilles, condensate drain, water in and out, water filter, water circulation pump, electrical power connections and location of the wall control unit,

INSTALLATION

Mounting legs & Vibration Absorbers

The a/c unit is supplied with a base pan that also serves as a condensate pan. Mounting legs and vibration absorbers are provided to secure the base pan onto a flat surface.

AIR DISTRIBUTION

Blower Assembly

The ultimate engineering design allows the blower to be easily rotated 360° for best angle or removed for servicing. Simply loosen the metal clamp and rotate the blower outlet to the desired angle and tight the metal clamp again. Do not leave the clamp loose and do not over tight it since it may apply tension to the shroud and may cause crack.

Ducting

Install at least one vent within 4 to 5 feet of the unit. Make sure that the airflow is not directed back towards the return air grill. Below rule should be followed as a rule of thumb;

6,000 btu unit: 2 or 3 X 4” supply grills.
9,000−11,000 btu unit: 3 or 4 X 4” supply grills
14,000 btu unit: 3 or more X 4” supply grills or 1 X 6” supply grill and 2 or more X 4” supply grills
16,000 btu unit: 1 X 6” supply grill and 2 or more X 4” supply grills
24,000 btu unit: 3 or more X 6” supply grills

An air splitter is required if more than one supply air grill is used. Splitters may be mounted directly on the unit output, or placed in line a short distance from the unit incase of space restrictions. Use insulated duct if the ducting passes through hot and humid areas. If the ducting is completely inside the air conditioned area, you may use non-insulated duct. Using non insulated duct may cause water condensation. Usually power boats use non-insulated duct and sail boats insulated. Sail boats generally sit lower in the water and have less glass than power boats, they tend to produce more duct condensation than the power boat. All duct runs should be as short and straight as possible. Each 90° bends can reduce airflow by 15% to 20%. Ducting should be tied to a permanent structure properly to eliminate sagging.

Four inch round grills require a 4.5 inch hole. A four inch rectangular grill usually measures 4x8” for the hole size but also requires a booth or transition box behind the grill, also measuring 4x8” .These booths extend approximately four inches behind the wall. Booths (transition box) are needed to attach the air duct to the grill.

Return Air

5000 btuh to 9000btuh needs 80-100 square inches (8X10” to 10X10”)
12000 btuh to 24000btuh needs 120-150 square inches (10X12” to 10X15”)
Always use return grilles with filter. Make sure that the air returns to the a/c unit is properly filtered. Insure that there is no air passing to the return of the unit from elsewhere. Unfiltered air with dust, dirt and debris will cause poor performance and potentially malfunction. Do not put any object to obstruct the return air grill. For best performance the evaporator side of the unit should face the return air grill. The evaporator should be at least 3” away from the wall if installed sideways.

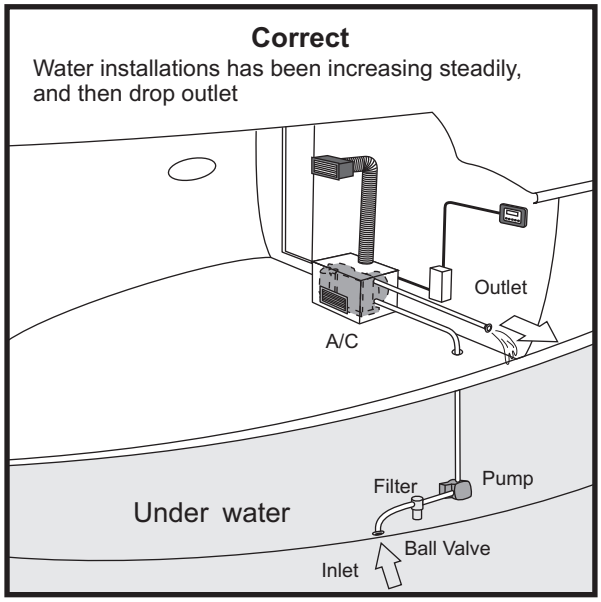
Where it is not possible to have a single return grill multiple grills may be used. Do not stow items such as life preservers, bedding or other items of this nature between the evaporator and the return air grill.

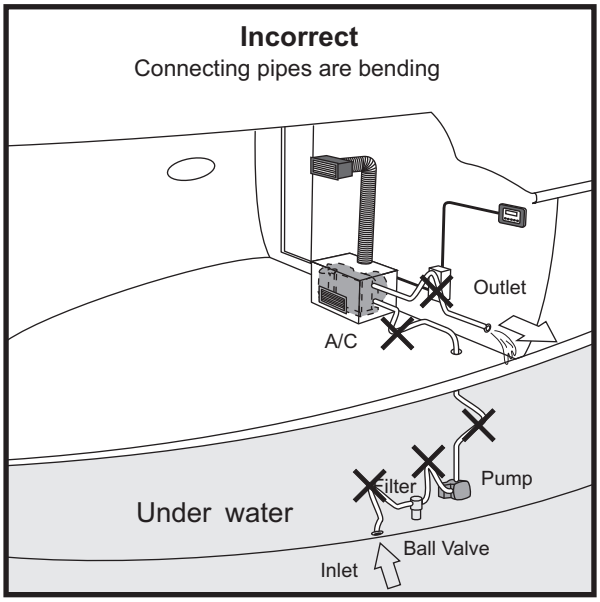
Condensate Drain Connection

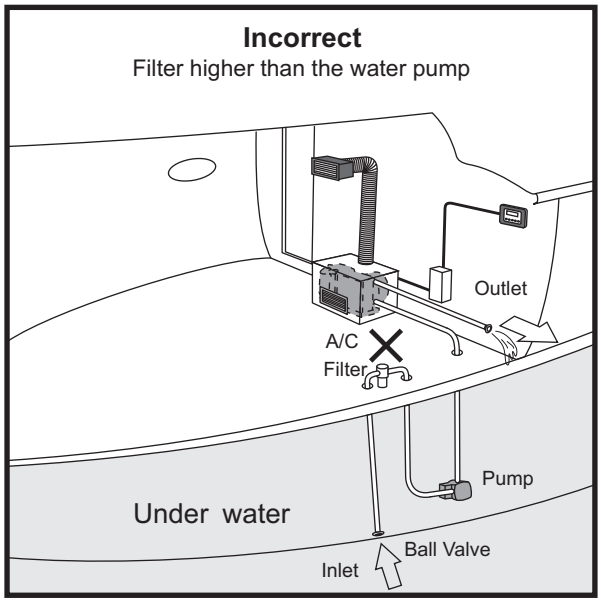
During cooling or dehumidifying mode operations , the air conditioner may produce approximately 1/2 gallon per hour. It is important to run condensate drains hose downward to a sump pump. Do not run the condensate drains to the bilge. After the condensate drain connection is complete, test the installation by pouring ? gallon of water within 1 minute into the drain pan and checking for good flow.

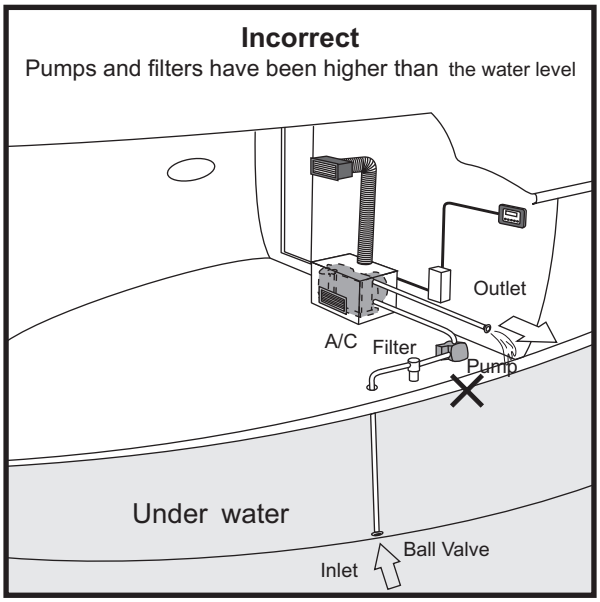
Water in & out

Cooling water is provided to the air conditioner via a foot scoop, sea cock, water strainer and pump assembly all of which are mounted at least 1 feet below the sea level. Use 5/8 inch marine water hose. Water in is always located at the lower position and Water out is located at higher position. (from the coaxial condenser heat exchanger). Incase water connection is not straight, it is recommended to use a hose barb 90 degree fitting to eliminate any kinking. Insure that the hoses will never be kinked. Install a sea water strainer between the sea cock and the pump. Seawater strainer must be installed below the level of the pump with access to filter. Connect the water out directly to the Thru the hull fitting which is located above the sea level. Double clamp all hose connections with stainless steel clamps, reversing the clamps. Use Teflon tape on all threaded connections. Refer to below illustration for details.









INSTALLATION

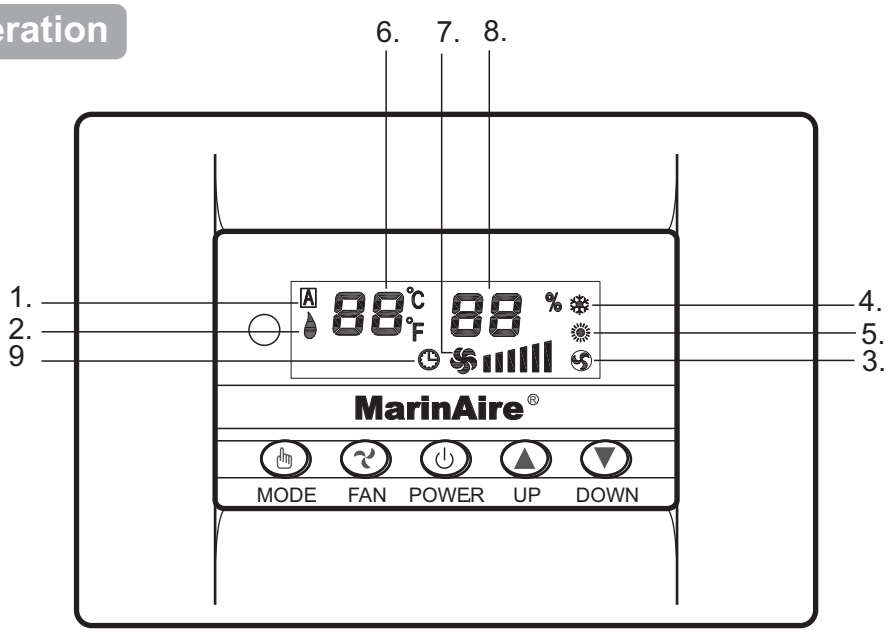
Electrical Power:

Both the air conditioner and pump require same voltage. Make sure the power source is correct for the equipment. (110-120V/60Hz, 208-230V/60Hz and 220-240V/50Hz models available) Power is obtained from the master Circuit Breaker Panel in the boat. Power cables run from this panel to the air conditioner. The air conditioner will then supply power to the pump as required. A terminal strip mounted inside the Electrical box. The terminal strip is labeled for proper connections of the electrical supply, ground wires and pump circuits. A wiring diagram is provided in the electrical box. Minimum of 12 AWG boat cable should be used to supply power to the a/c unit and the seawater pump. Proper grounding is mandatory. A ground connection is provided in the electrical box. All connections shall be made with ring or captive fork terminals. Pump will be connected directly to the terminal strip in the electrical box. Turn off a/c power supply circuit breaker before opening electric box.
The a/c unit must be connected to the ship's bonding system to prevent corrosion due to stray electrical current or voltage. All pumps, metallic valves and fittings in the seawater circuit that are isolated from the a/c unit by PVC or rubber hoses must be individually bonded to the vessels bonding system too.

OPERATION

Control Panel Operation

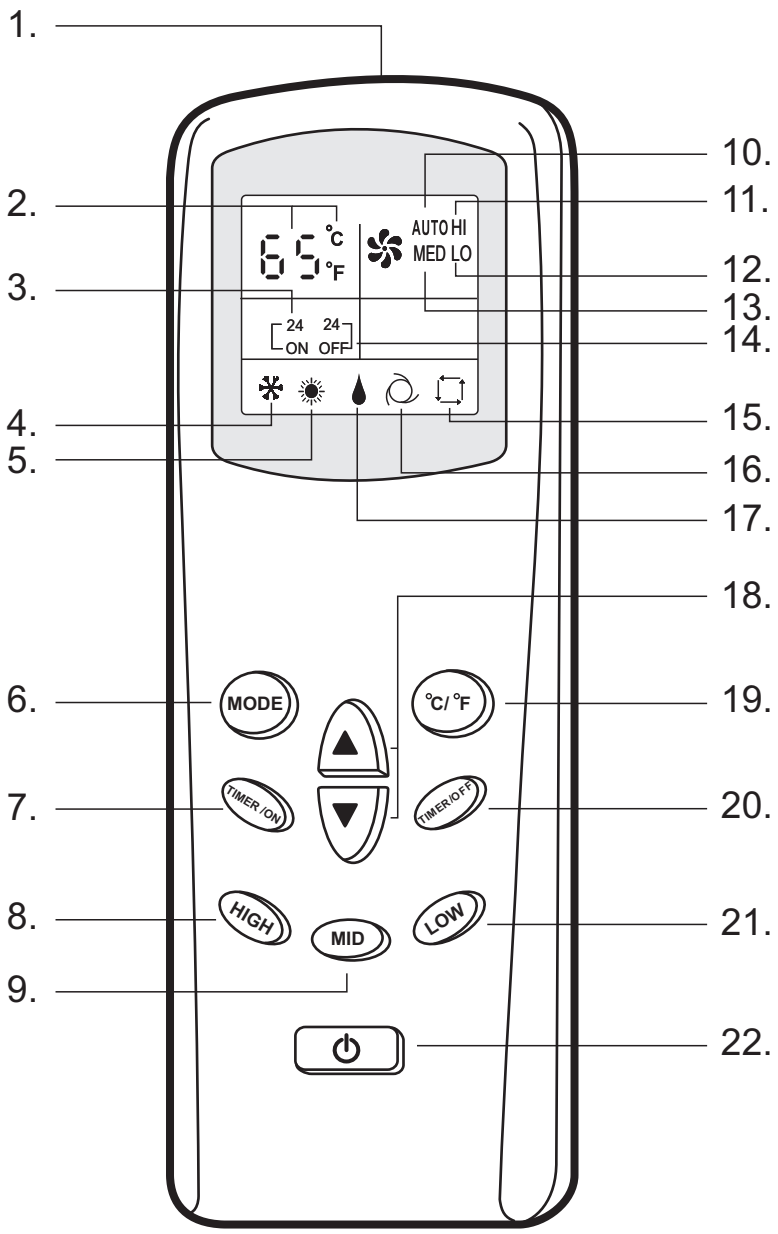
1. Auto mode
2. Dehumidifying mode
3. Fan mode
4. Cooling mode
5. Heating mode
6. Temperature Display
7. Fan speed
8. Humidity Display
9. Timer



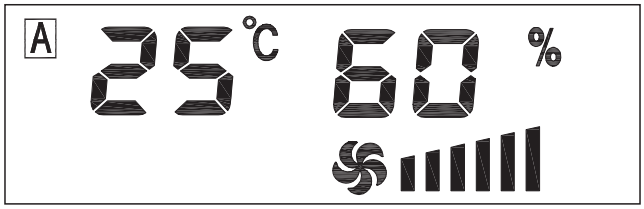
A>. When LCD display backlight is off, press any button to light up the backlight; the setting values on display will blink 5 times (one per second), then it will go back to display room temperature and humidity. Backlight will be off 10 seconds later.
B>. The button on controller: "MODE", "FAN", "POWER", "UP" and "DOWN".
C>. "UP" and "DOWN": set the temperature in auto, cooling and heating mode, or humidity level in dehumidifying mode by directly pressing "UP" and "DOWN" button. In cooling, heating and auto mode, press "UP" and "DOWN" to enter temperature setting. The temperature blinks (one per second); In humidity and auto dehumidifying mode, press "UP" and "DOWN" to enter humidity setting. The humidity blinks (one per second). Press "UP" and "DOWN" together for 5 seconds to switch temperature unit (℃ to ℉ or ℉ to ℃).
D>. "MODE": press "MODE" to set operation mode: Auto, Cooling, Dehumidifying, Heating, Auto Dehumidifying and Fan.
E>. "Fan mode": to set fan motor operation mode. Auto speed, high speed, medium speed, and low speed.
F>. "POWER": to turn on/turn off the a/c.
G>. Use the remote control to set timer; The timer symbol will be displayed on LCD.

Name and Function

1.Signal Transmitter
2.Temperature and Humidity display
3.Timer ON display
4.Cooling mode symbol
5.Heating mode symbol
6.Mode button
7.Timer ON button
8.High speed button
9.Mid speed button
10.Auto speed display
11.High speed display
12.Low speed display
13.Mid speed display
14.Timer OFF display
15.Auto Mode symbol
16.Fan Mode symbol
17.Dehumidifying Mode symbol
18.UP/DOWN buttons
19.Unit change button
20.Timer OFF button
21.Low speed button
22.Power button

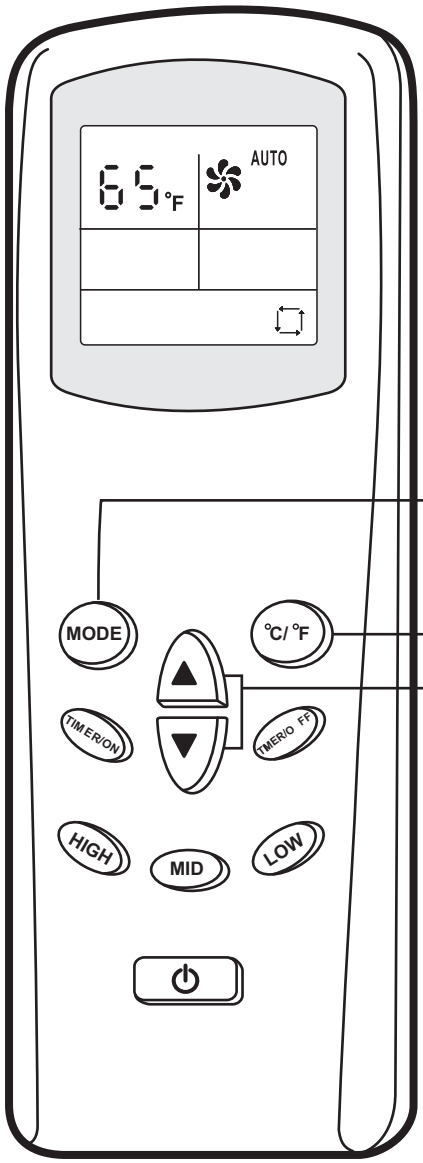


AUTO mode



Display

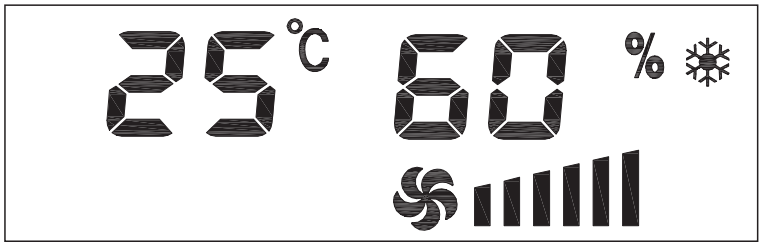
If the setting temperature is greater than the room temperature, the unit will automatically switch to heating mode.
If the setting temperature is lower than the room temperature, the unit will automatically switch to cooling mode.
If the setting temperature is equal to room temp the unit will run on low fan speed.



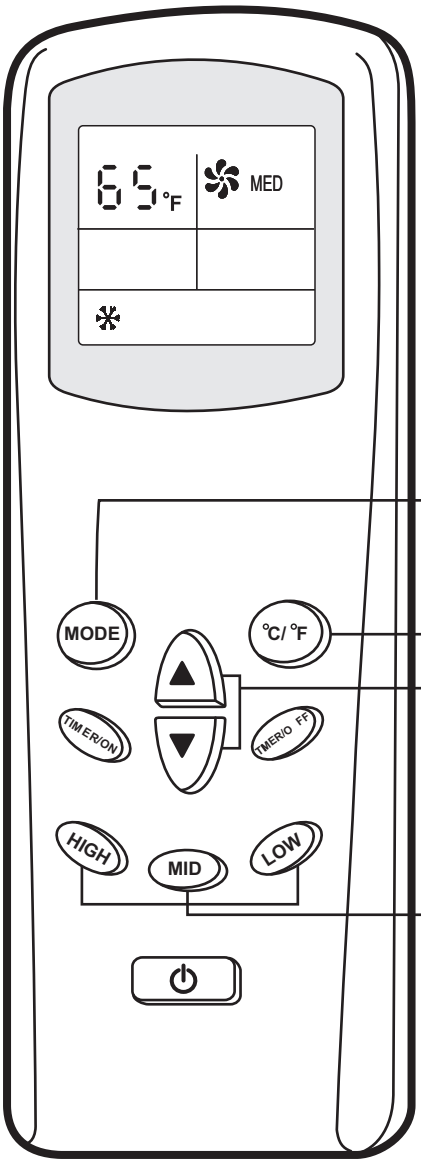
1	Press the **MODE** button to select the AUTO mode.
2	Press the **UNIT CHANGE** button to set the temperature unit
3	Press the **UP/DOWN** button to set the temperature.

Remote Control Operation

Cooling mode



Display

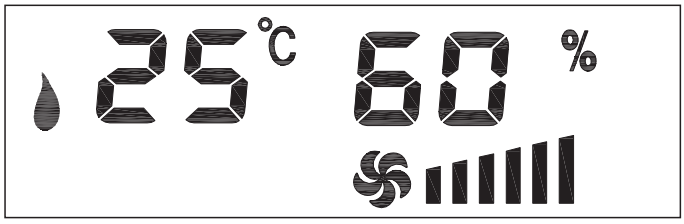


Use cooling function only when the sea water temperature is between 60F to 95F. Do not operate the unit under cooling mode when the sea water temperature is out of this range.

1	Press the **MODE** button to select the cooling mode.
2	Press the **UNIT CHANGE** button to set the temperature unit
3	Press the **UP/DOWN** button to set the temperature.
4	Press the **HIGH/MID/LOW** button to set the fan speed.

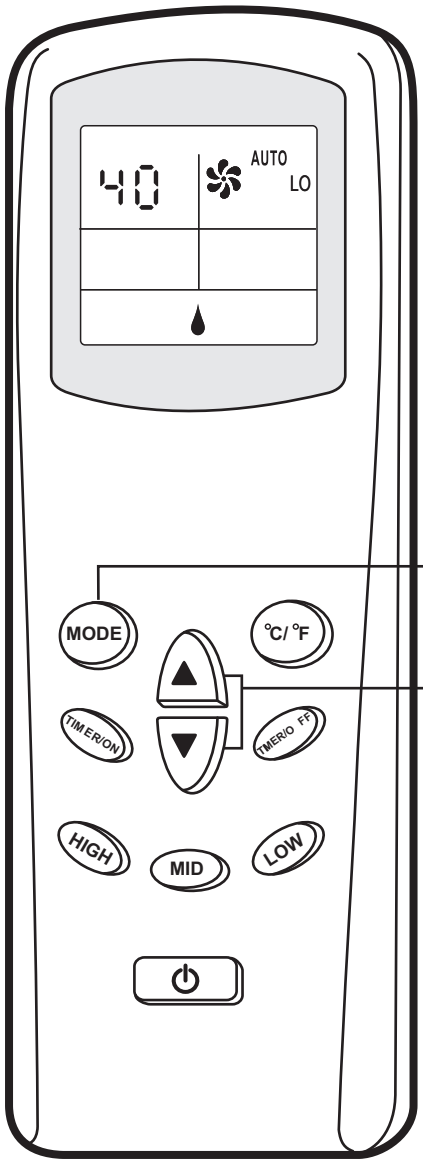
※ Auto fan function can only be set on LCD wall panel. Once the auto fan is set, the fan will stop after a while when the compressor stops.

Dehumidifying mode



Display

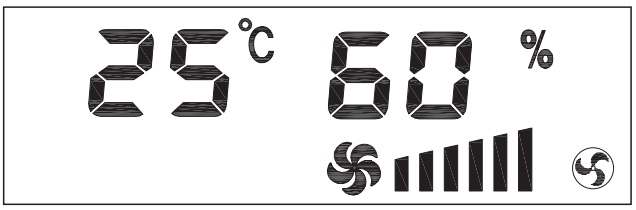
Please note that there is a humidity sensor installed in the system. Therefore desired humidity level can be set between 40% and 85%. Once the setting level is achieved the unit will stop. Fan will run every 10 minutes for 3 minutes to detect the current humidity level. Use dehumidifying mode only when the sea water temperature is between 60 ^{0}F and 95 ^{0}F. Do not operate the unit under this mode when the sea water temperature is out of this range.



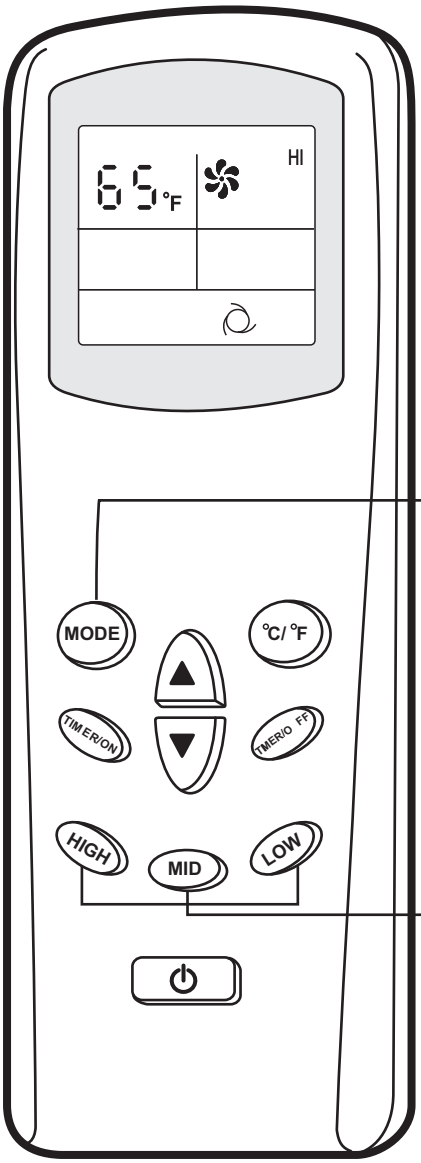
1	Press the **MODE** button to select the dehumidifier; The fan speed will be automatically locked for low-speed position.
2	Press the **UP/DOWN** button to set the humidity level.

※ This mode is recommended When the users are on the boat

Fan mode



Display

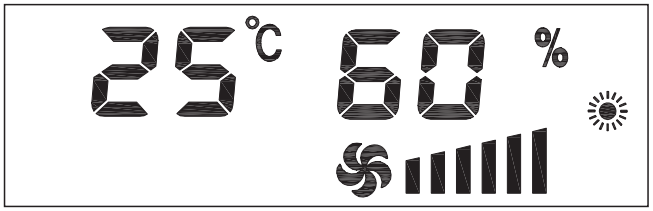


This mode is used to circulate the air in the cabin there won't be any cooling or heating effect.

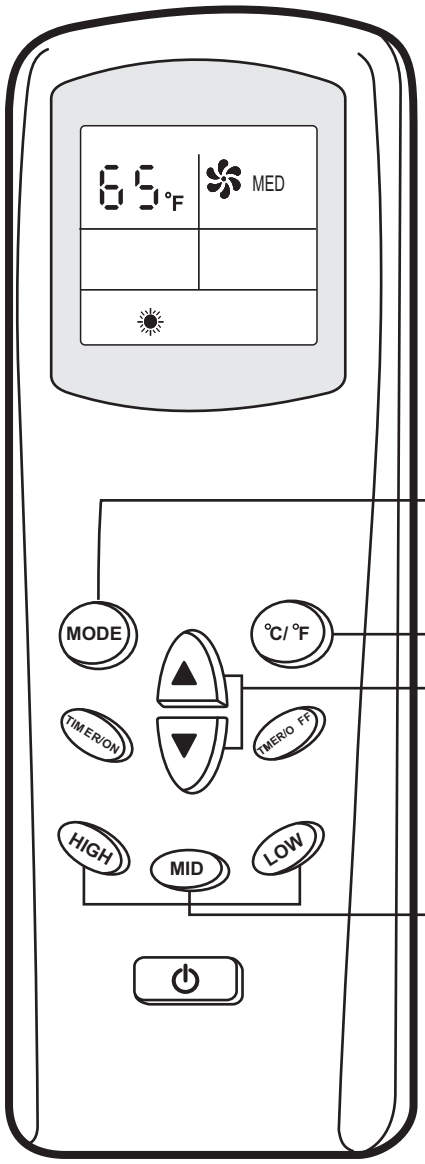
1 Press the **MODE** button to select the fan mode.

2 Press the **HIGH/MID/LOW** button to preset the fan speed.

Heating mode



Display

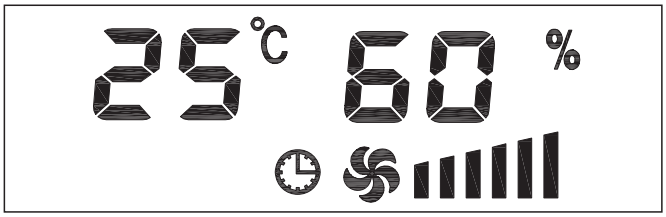


Heating function is provided by reverse cycle of the Refrigerant circuit (Heat Pump). There is no electric heating element installed in this system. Use heating function only when the sea water temperature is between 40F to 77F. Do not operate the unit under heating mode when the sea water temperature is out of this range

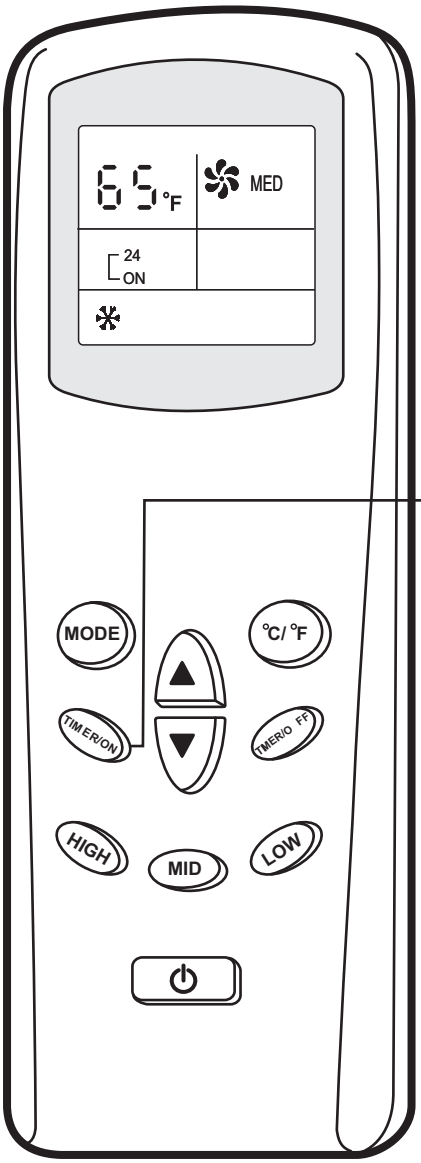
1	Press the **MODE** button to select the heating mode.
2	Press the **UNIT CHANGE** button to set the temperature unit
3	Press the **UP/DOWN** button to set the temperature.
4	Press the **HIGH/MID/LOW** button to set the fan speed.

※ Auto fan function can only be set on LCD wall panel. Once the auto fan is set, the fan will stop after a while when the compressor stops.

Timer on



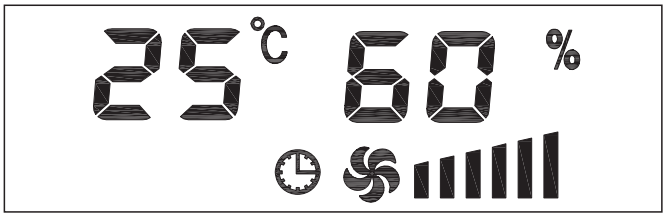
Display



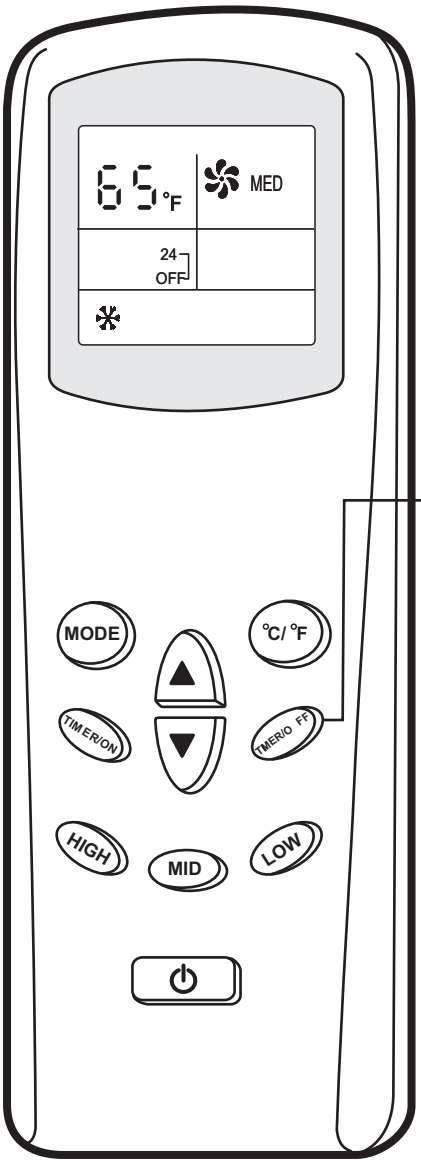
Use Timer On function to start the unit at any time within the next 24 hour.

1	Press the **TIMER ON** button to activate timer on function when the unit is switched off. And Press one time to add one hour.

Timer off



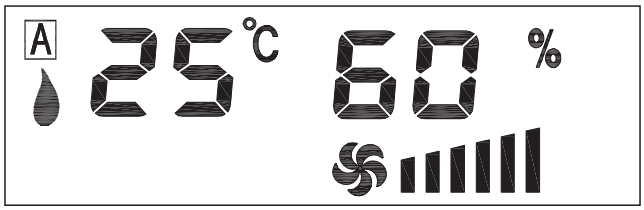
Display



Use Timer Off function to turn off the unit at any time within the next 24 hour.

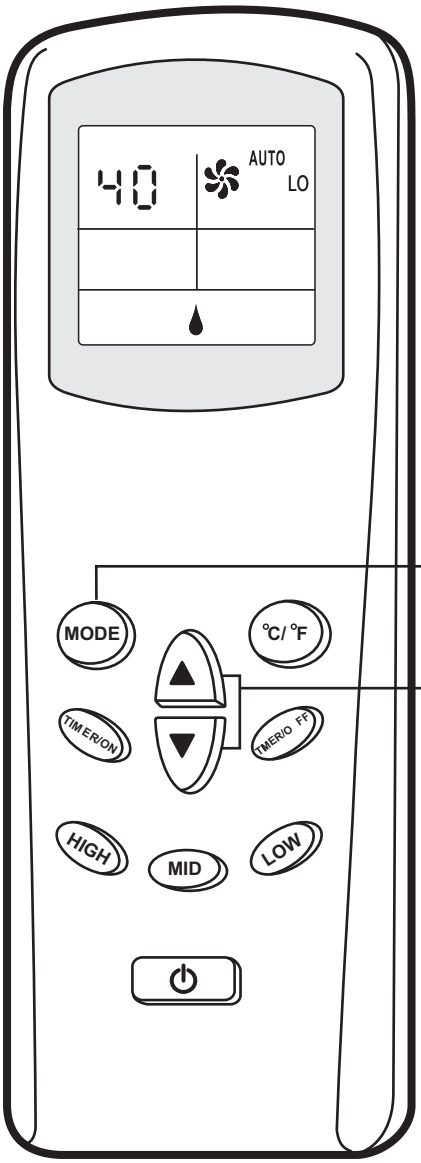
1 Press the **TIMER OFF** button to activate timer off function when the unit is switched on. And Press one time to add one hour.

Auto Dehumidifying mode



Display

Please note that there is a humidity sensor installed in the system. Therefore desired humidity level can be set between 40% and 85%. Once the setting level is achieved the unit will stop. Fan will run every 60 minutes for 3 minutes to detect the current humidity level. Use humidifying mode only when the sea water temperature is between 60 0F and 95 0F. Do not operate the unit under this mode when the sea water temperature is out of this range.

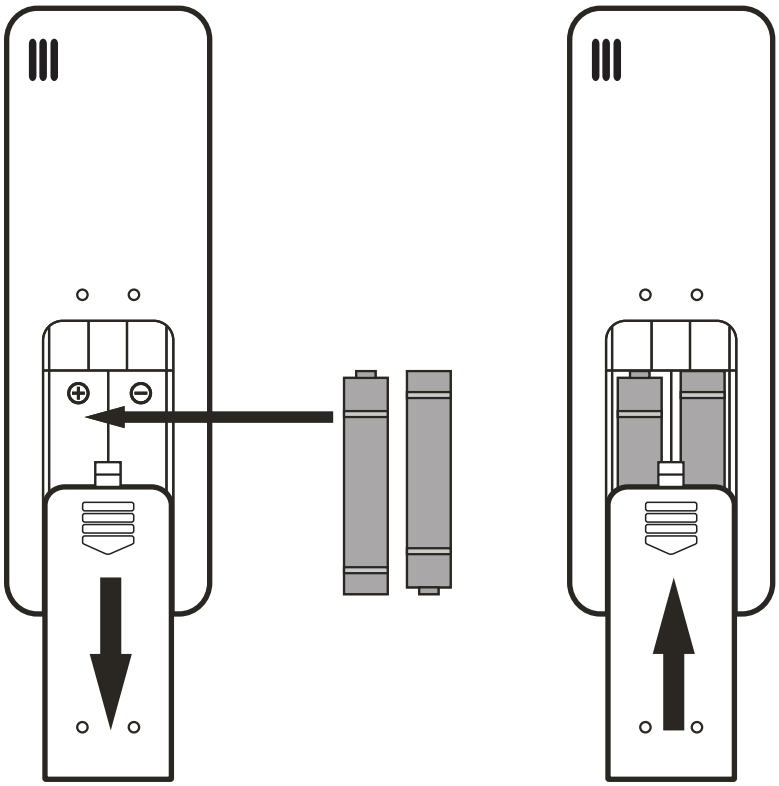


1 Press the **MODE** button to select the dehumidifier; The fan speed will be automatically locked for low-speed position.

2 Press the **UP/DOWN** button to set the humidity level.

※ This mode is recommended When the users are not on the boat. （Left the boat for one or more days）

Install and Change the Battery



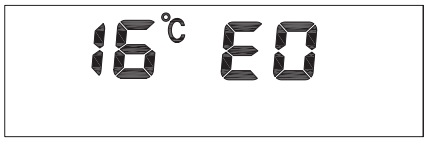
1) Open the cover of remote control, hold the hook and lightly pull up.

2) Insert the batteries, and check if the batteries are placed in the correct position.

3) Reinstall the cover.

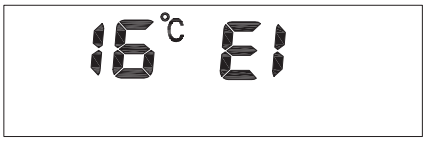
MALFUNCTIONS INSTRUCTION

1 Humidity sensor error



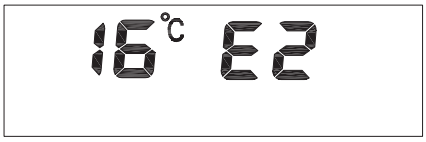
When the humidity sensor is short-circuited or open-circuited, the control panel LCD will display E0. In this case, please call for service.

2 Freeze Protection



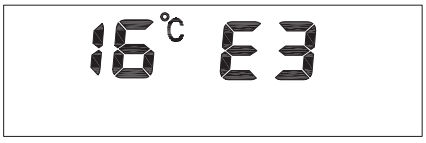
Display will show "E1", When coil tube temperature sensor < 30 °F and continuously maintains it for more than one minute. After few minutes, it should reset automatically if the coil temperature gets 46 °F or above. Incase the display continuously shows “E1”, Stop operation, turn off the power and call a technician for diagnosing the problem.

3 Indoor temperature sensor Error



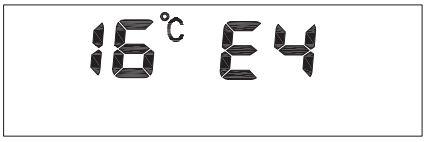
Display will show "E2", when Indoor temperature sensor loose or broken, a qualified technician should be called

4 Coil temperature sensor Error



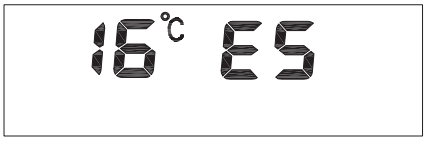
Display will show "E3", when coil temperature sensor loose or broken, a qualified electrician should be called

5 High Pressure protection



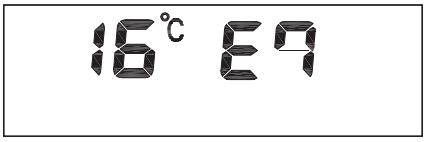
The control panel will display E4 error code when the high pressure switch cuts out. The high pressure switch may cut out temporarily and it may reset again. If there are multiple cut outs, the unit should be turned off and water flow should be inspected. There may be blockage on air flow during heating operation or the water temperature may be too high.

6 Low Pressure protection



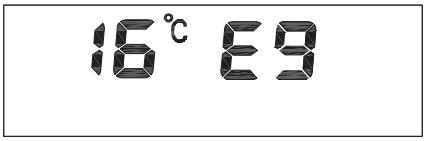
The control panel will display E5 error code when the low pressure switch cuts out .The low pressure switch may cut out temporarily and it may reset again. If there are multiple cut outs, the system may not resume normal operation. A qualified technician should be called.

7 Water Level Protection



The controller board is equipped with a function that an optional flow switch may be connected. In case a switch is used and water flow level is low the system will display E7 error code. Check the pump's operation.

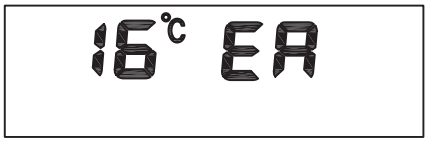
8 Overheating protection



Display will show"E9", when coil tube temperature sensor ＞ 145 ℉ at heating mode.

A qualified technician should be called to determine the reason of overheating.

9 Communication Error



Display showing "EA" means that the phone lines are not connected well with the control panel. We recommend to check and replace the cable.

Reversing Valves

Heat Pump units bear a reversing valve; the valve must be energized periodically to keep the internal parts moving freely. To do this, switch the a/c unit into heat for a few seconds once a month.

Seawater Strainer

Clean the strainer periodically to a for a steady stream of water. Check seawater intake scoop for obstructions.

Hoses & fittings

Make sure there is no leak at the connection points and also make sure that hoses are not looped, kinked or crushed.

Flushing the Condenser Coil

1. Turn off at the circuit breaker. Disconnect the inlet and outlet connections of the condenser coil.

2. Use chemical resistant pump and hoses to connect the inlet and outlet of the condenser coil

3. Use 20-25 gallon container to circulate the solution.

4. Flush the coil about 30 minutes with a 5% solution of muriatic or hydrochloric acid and fresh water or use a premixed over-the-counter solution.

5. Circulate fresh water through the coil to flush any residual acid from the system.

⚠ **WARNING:** Dispose acid solutions in accordance with federal, state and/or local regulations.

Return Air Filters

Check and clean the return air filter as necessary.

Winterization

To avoid any freezing during winter winterization is necessary. Do not leave sea water, fresh water or air in the system . Fill antifreeze solution though the intake, strainer, pump and coil and water outlet (entire system)

⚠ **Warning:** Collect all discharged liquids and recycle or dispose of in a proper manner.

MANUFACTURERS LIMITED WARRANTY AGREEMENT

It is expressly understood that unless a statement is specifically identified as a warranty, statements made by Marinaire, Inc. a Florida Limited Liabiliy Company, (“MARINAIRE”) or its representatives, relating to MARINAIRE’s products, whether oral, written or contained in any sales literature, catalog or agreement, are not express warranties and do not form a part of the basis of the bargain, but are merely MARINAIRE’s opinion or commendation of MARINAIRE’s products.
EXCEPT AS SPECIFICALLY SET FORTH HEREIN, THERE IS NO EXPRESS WARRANTY AS TO ANY OF MARINAIRE’S PRODUCTS. MARINAIRE MAKES NO WARRANTY AGAINST LATENT DEFECTS. MARINAIRE MAKES NO WARRANTY OF MERCHANTABILITY OF THE GOODS OR OF THE FITNESS OF THE GOODS FOR ANY PARTICULAR PURPOSE.

GRANT OF LIMITED WARRANTY

MARINAIRE warrants its products, purchased and retained in the United States of America and Canada, to be free from defects in material and workmanship under normal use and maintenance as follows: Air conditioning, heating and/or heat pump units built by MARINAIRE (“MARINAIRE labelled Units”) for One (1) year from the date of sale (as defined below); (2) Thermostats and control systems made by MARINAIRE, when installed with MARINAIRE Units, for one (1) year from the Date of sale (as defined below); (3) Sealed refrigerant circuit components of MARINAIRE Units (which components only include the compressor, refrigerant to air/water heat exchangers, reversing valve body and refrigerant metering device) for one (1) years from the date of sale (as defined below); Date of Sale is the date of invoice created.

To make a claim under this warranty, Warranty Claim Form must be filed to MARINAIRE, and parts must be returned to MARINAIRE in Miami, FL, freight prepaid, no later than thirty (30) days after the date of the failure of the part; if MARINAIRE determines the part to be defective and within MARINAIRE’s Limited Warranty, MARINAIRE shall, when such part has been either replaced or repaired, return such to a factory recognized distributor, dealer or service organization, F.O.B. MARINAIRE, Miami, FL., freight collect. The warranty on any part repaired or replaced under warranty expires at the end of the original warranty period.

This warranty does not cover and does not apply to: (1) Air filters, grilles, fittings, hoses, air ducts, circulation pumps, refrigerant, fluids, oil; (2) Products relocated after initial installation; (3) Any portion or component of any system that is not supplied by MARINAIRE, regardless of the cause of the failure of such portion or component; (4) Products on which the unit identification tags or labels have been removed or defaced; (5) Products on which payment to MARINAIRE, or to the owner’s seller, is in default; (6) Products subjected to improper or inadequate installation, maintenance, repair, wiring or voltage conditions; (7) Products subjected to accident, misuse, negligence, abuse, fire, flood, lightning, unauthorized alteration, misapplication, contaminated or corrosive air or liquid supply, operation at out of range air or water temperatures or flow rates, or opening of the refrigerant circuit by unqualified personnel; (8) Mold, fungus, sand, mud, seaweed or bacteria damages; (9) Corrosion or abr sion of the product; (10) Products, parts and components supplied by others; (11) Products which have been operated in a manner contrary to MARINAIRE’s printed instructions; (12) Products which have insufficient performance as a result of improper duct or plumbing system design or improper application, installation, or use of MARINAIRE’s products; or (13) Electricity or fuel costs, or any increases or unrealized savings in same, for any reason whatsoever.

MARINAIRE is not responsible for: (1) The costs of any system components supplied by others, oil, refrigerant or, associated labor to repair or replace the same, which is incurred as a result of a defective part covered by MARINAIRE’s Limited Warranty; (2) The costs of labor, refrigerant, materials or service incurred in diagnosis and removal of the defective part, or in obtaining and replacing the new or repaired part; (3) Transportation costs (4) The costs of normal maintenance.

MANUFACTURERS LIMITED WARRANTY AGREEMENT

LIMITATION OF REMEDIES

In the event of a breach of the Limited Warranty, MARINAIRE will only be obligated at MARINAIRE's option to repair the failed part or unit, or to furnish a new or rebuilt part or unit in exchange for the part or unit which has failed. If after written notice to MARINAIRE in Miami, FL. of each defect, malfunction or other failure, and a reasonable number of attempts by MARINAIRE to correct the defect, malfunction or other failure, and the remedy fails of its essential purpose, MARINAIRE shall refund the purchase price paid to MARINAIRE in exchange for the return of the sold good(s). Said refund shall be the maximum liability of MARINAIRE.

THIS REMEDY IS THE SOLE ANDEXCLUSIVE REMEDY OF THE BUYER OR PURCHASER AGAINST MARINAIRE FOR BREACH OF CONTRACT, FOR THE BREACH OF ANY WARRANTY OR FOR MARINAIRE'S NEGLIGENCE OR IN STRICT LIABILITY.

LIMITATION OF LIABILITY

MARINAIRE shall have no liability for any damages if MARINAIRE's performance is delayed for any reason or is prevented to any extent by any event such as, but not limited to: any war, civil unrest, government restrictions or restraints, strikes, or work stoppages, fire, flood, accident, shortages of transportation, fuel, material, or labor, acts of God or any other reason beyond the sole control of MARINAIRE.

MARINAIRE EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGE IN CONTRACT, FOR BREACH OF ANY IMPLIED WARRANTY, OR IN TORT, WHETHER FOR MARINAIRE's NEGLIGENCE OR AS STRICT LIABILITY.

OBTAINING WARRANTY PERFORMANCE

Normally, the dealer or service organization who installed the products will provide warranty performance for the owner. Should the installer be unavailable, contact any MARINAIRE recognized distributor, dealer or service organization. If assistance is required in obtaining warranty performance, write or call:

Marinaire LLC.
P.O.Box 772284 Miami, FL. 33177-2284
Toll Free: 1-800-724-8071
Fax: (305) 253-6532
Service@marinaire.com

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*To ensure the exhaust of air in the pipeline when the system is running properly, we can screw the air exhausting bolt out from the pump surface to exhaust residual air, then screw in the exhausting bolt to return to normal operation. (Please refer to WILO water pump manual)

4.Precautions

Don't fill the Pump Station and circulation pipeline with liquid when the solar collector is exposed to sunlight. The collector should be covered and quite cool to avoid problems when liquid first enters the solar collector.

4.1 After the pump station has been filled with liquid, examine the pipeline carefully to ensure no leakage, then turn on the power supply.The solar collector panel may then be uncovered to commence water heating.

4.2Don't install the Pump Station and associated equipment in a damp or flammable or explosive environment.

4.3Refer to the manuals provided for the Recycle Pump, Flow-meter module, and operational protocol.

4.4In stormy weather, the electric power should be turned off until the weather has cleared.

4.5The user's electrical supply needs earth protection and earth leakage protection.

TYY/SS-III Split Pump Station Installation and Operation Instructions

2.1 Main Technical Paramete

1. Exterior Size: 395*170*145
2. Full Power of Recycle Pump: AC220V, 93W
3. Temperature and Pressure Gauge: 10 bar, 120 C
4. Pressure Safety Valve: 8 bar
5. Flowmeter: 2-8 L/min

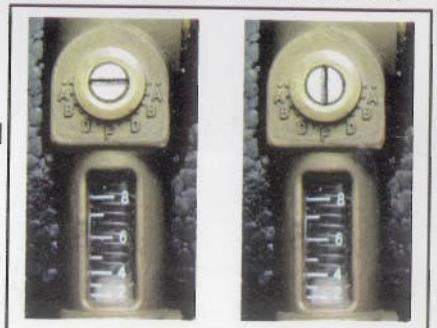
2.2 Components and Functions of the TYY/SS-III

1. Safety Valve: It is used to limit the pressure in circulation line,to make sure reliable operation of the whole system.

2. Temperature and Pressure gauge displays the temperature and pressure in the circulation line. User can adjust the red pointer on the gauge (turn it using a flat blade screwdriver), for example to indicate normal operating conditions. This pointer does not affect the operation of the system.

3. Recycle Pump: is linked to the solar collector and heat exchanger in the split solar water tank by the pipeline and transfers solar heated water from the solar collector to the tank.

4.Flow-meter and Flow Control Valve: The flow-meter monitors the flow rate of the circulated fluid and the flow control valve can be adjusted according to requirements. The user can use a flat blade screwdriver to adjust the flow control valve by rotating the small slotted disc as shown in the pictures. The flow rate may be changed



flow valve is OFF flow valve is ON

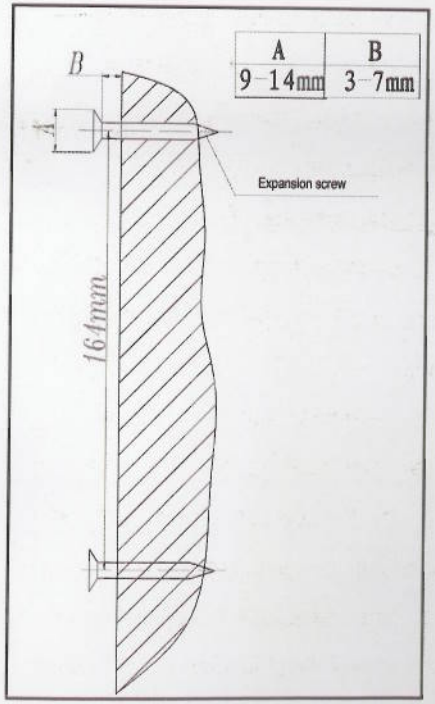
while running. The maximum flow rate is obtained when the slot is parallel to the fluid flow direction (see Right hand picture- the slot is aligned with F). The circulation line is fully closed and the flow rate is zero when the slot is horizontal or perpendicular to the fluid flow direction (see Left hand picture). The flow is increased from low to a maximum value when the slot is turned from A to B to D to F

5. Liquid Filling Valve is used to fill or empty the liquid in the pipeline. It contains the liquid fill valve, air vent valve and flow-meter and flow control valve.

6. Expansion Tank Interface allows connection of an expansion drum to accommodate changes in fluid volume as the fluid temperature changes during the day.

3. Installation and Debugging

3.1 Wall surface Mounting. The Pump Station should be installed in accordance with the fluid circulation loop, with fluid in at the bottom, fluid out at the top. The Pump Station should be hung from bolts set into a solid vertical wall in an appropriate location. Brackets fixed onto the back of the Pump Station facilitate the supporting of the Pump Station.(See picture on Page 2). User should fix screws or similar mounting fixing into the wall, in positions as shown in the picture to the right.



Schematic diagram of layout of screws set into vertical wall

3.2 Debugging: Before operation, users must remove the air vent screw on the surface of the pump and use a flat blade screwdriver to turn the motor shaft before commissioning. This is to ensure the motor shaft turns freely before operating. Please see additional instructions. (WILO water pump manual)

3.3 Connection: Users must use two spanners when attaching external pipelines to the Pump Station. One spanner should be used to support the pipe fittings of the Pump Station, and one to tighten nuts on the external pipeline which is being attached. This is to avoid damage to the internal pipelines and fittings in the Pump Station. Damage to the internal pipelines and fittings could destroy their leak-tightness and result in operational problems for the system

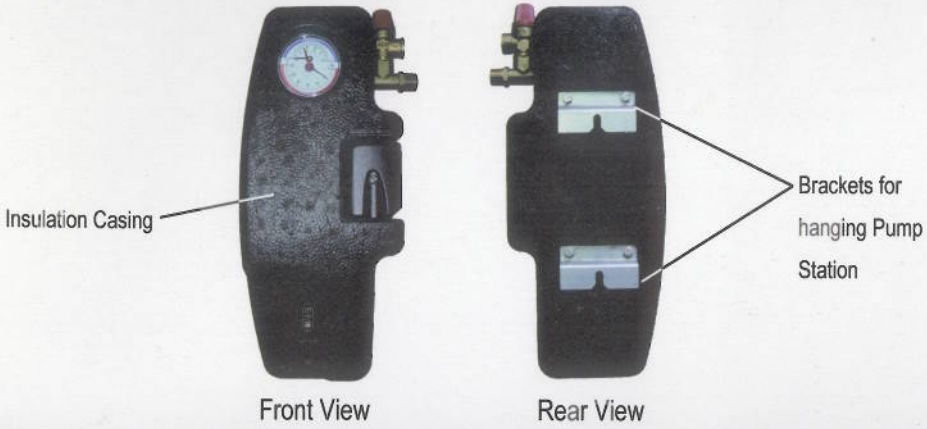
3.4 The steps for liquid filling

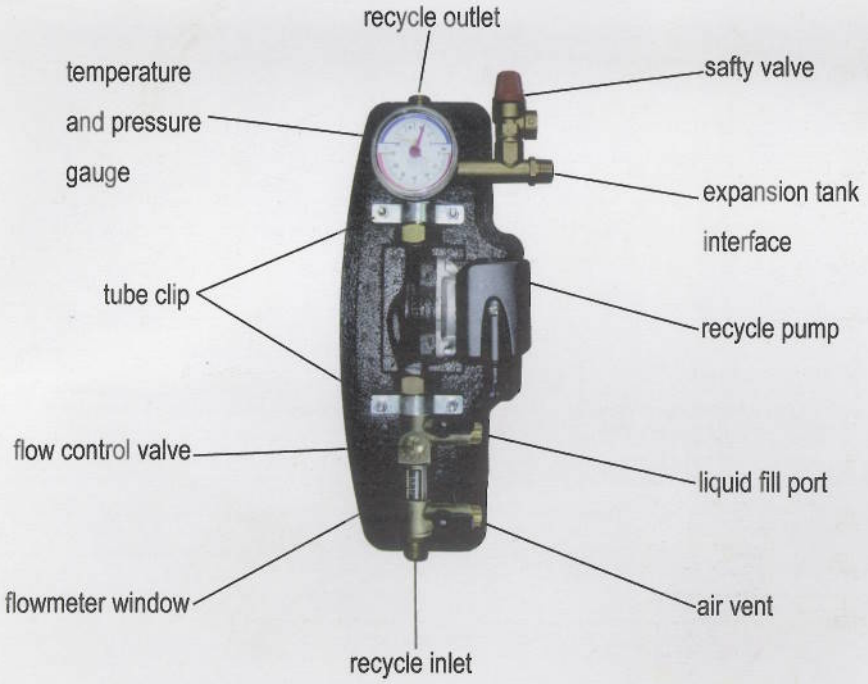
*Ensure the solar collector is covered and completely cool before starting the liquid fill.

①Initial Settings. Set the flow control valve in the fully open position using a flat blade screwdriver, (Slot aligns with F), and set the two valves for the liquid fill port (upper port) and air vent (lower port) in the fully open position as shown in the picture.

②Keeping the flow control valve open, connect the liquid filling pipe to the liquid filling port and connect a pipe to the air vent port to direct overflow fluid to a container.

2.TYY/SS-III Split Pump Station Showing Structure and Component Parts

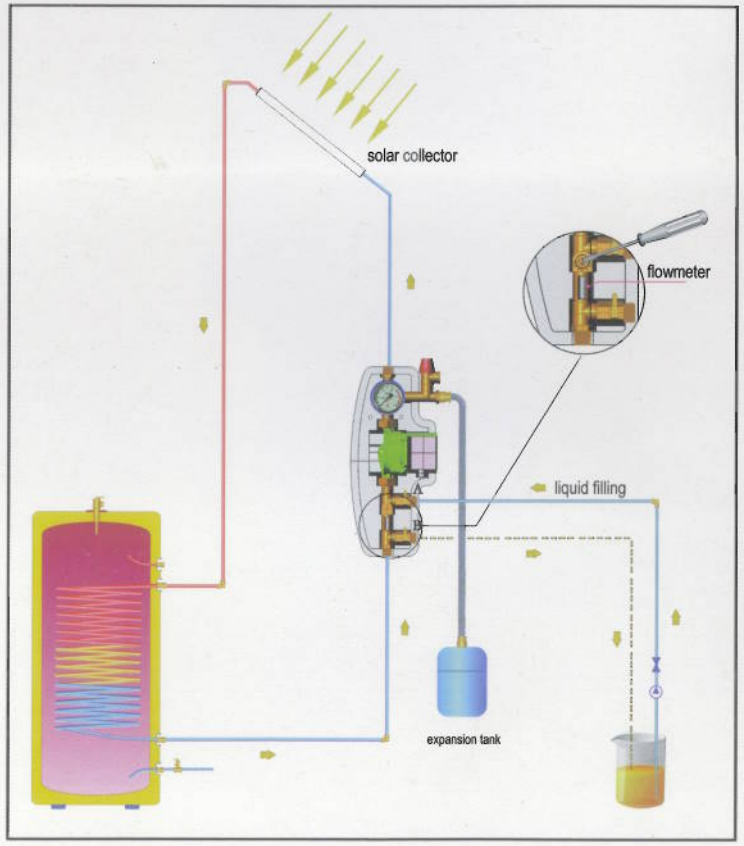




1. Brief Overview

TYY/SS-III Split Pump Station is used mainly for a split pressurized solar system containing a heat exchanger in the tank and circulatory system. It can monitor the fluid temperature, pressure and flow rate in the circulatory system. The liquid fill component of the Pump Station and the fill procedure can make the filling process faster. The device has a simple and compact layout but has a generous size and shape, and it is easy to install and maintain.

Split Pressurized Solar System Schematic Diagram:



③Close the flow control valve using a flat blade screwdriver (Slot horizontal- see picture)

④Start filling the liquid, watching the exit of the pipe connected to the air vent. Initially this pipe should discharge air, but when liquid flows continuously out of the air vent pipe, without flow variation or air bubbles, close the air vent valve (lower valve- see picture)

⑤Continue the liquid fill, watching the pressure increase on the pressure gauge in the Pump Station. When the pressure in the pipeline, as measured by the pressure meter, reaches 4 BAR, close the liquid fill port valve (upper valve -see picture).

⑥Watch the pressure gauge of the pump station for 3 minutes (user can line up the red pointer with the initial pressure reading to help detect pressure changes). If the pressure remains stable, the liquid filling pipe and fill equipment can be disconnected. The liquid filling is now COMPLETE. If the pressure is observed to decrease, we need to do leak detection and maintenance for the circulation pipeline before filling again.

7. Plate Heat Exchanger Performance

Radiant floor - Water to Water

Btu/hr	USGPM	Inlet Temp	Outlet Temp	USGPM	Inlet Temp	Outlet Temp	Model	PSI	PSI	Model	PSI	PSI	Model	PSI	PSI
							LA14	HOT SIDE	COLD SIDE	LB31	HOT SIDE	COLD SIDE	LC110	HOT SIDE	COLD SIDE
24,000 Btu/hr	2,40	180F	160F	2,40	100F	120F	LA14-6	2,71	2,86	-	-	-	-	-	-
32,000 Btu/hr	3,20	180F	160F	3,20	100F	120F	LA14-6	4,73	4,99	-	-	-	-	-	-
48,000 Btu/hr	4,95	180F	160F	4,85	100F	120F	LA14-10	3,89	4,10	-	-	-	-	-	-
64,000 Btu/hr	6,60	180F	160F	6,46	100F	120F	LA14-20	1,84	1,94	-	-	-	-	-	-
80,000 Btu/hr	8,20	180F	160F	8,01	100F	120F	LA14-20	2,84	2,99	-	-	-	-	-	-
96,000 Btu/hr	9,80	180F	160F	9,70	100F	120F	LA14-20	4,04	4,25	LB31-20	3,15	3,37	-	-	-
112,000 Btu/hr	11,54	180F	160F	11,31	100F	120F	LA14-20	5,44	5,73	LB31-20	4,22	4,52	-	-	-
128,000 Btu/hr	13,19	180F	160F	12,93	100F	120F	LA14-30	3,42	3,59	LB31-20	5,44	5,83	-	-	-
144,000 Btu/hr	14,80	180F	160F	14,50	100F	120F	LA14-30	4,29	4,51	LB31-30	3,19	3,41	-	-	-
160,000 Btu/hr	16,50	180F	160F	16,10	100F	120F	LA14-30	5,26	5,54	LB31-30	3,90	4,17	-	-	-
200,000 Btu/hr	20,60	180F	160F	20,20	100F	120F				LB31-40	3,51	3,75	-	-	-
240,000 Btu/hr	24,73	180F	160F	24,23	100F	120F				LB31-40	4,94	3,51	LC110-20	3,74	4,01
280,000 Btu/hr	28,80	180F	160F	28,20	100F	120F				LB31-50	4,46	4,76	LC110-20	5,02	5,37
320,000 Btu/hr	32,90	180F	160F	32,21	100F	120F	-	-	-	LB31-60	4,17	4,45	LC110-30	3,03	3,24
400,000 Btu/hr	41,22	180F	160F	40,40	100F	120F	-	-	-	LB31-70	4,92	5,24	LC110-30	4,63	4,95
440,000 Btu/hr	45,34	180F	160F	44,40	100F	120F	-	-	-	LB31-80	4,74	5,04	LC110-30	5,55	5,93
480,000 Btu/hr	49,46	180F	160F	48,41	100F	120F	-	-	-	LB31-80	5,60	5,96	LC110-40	3,85	4,12
560,000 Btu/hr	57,70	180F	160F	56,55	100F	120F	-	-	-				LC110-40	5,16	5,52
640,000 Btu/hr	65,90	180F	160F	64,63	100F	120F	-	-	-				LC110-50	4,45	4,75
720,000 Btu/hr	74,20	180F	160F	72,70	100F	120F	-	-	-				LC110-50	5,57	5,94
800,000 Btu/hr	82,43	180F	160F	80,78	100F	120F	-	-	-	-	-	-	LC110-60	4,93	5,26
960,000 Btu/hr	98,92	180F	160F	96,94	100F	120F	-	-	-	-	-	-	LC110-70	5,37	5,72
1,120,000 Btu/hr	115,40	180F	160F	113,10	100F	120F	-	-	-	-	-	-	LC110-90	4,79	5,09
1,280,000 Btu/hr	131,90	180F	160F	129,30	100F	120F	-	-	-	-	-	-	LC110-100	5,27	5,59
1,600,000 Btu/hr	164,90	180F	160F	161,60	100F	120F	-	-	-	-	-	-	LC110-130	5,63	5,94
1,926,000 Btu/hr	198,50	180F	160F	194,50	100F	120F	-	-	-	-	-	-	LC110-180	5,64	5,90

6. Plate Heat Exchanger Performance

Domestic Hot Water

Btu/hr	USGPM	Inlet Temp	Outlet Temp	USGPM	Inlet Temp	Outlet Temp	Model	PSI	PSI	Model	PSI	PSI	Model	PSI	PSI
							LA14	HOT SIDE	COLD SIDE	LB31	HOT SIDE	COLD SIDE	LC110	HOT SIDE	COLD SIDE
20,000 Btu/hr	2,03	180F	160F	0,40	40F	140F	LA14-6	1,91	0,09	-	-	-	-	-	-
30,000 Btu/hr	3,05	180F	160F	0,60	40F	140F	LA14-6	4,17	0,20	-	-	-	-	-	-
40,000 Btu/hr	4,07	180F	160F	0,80	40F	140F	LA14-10	2,73	0,13	-	-	-	-	-	-
50,000 Btu/hr	5,08	180F	160F	1,00	40F	140F	LA14-10	4,21	0,20	-	-	-	-	-	-
60,000 Btu/hr	6,10	180F	160F	1,20	40F	140F	LA14-20	1,63	0,07	-	-	-	-	-	-
70,000 Btu/hr	7,11	180F	160F	1,40	40F	140F	LA14-20	2,19	0,10	LB31-20	1,73	0,09	-	-	-
80,000 Btu/hr	8,13	180F	160F	1,60	40F	140F	LA14-20	2,84	0,13	LB31-20	2,23	0,11	-	-	-
90,000 Btu/hr	9,15	180F	160F	1,80	40F	140F	LA14-20	3,56	0,17	LB31-20	2,79	0,14	-	-	-
100,000 Btu/hr	10,17	180F	160F	2,00	40F	140F	LA14-20	4,37	0,21	LB31-20	3,41	0,17	-	-	-
125,000 Btu/hr	12,70	180F	160F	2,50	40F	140F	LA14-30	3,26	0,15	LB31-20	5,20	0,27	-	-	-
140,000 Btu/hr	14,23	180F	160F	2,80	40F	140F	LA14-30	4,06	0,19	LB31-30	3,02	0,15	-	-	-
150,000 Btu/hr	15,25	180F	160F	3,00	40F	140F				LB31-30	3,45	0,18	LC110-20	1,53	0,09
175,000 Btu/hr	17,79	180F	160F	3,50	40F	140F				LB31-30	4,62	0,23	LC110-20	2,05	0,10
200,000 Btu/hr	20,33	180F	160F	4,00	40F	140F				LB31-30	5,96	0,30	LC110-20	2,65	0,13
300,000 Btu/hr	30,50	180F	160F	6,01	40F	140F	-	-	-	LB31-50	5,08	0,26	LC110-20	5,72	0,29
400,000 Btu/hr	40,67	180F	160F	8,00	40F	140F	-	-	-	LB31-70	4,92	0,24	LC110-30	4,63	0,24
500,000 Btu/hr	50,84	180F	160F	10,01	40F	140F	-	-	-	LB31-90	5,03	0,25	LC110-40	4,16	0,21
600,000 Btu/hr	61,00	180F	160F	12,01	40F	140F	-	-	-				LC110-50	3,93	0,20
750,000 Btu/hr	71,17	180F	160F	14,01	40F	140F	-	-	-				LC110-50	5,27	0,27
900,000 Btu/hr	91,50	180F	160F	18,02	40F	140F	-	-	-	-	-	-	LC110-70	4,74	0,24
1,000,000 Btu/hr	101,67	180F	160F	20,02	40F	140F	-	-	-	-	-	-	LC110-80	4,65	0,23
1,250,000 Btu/hr	127,10	180F	160F	25,03	40F	140F	-	-	-	-	-	-	LC110-100	5,04	0,25
1,500,000 Btu/hr	152,51	180F	160F	30,03	40F	140F	-	-	-	-	-	-	LC110-120	5,52	0,27
1,900,000 Btu/hr	193,18	180F	160F	38,05	40F	140F	-	-	-	-	-	-	LC110-170	5,90	0,27

8. Plate Heat Exchanger Performance

Snow Melt - Boiler Water to 50% Ethylene Glycol

Btu/hr	USGPM	Inlet Temp	Outlet Temp	USGPM	Inlet Temp	Outlet Temp	Model	PSI	PSI	Model	PSI	PSI	Model	PSI	PSI
							LA14	HOT SIDE	COLD SIDE	LB31	HOT SIDE	COLD SIDE	LC110	HOT SIDE	COLD SIDE
20,000 Btu/hr	1,37	180F	150F	1,52	100F	130F	LA14-6	0,88	0,92	-	-	-	-	-	-
30000 Btu/hr	2,06	180F	150F	2,28	100F	130F	LA14-6	1,91	2,01	-	-	-	-	-	-
40,000 Btu/hr	2,75	180F	150F	3,03	100F	130F	LA14-6	3,34	3,50	-	-	-	-	-	-
50,000 Btu/hr	3,44	180F	150F	3,79	100F	130F	LA14-6	5,13	5,38	-	-	-	-	-	-
60,000 Btu/hr	4,12	180F	150F	4,55	100F	130F	LA14-10	2,74	2,78	-	-	-	-	-	-
70,000 Btu/hr	4,81	180F	150F	5,31	100F	130F	LA14-10	3,70	3,87	-	-	-	-	-	-
80,000 Btu/hr	5,50	180F	150F	6,07	100F	130F	LA14-10	4,78	5,01	-	-	-	-	-	-
90,000 Btu/hr	6,19	180F	150F	6,83	100F	130F	LA14-20	1,63	1,71	LB31-10	4,80	5,10	-	-	-
100,000 Btu/hr	6,87	180F	150F	7,59	100F	130F	LA14-20	2,00	2,10	LB31-20	1,58	1,68	-	-	-
125,000 Btu/hr	8,59	180F	150F	9,48	100F	130F	LA14-20	3,08	3,23	LB31-20	2,42	2,57	-	-	-
150,000 Btu/hr	10,31	180F	150F	11,38	100F	130F	LA14-20	4,39	4,59	LB31-20	3,42	3,63	-	-	-
175,000 Btu/hr	12,03	180F	150F	13,27	100F	130F	LA14-30	2,87	2,99	LB31-20	4,59	4,87	-	-	-
200,000 Btu/hr	13,74	180F	150F	15,17	100F	130F	LA14-30	3,71	3,88	LB31-30	2,77	2,94	-	-	-
225,000 Btu/hr	15,46	180F	150F	17,07	100F	130F				LB31-30	3,47	3,67	LC110-20	1,54	1,63
250,000 Btu/hr	17,18	180F	150F	18,96	100F	130F				LB31-30	4,23	4,49	LC110-20	1,88	1,99
275,000 Btu/hr	18,90	180F	150F	20,86	100F	130F				LB31-30	5,08	5,38	LC110-20	2,25	2,39
300,000 Btu/hr	20,62	180F	150F	22,76	100F	130F				LB31-40	3,53	3,74	LC110-20	2,66	2,82
350,000 Btu/hr	24,05	180F	150F	26,55	100F	130F				LB31-40	4,73	5,01	LC110-20	3,56	3,78
400,000 Btu/hr	27,49	180F	150F	30,34	100F	130F				LB31-50	4,08	4,32	LC110-20	4,59	4,87
450,000 Btu/hr	30,93	180F	150F	34,13	100F	130F	-	-	-	LB31-50	5,11	5,41	LC110-30	2,69	2,87
500,000 Btu/hr	34,36	180F	150F	37,93	100F	130F	-	-	-	LB31-60	4,53	4,49	LC110-30	3,29	3,48
600,000 Btu/hr	41,23	180F	150F	45,51	100F	130F	-	-	-	LB31-70	4,94	5,22	LC110-30	4,65	4,93
700,000 Btu/hr	48,11	180F	150F	53,10	100F	130F	-	-	-	LB31-80	5,33	5,62	LC110-40	3,67	3,88
800,000 Btu/hr	54,98	180F	150F	60,68	100F	130F	-	-	-				LC110-40	4,73	5,01
900,000 Btu/hr	61,85	180F	150F	68,27	100F	130F	-	-	-				LC110-50	3,95	4,18
1,000,000 Btu/hr	68,72	180F	150F	75,85	100F	130F	-	-	-				LC110-50	4,83	5,11

Appendix J

Appendix K: Part 1 - Design Day Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 16:05**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-18 16:05:09**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	1515.59	1.45	1.45
Net Site Energy	1515.59	1.45	1.45
Total Source Energy	4799.87	4.60	4.60
Net Source Energy	4799.87	4.60	4.60

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	1043.24
Unconditioned Building Area	0.00

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	1470.40	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	41.82	0.00	0.00	0.00	0.00	0.00
Pumps	3.37	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	1515.59	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	1470.40	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	41.82	0.00	0.00	0.00	0.00	0.00
Pumps	General	3.37	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	1.45	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.45	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	1.45	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.45	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	1515.589	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	1515.589	100.00
Total On-Site and Utility Electric Sources	1515.589	100.00
Total Electricity End Uses	1515.589	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	259.80	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	259.80	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	40.33
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	168.00

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

Economics Results Summary Report

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 16:05
RunPeriod	XYLA PLATFORM (13-01:19-01)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	168.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1260.81	420.90	274.42	420.90	144.59
Above Ground Wall Area [ft2]	1260.81	420.90	274.42	420.90	144.59
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	20.29	17.92	17.08	24.31	21.55
Above Ground Window-Wall Ratio [%]	20.29	17.92	17.08	24.31	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	Yes	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Unconditioned Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	19-JAN-06:10	-	-	-	-	-
Heating	16.39	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.25	0.00	0.00	0.00	0.00	0.00

Pumps	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	16.67	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	16.39	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.25	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	4656.76	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	132.44	0.00	0.00	0.00	0.00
Pumps	10.67	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	4799.87	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	4.46	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.13	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	4.60	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	4.46	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.13	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	4.60	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	32998.66	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		55110.82	17758.78	37352.04	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2411.73	2344.05	67.68	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1662.60	1615.95	46.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2702.92	2627.07	75.85	0.97	0.00		
HOUSE:PORCH WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		4135.41	4019.36	116.04	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		55110.82	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1662.60	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2702.92	0.00
HOUSE:PORCH WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		4135.41	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		17589.40	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5298.50	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4067.72	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6132.23	1.00
HOUSE:PORCH WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		7818.60	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	444.00	29.94	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	140.81	9.49	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	97.07	6.55	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	157.81	10.64	0.07	1.00	General
HOUSE:PORCH WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	241.45	16.28	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.586798	8.24	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	1.115981	2.01	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	9.960655	17.90	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.13	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	29.41	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Zone Sensible Cooling

	Calculated	User	User Design	Calculated	User			Thermostat	Indoor	Indoor	Outdoor	Outc

	Design Load [Btu/h]	Design Load [Btu/h]	Load per Area [Btu/h-ft2]	Design Air Flow [ft3/min]	Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Setpoint Temperature at Peak Load [F]	Temperature at Peak Load [F]	Humidity Ratio at Peak Load [lbWater/lbAir]	Temperature at Peak Load [F]	Humidity R at Peak L [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		91.04	32.00	0.00000	85.82	0.0
HOUSE:PORCH	0.00	0.00	0.00	0.000	33.968	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		90.79	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outd Humidity R at Peak L [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	7582.06	9477.57	19.27	355.202	444.003	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	70.00	0.00371	-8.5	0.0
HOUSE:BEDROOM2	2404.61	3005.76	21.62	112.651	140.813	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00363	-8.5	0.0
HOUSE:BATHROOM	1657.70	2072.12	20.55	77.659	97.074	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2694.94	3368.68	20.10	126.252	157.815	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0
HOUSE:PORCH	4123.20	5154.00	35.83	193.163	241.453	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	64.99	64.99	0.00383	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	168.00	168.00	168.00
HOUSE:BEDROOM2	145.67	168.00	145.67
HOUSE:BATHROOM	49.00	49.00	49.00
HOUSE:BEDROOM1	168.00	168.00	168.00
HOUSE:PORCH	168.00	168.00	168.00
1CARGARRAGE:ZONE1	70.00	70.00	70.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	168.00	168.00	168.00

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	129.83	0.00	40.33	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	129.83	0.00	40.33	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.685	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.685	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.682	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.685	0.000	0.000
HOUSE:PORCH	1.34	1.34	1306.49	0.000	0.679	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.014	0.000	0.000

HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.014	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.028	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.014	0.000	0.000
HOUSE:PORCH	1.34	1.34	1306.49	0.000	0.014	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4
Internal Mass	0	0
Building Detached Shading	6	6
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	5
Unconditioned Zones	3
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1633
Defaulted Fields	38
Fields with Defaults	3518
Autosized Fields	111
Autosizable Fields	135
Autocalculated Fields	68
Autocalculatable Fields	200

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
Electricity:Plant	0.99	1.70	13-JAN-01:20	10.24	18-JAN-07:50
WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Building	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Fans:Electricity	12.25	72.90	13-JAN-00:10	72.90	13-JAN-00:30
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Ventilation (simple):Fans:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityPurchased:Facility	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
ElectricityPurchased:Plant	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
Cogeneration:ElectricityPurchased	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
ElectricitySurplusSold:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricitySurplusSold:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityNet:Facility	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
ElectricityNet:Plant	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
Cogeneration:ElectricityNet	443.88	829.74	16-JAN-13:30	4881.21	19-JAN-06:10
Electricity:HVAC	442.89	825.95	16-JAN-13:30	4872.97	19-JAN-06:10
General:Fans:Electricity	12.25	72.90	13-JAN-00:10	72.90	13-JAN-00:30
Cooling:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:Electricity	430.65	753.04	16-JAN-13:30	4800.07	19-JAN-06:10
Pumps:Electricity	0.99	1.70	13-JAN-01:20	10.24	18-JAN-07:50

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	831.11	-6314.0	13-JAN-07:50	17134.64	14-JAN-07:50
PlantLoopHeatingDemand:Plant	298.45	-13684.2	13-JAN-07:50	13630.18	14-JAN-07:50
WaterSystems:PlantLoopHeatingDemand	298.45	-13684.2	13-JAN-07:50	13630.18	14-JAN-07:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	298.45	-13684.2	13-JAN-07:50	13630.18	14-JAN-07:50
EnergyTransfer:Facility	3797.69	7061.20	16-JAN-13:30	33366.22	19-JAN-06:00

EnergyTransfer:Building	1923.18	3658.24	16-JAN-13:30	16834.65	19-JAN-06:00
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	851.11	1708.33	16-JAN-14:00	7518.13	19-JAN-06:00
Heating:EnergyTransfer	1923.18	3658.24	16-JAN-13:30	16834.65	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	851.11	1708.33	16-JAN-14:00	7518.13	19-JAN-06:00
Cooling:EnergyTransfer	0.00	0.00	13-JAN-00:10	2.82	16-JAN-12:30
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM2	212.19	5.44	16-JAN-12:20	2203.52	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	212.19	3.77	16-JAN-12:30	2203.52	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.00	0.00	13-JAN-00:10	2.82	16-JAN-12:30
EnergyTransfer:Zone:HOUSE:BATHROOM	131.24	478.78	18-JAN-07:10	2016.48	13-JAN-00:20
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	131.24	478.78	18-JAN-07:10	2016.48	13-JAN-00:20
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM1	323.25	998.35	16-JAN-14:00	2804.56	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	323.25	998.35	16-JAN-14:00	2804.56	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:PORCH	405.40	50.43	16-JAN-13:20	3753.96	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:PORCH	405.40	50.43	16-JAN-13:20	3753.96	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:HVAC	1874.51	3402.96	16-JAN-13:30	16531.56	19-JAN-06:00
CoolingCoils:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatingCoils:EnergyTransfer	1874.51	3402.96	16-JAN-13:30	16531.56	19-JAN-06:00
PlantLoopHeatingDemand:HVAC	532.66	594.59	18-JAN-07:50	9479.68	13-JAN-00:30
HeatingCoils:PlantLoopHeatingDemand	532.66	594.59	18-JAN-07:50	9479.68	13-JAN-00:30
SolarWater:Facility	259.80	0.00	13-JAN-00:20	7430.35	18-JAN-11:30
SolarWater:Plant	259.80	0.00	13-JAN-00:20	7430.35	18-JAN-11:30
HeatProduced:SolarWater	259.80	0.00	13-JAN-00:20	7430.35	18-JAN-11:30
EnergyTransfer:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Chillers:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatRejection:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	Wi Re [
HOUSE:LIVINGROOMANDKITCHEN	851.110	0.000	0.000	0.000	0.000	0.000	206.011	0.000	0.000	96.243	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	212.187	-0.00	0.000	0.000	0.000	0.000	56.204	0.000	0.000	96.500	0.000	0.000	0.000	0.000	
HOUSE:BATHROOM	131.243	0.000	0.000	0.000	0.000	0.000	7.649	0.000	0.000	0.653	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM1	323.246	0.000	0.000	0.000	0.000	0.000	67.792	0.000	0.000	19.136	0.000	0.000	0.000	0.000	
HOUSE:PORCH	405.397	0.000	0.000	0.000	0.000	0.000	68.763	0.000	0.000	52.240	0.000	0.000	0.000	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	77.656	0.000	0.000	0.000	0.000	0.057	0.082	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.059	18.012	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.148	56.633	0.000	
Total Facility	1923.183	-0.00	0.000	0.000	0.000	0.000	484.075	0.000	0.000	264.772	0.000	9.264	74.728	0.000	-:

Peak Cooling Sensible Heat Gain Components

		HVAC Zone Eq	HVAC Zone Eq	HVAC Terminal	HVAC Terminal	HVAC	HVAC	People	Lights	Equipment		Interzone		Opaque Surface

	Time of Peak {TIMESTAMP}	& Other Sensible Air Heating [Btu/h]	& Other Sensible Air Cooling [ton]	Unit Sensible Air Heating [Btu/h]	Unit Sensible Air Cooling [ton]	Input Heated Surface Heating [Btu/h]	Input Cooled Surface Cooling [ton]	Sensible Heat Addition [Btu/h]	Sensible Heat Addition [Btu/h]	Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	16-JAN-12:25	0.00	-0.0	0.00	0.00	0.00	0.00	329.74	0.00	0.00	3006.45	0.00	0.00	0.00
HOUSE:BATHROOM	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	16-JAN-12:25	0.00	0.37	0.00	0.00	0.00	0.00	3505.87	0.00	0.00	10522.60	0.00	18.32	0.00

Peak Heating Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	19-JAN-06:00	7518.09	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	19-JAN-06:00	2203.51	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	13-JAN-00:23	2393.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	19-JAN-06:00	2804.55	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	19-JAN-06:00	3753.94	0.00	0.00	0.00	0.00	0.00	409.01	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	19-JAN-06:00	16834.56	0.00	0.00	0.00	0.00	0.00	2372.18	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	143.83	0.00	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	1043.24	1664.94	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	40.33
Number of hours cooling loads not met	0.00
Number of hours not met	40.33

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand

Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.188	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	430.65	4800.07	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.99	8.24	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	12.25	72.90	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00
Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	443.88		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	1515.59
Natural Gas	0.00	0.00
Total	0.00	1515.59
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	83.39
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	83.39
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	0.41
Space Cooling	0.00
Fans-Interior	0.01
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.00
Subtotal	0.43

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	97.02
Space Cooling	0.00
Fans-Interior	2.76
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.22

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	444.00	444.00	444.00	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	140.81	140.81	140.81	89.99
HOUSE:BATHROOM WATERTOAIR HP	97.07	97.07	97.07	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	157.81	157.81	157.81	89.99
HOUSE:PORCH WATERTOAIR HP	241.45	241.45	241.45	84.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	444.00	4.59	1.48	16.63
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	140.81	0.200977	0.195338	0.727692
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	97.07	0.138550	0.134662	0.501659
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	157.81	0.225243	0.218923	0.815554
HOUSE:PORCH WATERTOAIR HP HP COOLING COIL	241.45	0.344617	0.334947	1.25

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	444.00	55110.82	6.27	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	140.81	2411.73	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	97.07	1662.60	0.189206	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	157.81	2702.92	0.307594	
HOUSE:PORCH WATERTOAIR HP HP HEATING COIL	241.45	4135.41	0.470612	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	444.00
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	140.81
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	97.07
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	157.81
HOUSE:PORCH WATERTOAIR HP SUPPLY FAN	241.45

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	17589.40

HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5298.50
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4067.72
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6132.23
HOUSE:PORCH WATERTOAIR HP HEATING COIL	7818.60

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.613032	7.66
SOLAR LOOP	0.149153	1.86
CHW LOOP	1.33	16.64

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.613032	28.13
SOLAR LOOP SUPPLY PUMP	0.149153	6.84
CHW LOOP SUPPLY PUMP	1.33	61.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.613032	0.149153
AUX HW LOOP WATER HEATER	0.613032	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	9.96	32998.66	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:05:09**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	83.39	0.00	0.00	83.39
Cost per Total Building Area [£/ft2]	0.08	0.00	0.00	0.08
Cost per Net Conditioned Building Area [£/ft2]	0.08	0.00	0.00	0.08

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	83.39
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-18 16:05:09**

General

	Parameter

Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	53.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.27	53.27
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	55.78	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	83.39	55.78
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	55.78	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	83.39	55.78
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	55.78	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	83.39	55.78

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	53.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.27	53.27	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91
TotalDemand	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
PeakEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91
PeakDemand	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91

PeakAndShoulderDemand	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
PeakAndMidPeakEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91
PeakAndMidPeakDemand	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	443.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	443.91	443.91
PeakAndOffPeakDemand	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88	4.88
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-18 16:05:09**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix K: Part 2 - Whole Winter Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 16:59**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-18 16:59:07**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	20643.12	19.79	19.79
Net Site Energy	20643.12	19.79	19.79
Total Source Energy	65376.75	62.67	62.67
Net Source Energy	65376.75	62.67	62.67

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	1043.24
Unconditioned Building Area	0.00

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	19497.07	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	1087.29	0.00	0.00	0.00	0.00	0.00
Pumps	58.76	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	20643.12	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	19497.07	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	1087.29	0.00	0.00	0.00	0.00	0.00
Pumps	General	58.76	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	19.79	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	19.79	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	19.79	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	19.79	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	20643.116	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	20643.116	100.00
Total On-Site and Utility Electric Sources	20643.116	100.00
Total Electricity End Uses	20643.116	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	4485.83	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	4485.83	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	353.00
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	4314.50

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

| COPY OF FLAT ELECTRICITY CHARGE | COPY OF FLAT GAS CHARGE |

Economics Results Summary Report

| Entire Facility |

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 16:59
RunPeriod	XYLA PLATFORM (01-10:31-03)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	4368.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1260.81	420.90	274.42	420.90	144.59
Above Ground Wall Area [ft2]	1260.81	420.90	274.42	420.90	144.59
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	20.29	17.92	17.08	24.31	21.55
Above Ground Window-Wall Ratio [%]	20.29	17.92	17.08	24.31	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	Yes	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Unconditioned Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	29-JAN-07:30	-	-	-	-	-
Heating	17.73	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.25	0.00	0.00	0.00	0.00	0.00

Pumps	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	18.00	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	17.73	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.25	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	61747.21	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3443.45	0.00	0.00	0.00	0.00
Pumps	186.09	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	65376.75	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	59.19	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.30	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	62.67	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	59.19	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.30	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	62.67	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	32998.66	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		55110.82	17758.78	37352.04	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2411.73	2344.05	67.68	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1662.60	1615.95	46.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2702.92	2627.07	75.85	0.97	0.00		
HOUSE:PORCH WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		4135.41	4019.36	116.04	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		55110.82	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1662.60	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2702.92	0.00
HOUSE:PORCH WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		4135.41	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		17589.40	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5298.50	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4067.72	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6132.23	1.00
HOUSE:PORCH WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		7818.60	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	444.00	29.94	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	140.81	9.49	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	97.07	6.55	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	157.81	10.64	0.07	1.00	General
HOUSE:PORCH WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	241.45	16.28	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.586798	8.24	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	1.115981	2.01	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	9.960655	17.90	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.13	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	29.41	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Zone Sensible Cooling

	Calculated	User	User Design	Calculated	User			Thermostat	Indoor	Indoor	Outdoor	Outc

	Design Load [Btu/h]	Design Load [Btu/h]	Load per Area [Btu/h-ft2]	Design Air Flow [ft3/min]	Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Setpoint Temperature at Peak Load [F]	Temperature at Peak Load [F]	Humidity Ratio at Peak Load [lbWater/lbAir]	Temperature at Peak Load [F]	Humidity R at Peak L [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		91.04	32.00	0.00000	85.82	0.0
HOUSE:PORCH	0.00	0.00	0.00	0.000	33.968	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		90.79	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outc Humidity R at Peak L [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	7582.06	9477.57	19.27	355.202	444.003	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	70.00	0.00371	-8.5	0.0
HOUSE:BEDROOM2	2404.61	3005.76	21.62	112.651	140.813	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00363	-8.5	0.0
HOUSE:BATHROOM	1657.70	2072.12	20.55	77.659	97.074	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2694.94	3368.68	20.10	126.252	157.815	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0
HOUSE:PORCH	4123.20	5154.00	35.83	193.163	241.453	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	64.99	64.99	0.00383	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	3303.50	4362.33	3303.50
HOUSE:BEDROOM2	2937.83	4254.50	2872.67
HOUSE:BATHROOM	1072.83	1274.00	1072.83
HOUSE:BEDROOM1	3508.00	4368.00	3508.00
HOUSE:PORCH	4167.50	4362.67	4167.50
1CARGARRAGE:ZONE1	1820.00	1820.00	1820.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	4318.67	4368.00	4314.50

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	1287.00	0.00	353.00	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	1287.00	0.00	353.00	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.648	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.648	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.648	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.648	0.000	0.000
HOUSE:PORCH	1.34	1.34	1306.49	0.000	0.642	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.021	0.000	0.000

HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.021	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.021	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.021	0.000	0.000
HOUSE:PORCH	1.34	1.34	1306.49	0.000	0.021	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4
Internal Mass	0	0
Building Detached Shading	6	6
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	5
Unconditioned Zones	3
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1633
Defaulted Fields	38
Fields with Defaults	3518
Autosized Fields	111
Autosizable Fields	135
Autocalculated Fields	68
Autocalculatable Fields	200

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
Electricity:Plant	17.21	0.00	01-OCT-06:10	10.24	18-JAN-07:50
WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Building	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Fans:Electricity	318.44	72.90	17-OCT-09:40	72.90	02-OCT-07:50
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Ventilation (simple):Fans:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityPurchased:Facility	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
ElectricityPurchased:Plant	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
Cogeneration:ElectricityPurchased	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
ElectricitySurplusSold:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityNet:Facility	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
ElectricityNet:Plant	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
Cogeneration:ElectricityNet	6045.87	72.90	01-OCT-06:10	5272.71	29-JAN-07:30
Electricity:HVAC	6028.66	72.90	01-OCT-06:10	5264.46	29-JAN-07:30
General:Fans:Electricity	318.44	72.90	17-OCT-09:40	72.90	02-OCT-07:50
Cooling:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:Electricity	5710.22	0.00	01-OCT-06:10	5191.56	29-JAN-07:30
Pumps:Electricity	17.21	0.00	01-OCT-06:10	10.24	18-JAN-07:50

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	10622.79	-8.8	01-OCT-08:00	31214.23	27-OCT-06:50
PlantLoopHeatingDemand:Plant	5165.96	-8.8	01-OCT-08:00	29025.74	27-OCT-06:50
WaterSystems:PlantLoopHeatingDemand	5165.96	-8.8	01-OCT-08:00	29025.74	27-OCT-06:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	5165.96	-8.8	01-OCT-08:00	29025.74	27-OCT-06:50
EnergyTransfer:Facility	46470.36	78.35	18-OCT-13:40	35438.42	29-JAN-07:30

EnergyTransfer:Building	23852.62	78.35	18-OCT-13:40	17861.49	29-JAN-07:30
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	10533.64	8.35	18-OCT-13:30	8019.32	29-JAN-07:30
Heating:EnergyTransfer	23851.13	54.30	18-OCT-13:30	17861.49	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	10533.64	8.35	18-OCT-13:30	8019.32	29-JAN-07:30
Cooling:EnergyTransfer	1.49	0.00	01-OCT-00:10	86.14	19-NOV-11:50
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	01-OCT-00:10	1.36	26-OCT-12:40
EnergyTransfer:Zone:HOUSE:BEDROOM2	2652.54	0.20	07-NOV-07:40	2374.92	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	2652.33	0.00	01-OCT-08:00	2374.92	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.21	0.00	01-OCT-00:10	32.07	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:BATHROOM	2278.19	3.71	01-OCT-06:30	1028.47	24-JAN-18:00
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	2278.18	0.00	01-OCT-06:10	1028.47	24-JAN-18:00
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.01	0.00	01-OCT-00:10	26.36	19-OCT-06:20
EnergyTransfer:Zone:HOUSE:BEDROOM1	3873.02	0.49	01-OCT-08:00	2968.51	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	3873.01	0.00	01-OCT-08:00	2968.51	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.01	0.00	01-OCT-00:10	11.54	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:PORCH	4515.23	0.31	30-NOV-12:20	3981.75	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:PORCH	4513.98	0.00	01-OCT-14:20	3981.75	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:PORCH	1.25	0.00	01-OCT-00:10	85.62	19-NOV-11:50
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:HVAC	22617.73	0.00	01-OCT-06:10	17576.92	29-JAN-07:30
CoolingCoils:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatingCoils:EnergyTransfer	22617.73	0.00	01-OCT-06:10	17576.92	29-JAN-07:30
PlantLoopHeatingDemand:HVAC	5456.83	0.00	01-OCT-06:10	4453.71	22-JAN-17:30
HeatingCoils:PlantLoopHeatingDemand	5456.83	0.00	01-OCT-06:10	4453.71	22-JAN-17:30
SolarWater:Facility	4485.83	-1648.8	23-OCT-18:20	8319.96	20-MAR-11:30
SolarWater:Plant	4485.83	-1648.8	23-OCT-18:20	8319.96	20-MAR-11:30
HeatProduced:SolarWater	4485.83	-1648.8	23-OCT-18:20	8319.96	20-MAR-11:30
EnergyTransfer:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Chillers:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatRejection:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	W R
HOUSE:LIVINGROOMANDKITCHEN	10533.616	-0.00	0.000	0.000	0.000	0.000	5332.222	0.000	0.000	1903.888	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	2652.323	-0.02	0.000	0.000	0.000	0.000	1439.227	0.000	0.000	1698.207	0.000	0.000	0.004	0.000	
HOUSE:BATHROOM	2278.175	-0.00	0.000	0.000	0.000	0.000	184.018	0.000	0.000	61.563	0.000	0.090	0.012	0.000	
HOUSE:BEDROOM1	3873.006	-0.00	0.000	0.000	0.000	0.000	1756.523	0.000	0.000	583.957	0.000	0.007	0.001	0.000	
HOUSE:PORCH	4513.969	-0.10	0.000	0.000	0.000	0.000	1767.330	0.000	0.000	1229.398	0.000	0.000	0.009	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	2004.581	0.000	0.000	0.000	0.000	37.826	0.002	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.222	223.136	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	195.430	691.699	0.000	
Total Facility	23851.089	-0.12	0.000	0.000	0.000	0.000	12483.900	0.000	0.000	5477.013	0.000	257.574	914.862	0.000	

Peak Cooling Sensible Heat Gain Components

		HVAC Zone Eq	HVAC Zone Eq	HVAC Terminal	HVAC Terminal	HVAC	HVAC	People	Lights	Equipment		Interzone		Opaque Surface

	Time of Peak {TIMESTAMP}	& Other Sensible Air Heating [Btu/h]	& Other Sensible Air Cooling [ton]	Unit Sensible Air Heating [Btu/h]	Unit Sensible Air Cooling [ton]	Input Heated Surface Heating [Btu/h]	Input Cooled Surface Cooling [ton]	Sensible Heat Addition [Btu/h]	Sensible Heat Addition [Btu/h]	Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	26-OCT-12:35	0.00	-0.0	0.00	0.00	0.00	0.00	1169.17	0.00	0.00	3535.31	0.00	0.00	0.00
HOUSE:BEDROOM2	21-OCT-09:23	0.00	-0.0	0.00	0.00	0.00	0.00	311.82	0.00	0.00	2804.22	0.00	0.00	0.00
HOUSE:BATHROOM	19-OCT-06:20	0.00	-0.0	0.00	0.00	0.00	0.00	252.49	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	20-OCT-07:53	0.00	-0.0	0.00	0.00	0.00	0.00	389.95	0.00	0.00	1887.72	0.00	0.00	0.00
HOUSE:PORCH	19-NOV-11:45	0.00	-0.0	0.00	0.00	0.00	0.00	387.18	0.00	0.00	4110.65	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	19-NOV-11:45	0.00	0.02	0.00	0.00	0.00	0.00	3345.14	0.00	0.00	10760.05	0.00	137.85	0.00

Peak Heating Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	29-JAN-07:30	8019.26	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	29-JAN-07:30	2374.90	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	24-JAN-17:55	1029.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	29-JAN-07:30	2968.49	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	29-JAN-07:30	3981.72	0.00	0.00	0.00	0.00	0.00	409.01	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	29-JAN-07:30	17861.40	0.00	0.00	0.00	0.00	0.00	2683.53	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	143.83	0.00	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	1043.24	1664.94	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	353.00
Number of hours cooling loads not met	0.00
Number of hours not met	353.00

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand

Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.125	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	5710.22	5191.56	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	17.21	8.24	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	318.44	72.90	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00
Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	6045.87		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	20643.12
Natural Gas	0.00	0.00
Total	0.00	20643.12
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	755.68
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	755.68
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	5.47
Space Cooling	0.00
Fans-Interior	0.31
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.02
Subtotal	5.80

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	94.45
Space Cooling	0.00
Fans-Interior	5.27
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.28

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	444.00	444.00	444.00	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	140.81	140.81	140.81	89.99
HOUSE:BATHROOM WATERTOAIR HP	97.07	97.07	97.07	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	157.81	157.81	157.81	89.99
HOUSE:PORCH WATERTOAIR HP	241.45	241.45	241.45	84.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	444.00	4.59	1.48	16.63
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	140.81	0.200977	0.195338	0.727692
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	97.07	0.138550	0.134662	0.501659
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	157.81	0.225243	0.218923	0.815554
HOUSE:PORCH WATERTOAIR HP HP COOLING COIL	241.45	0.344617	0.334947	1.25

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	444.00	55110.82	6.27	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	140.81	2411.73	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	97.07	1662.60	0.189206	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	157.81	2702.92	0.307594	
HOUSE:PORCH WATERTOAIR HP HP HEATING COIL	241.45	4135.41	0.470612	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	444.00
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	140.81
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	97.07
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	157.81
HOUSE:PORCH WATERTOAIR HP SUPPLY FAN	241.45

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	17589.40

HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5298.50
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4067.72
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6132.23
HOUSE:PORCH WATERTOAIR HP HEATING COIL	7818.60

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.613032	7.66
SOLAR LOOP	0.149153	1.86
CHW LOOP	1.33	16.64

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.613032	28.13
SOLAR LOOP SUPPLY PUMP	0.149153	6.84
CHW LOOP SUPPLY PUMP	1.33	61.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.613032	0.149153
AUX HW LOOP WATER HEATER	0.613032	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	9.96	32998.66	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 16:59:07**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	755.68	0.00	0.00	755.68
Cost per Total Building Area [£/ft2]	0.72	0.00	0.00	0.72
Cost per Net Conditioned Building Area [£/ft2]	0.72	0.00	0.00	0.72

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	755.68
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-18 16:59:07**

General

	Parameter

Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	201.32	168.58	105.12	0.00	0.00	0.00	0.00	0.00	0.00	23.63	59.78	167.12	725.56	201.32
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	203.83	171.09	107.63	2.51	2.51	2.51	2.51	2.51	2.51	26.14	62.29	169.63	755.68	203.83
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	203.83	171.09	107.63	2.51	2.51	2.51	2.51	2.51	2.51	26.14	62.29	169.63	755.68	203.83
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	203.83	171.09	107.63	2.51	2.51	2.51	2.51	2.51	2.51	26.14	62.29	169.63	755.68	203.83

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	201.32	168.58	105.12	0.00	0.00	0.00	0.00	0.00	0.00	23.63	59.78	167.12	725.56	201.32	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67
TotalDemand	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
PeakEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67
PeakDemand	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67

PeakAndShoulderDemand	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
PeakAndMidPeakEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67
PeakAndMidPeakDemand	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	1677.67	1404.84	876.03	0.00	0.00	0.00	0.00	0.00	0.00	196.95	498.17	1392.68	6046.35	1677.67
PeakAndOffPeakDemand	5.26	4.53	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.7651	2.84	4.09	21.58	5.26
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-18 16:59:07**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix L: Part 1 - Design Day Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 21:21**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-18 21:21:56**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	22855.85	21.91	25.41
Net Site Energy	22855.85	21.91	25.41
Total Source Energy	72384.48	69.38	80.48
Net Source Energy	72384.48	69.38	80.48

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	21896.70	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	51.66	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	22855.85	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	21896.70	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	General	51.66	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	25.41	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	25.41	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	21.91	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	21.91	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	22855.852	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	22855.852	100.00
Total On-Site and Utility Electric Sources	22855.852	100.00
Total Electricity End Uses	22855.852	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	17.68	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	17.68	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	535.17
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	4338.50

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

Economics Results Summary Report

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.18 21:21
RunPeriod	XYLA PLATFORM (01-10:31-03)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	4368.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	29-JAN-07:30	-	-	-	-	-
Heating	15.42	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	15.66	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	15.42	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	69346.84	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	2874.04	0.00	0.00	0.00	0.00
Pumps	163.60	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	72384.48	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	77.10	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	80.48	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	77.10	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	80.48	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	0.006341	0.01	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outc Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (01-10:31-03) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity F at Peak [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	3381.33	4363.17	3381.33
HOUSE:BEDROOM2	2954.33	4256.83	2890.00
HOUSE:BATHROOM	1079.83	1274.00	1079.83
HOUSE:BEDROOM1	3519.17	4368.00	3519.17
HOUSE:PORCH	4241.83	4368.00	4241.83
1CARGARRAGE:ZONE1	1820.00	1820.00	1820.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	4342.33	4368.00	4338.50

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	1993.33	0.00	535.17	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	1993.33	0.00	535.17	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.648	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.648	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.647	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.648	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.021	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.021	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.021	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.021	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	6	6
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1613
Defaulted Fields	38
Fields with Defaults	3482
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	200

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Electricity:Plant	15.13	0.00	01-OCT-06:10	8.58	19-JAN-07:50
WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Building	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Fans:Electricity	265.78	60.85	04-OCT-24:00	60.85	01-OCT-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityPurchased:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricityPurchased:Plant	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Cogeneration:ElectricityPurchased	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricitySurplusSold:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityNet:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricityNet:Plant	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Cogeneration:ElectricityNet	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Electricity:HVAC	6678.80	60.85	01-OCT-06:10	4577.04	29-JAN-07:30
General:Fans:Electricity	265.78	60.85	04-OCT-24:00	60.85	01-OCT-00:10
Cooling:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:Electricity	6413.01	0.00	01-OCT-06:10	4516.19	29-JAN-07:30
Pumps:Electricity	15.13	0.00	01-OCT-06:10	8.58	19-JAN-07:50

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	138.02	-8.9	29-NOV-08:10	2236.99	02-OCT-05:50
PlantLoopHeatingDemand:Plant	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
WaterSystems:PlantLoopHeatingDemand	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
EnergyTransfer:Facility	39671.77	56.57	18-OCT-13:30	29085.77	29-JAN-07:30
EnergyTransfer:Building	20363.58	56.57	18-OCT-13:30	14667.73	29-JAN-07:30
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11736.38	10.12	18-OCT-13:30	8759.23	29-JAN-07:30
Heating:EnergyTransfer	20363.34	56.57	18-OCT-13:30	14667.73	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11736.38	10.12	18-OCT-13:30	8759.23	29-JAN-07:30
Cooling:EnergyTransfer	0.23	0.00	01-OCT-00:10	43.49	25-OCT-07:40
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	01-OCT-00:10	0.43	26-OCT-12:40
EnergyTransfer:Zone:HOUSE:BEDROOM2	2691.72	0.17	05-NOV-07:30	2396.00	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	2691.51	0.00	01-OCT-08:00	2396.00	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.21	0.00	01-OCT-00:10	32.33	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:BATHROOM	1956.99	3.78	01-OCT-06:30	585.08	04-OCT-05:50
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	1956.98	0.00	01-OCT-06:10	585.08	04-OCT-05:50
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.01	0.00	01-OCT-00:10	26.71	19-OCT-06:20
EnergyTransfer:Zone:HOUSE:BEDROOM1	3978.48	0.48	01-OCT-08:00	3011.97	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	3978.47	0.00	01-OCT-08:00	3011.97	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.01	0.00	01-OCT-00:10	11.15	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:HVAC	19308.19	0.00	01-OCT-06:10	14418.04	29-JAN-07:30
CoolingCoils:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatingCoils:EnergyTransfer	19308.19	0.00	01-OCT-06:10	14418.04	29-JAN-07:30
PlantLoopHeatingDemand:HVAC	117.44	-11.5	17-NOV-09:10	2236.99	02-OCT-05:50
HeatingCoils:PlantLoopHeatingDemand	117.44	-11.5	17-NOV-09:10	2236.99	02-OCT-05:50
SolarWater:Facility	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
SolarWater:Plant	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
HeatProduced:SolarWater	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
EnergyTransfer:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Chillers:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatRejection:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	W R
HOUSE:LIVINGROOMANDKITCHEN	11736.360	-0.00	0.000	0.000	0.000	0.000	5333.416	0.000	0.000	1905.761	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	2691.505	-0.02	0.000	0.000	0.000	0.000	1439.515	0.000	0.000	1698.488	0.000	0.000	0.004	0.000	
HOUSE:BATHROOM	1956.978	-0.00	0.000	0.000	0.000	0.000	187.163	0.000	0.000	62.953	0.000	0.091	0.001	0.000	
HOUSE:BEDROOM1	3978.464	-0.00	0.000	0.000	0.000	0.000	1756.586	0.000	0.000	584.171	0.000	0.007	0.001	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	2011.860	0.000	0.000	1347.652	0.000	0.005	0.009	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	2004.780	0.000	0.000	0.000	0.000	42.875	0.021	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.312	209.703	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	197.453	685.833	0.000	
Total Facility	20363.308	-0.02	0.000	0.000	0.000	0.000	12733.318	0.000	0.000	5599.026	0.000	267.743	895.572	0.000	

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	26-OCT-12:35	0.00	-0.0	0.00	0.00	0.00	0.00	1173.23	0.00	0.00	3536.68	0.00	0.00	0.00
HOUSE:BEDROOM2	21-OCT-09:23	0.00	-0.0	0.00	0.00	0.00	0.00	311.92	0.00	0.00	2804.31	0.00	0.00	0.00
HOUSE:BATHROOM	19-OCT-06:20	0.00	-0.0	0.00	0.00	0.00	0.00	252.72	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	20-OCT-07:53	0.00	-0.0	0.00	0.00	0.00	0.00	390.02	0.00	0.00	1887.77	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	20-OCT-07:53	0.00	0.01	0.00	0.00	0.00	0.00	3598.88	0.00	0.00	5387.72	0.00	493.97	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	29-JAN-07:30	8759.16	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	29-JAN-07:30	2395.98	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	04-OCT-05:50	585.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	29-JAN-07:30	3011.95	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	29-JAN-07:30	14667.65	0.00	0.00	0.00	0.00	0.00	2770.77	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	535.17
Number of hours cooling loads not met	0.00
Number of hours not met	535.17

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.124	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	6413.01	4516.19	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	15.13	8.57	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	265.78	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	6693.92		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	22855.85
Natural Gas	0.00	0.00
Total	0.00	22855.85
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	833.45
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	833.45
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	6.15
Space Cooling	0.00
Fans-Interior	0.25
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.01
Subtotal	6.42

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	95.80
Space Cooling	0.00
Fans-Interior	3.97
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.23

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.000847	0.010596
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.000847	0.038883
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.000847

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-18 21:21:56**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	833.45	0.00	0.00	833.45
Cost per Total Building Area [£/ft2]	0.80	0.00	0.00	0.80
Cost per Net Conditioned Building Area [£/ft2]	0.93	0.00	0.00	0.93

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	833.45
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-18 21:21:56**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	211.85	172.37	123.55	0.00	0.00	0.00	0.00	0.00	0.00	41.39	81.14	173.04	803.33	211.85
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	211.85	172.37	123.55	0.00	0.00	0.00	0.00	0.00	0.00	41.39	81.14	173.04	803.33	211.85	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
TotalDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
PeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndShoulderDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
PeakAndMidPeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndMidPeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndOffPeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-18 21:21:56**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00

IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix L: Part 2 - Whole Winter Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 00:54**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-19 00:54:18**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	22855.85	21.91	25.41
Net Site Energy	22855.85	21.91	25.41
Total Source Energy	72384.48	69.38	80.48
Net Source Energy	72384.48	69.38	80.48

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	21896.70	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	51.66	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	22855.85	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	21896.70	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	General	51.66	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	25.41	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	25.41	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	21.91	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	21.91	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	22855.852	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	22855.852	100.00
Total On-Site and Utility Electric Sources	22855.852	100.00
Total Electricity End Uses	22855.852	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	17.68	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	17.68	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	535.17
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	4338.50

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

| COPY OF FLAT ELECTRICITY CHARGE | COPY OF FLAT GAS CHARGE |

Economics Results Summary Report

| Entire Facility |

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 00:54
RunPeriod	XYLA PLATFORM (01-10:31-03)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	4368.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	29-JAN-07:30	-	-	-	-	-
Heating	15.42	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	15.66	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	15.42	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	69346.84	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	2874.04	0.00	0.00	0.00	0.00
Pumps	163.60	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	72384.48	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	77.10	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	80.48	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	77.10	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.18	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	80.48	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	0.006341	0.01	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outd Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (01-10:31-03) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity F at Peak [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	3381.33	4363.17	3381.33
HOUSE:BEDROOM2	2954.33	4256.83	2890.00
HOUSE:BATHROOM	1079.83	1274.00	1079.83
HOUSE:BEDROOM1	3519.17	4368.00	3519.17
HOUSE:PORCH	4241.83	4368.00	4241.83
1CARGARRAGE:ZONE1	1820.00	1820.00	1820.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	4342.33	4368.00	4338.50

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	1993.33	0.00	535.17	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	1993.33	0.00	535.17	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.648	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.648	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.647	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.648	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.021	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.021	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.021	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.021	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	6	6
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1613
Defaulted Fields	38
Fields with Defaults	3482
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	200

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Electricity:Plant	15.13	0.00	01-OCT-06:10	8.58	19-JAN-07:50
WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Building	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Fans:Electricity	265.78	60.85	04-OCT-24:00	60.85	01-OCT-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityPurchased:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricityPurchased:Plant	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Cogeneration:ElectricityPurchased	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricitySurplusSold:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityNet:Facility	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
ElectricityNet:Plant	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Cogeneration:ElectricityNet	6693.92	60.85	01-OCT-06:10	4585.61	29-JAN-07:30
Electricity:HVAC	6678.80	60.85	01-OCT-06:10	4577.04	29-JAN-07:30
General:Fans:Electricity	265.78	60.85	04-OCT-24:00	60.85	01-OCT-00:10
Cooling:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:Electricity	6413.01	0.00	01-OCT-06:10	4516.19	29-JAN-07:30
Pumps:Electricity	15.13	0.00	01-OCT-06:10	8.58	19-JAN-07:50

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	138.02	-8.9	29-NOV-08:10	2236.99	02-OCT-05:50
PlantLoopHeatingDemand:Plant	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
WaterSystems:PlantLoopHeatingDemand	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	20.57	-0.0	01-OCT-08:30	362.91	19-OCT-21:50
EnergyTransfer:Facility	39671.77	56.57	18-OCT-13:30	29085.77	29-JAN-07:30
EnergyTransfer:Building	20363.58	56.57	18-OCT-13:30	14667.73	29-JAN-07:30
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11736.38	10.12	18-OCT-13:30	8759.23	29-JAN-07:30
Heating:EnergyTransfer	20363.34	56.57	18-OCT-13:30	14667.73	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11736.38	10.12	18-OCT-13:30	8759.23	29-JAN-07:30
Cooling:EnergyTransfer	0.23	0.00	01-OCT-00:10	43.49	25-OCT-07:40
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	01-OCT-00:10	0.43	26-OCT-12:40
EnergyTransfer:Zone:HOUSE:BEDROOM2	2691.72	0.17	05-NOV-07:30	2396.00	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	2691.51	0.00	01-OCT-08:00	2396.00	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.21	0.00	01-OCT-00:10	32.33	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:BATHROOM	1956.99	3.78	01-OCT-06:30	585.08	04-OCT-05:50
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	1956.98	0.00	01-OCT-06:10	585.08	04-OCT-05:50
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.01	0.00	01-OCT-00:10	26.71	19-OCT-06:20
EnergyTransfer:Zone:HOUSE:BEDROOM1	3978.48	0.48	01-OCT-08:00	3011.97	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	3978.47	0.00	01-OCT-08:00	3011.97	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.01	0.00	01-OCT-00:10	11.15	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:HVAC	19308.19	0.00	01-OCT-06:10	14418.04	29-JAN-07:30
CoolingCoils:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatingCoils:EnergyTransfer	19308.19	0.00	01-OCT-06:10	14418.04	29-JAN-07:30
PlantLoopHeatingDemand:HVAC	117.44	-11.5	17-NOV-09:10	2236.99	02-OCT-05:50
HeatingCoils:PlantLoopHeatingDemand	117.44	-11.5	17-NOV-09:10	2236.99	02-OCT-05:50
SolarWater:Facility	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
SolarWater:Plant	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
HeatProduced:SolarWater	17.68	-6.3	01-OCT-07:00	52.92	31-MAR-11:50
EnergyTransfer:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Chillers:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatRejection:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	W R
HOUSE:LIVINGROOMANDKITCHEN	11736.360	-0.00	0.000	0.000	0.000	0.000	5333.416	0.000	0.000	1905.761	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	2691.505	-0.02	0.000	0.000	0.000	0.000	1439.515	0.000	0.000	1698.488	0.000	0.000	0.004	0.000	
HOUSE:BATHROOM	1956.978	-0.00	0.000	0.000	0.000	0.000	187.163	0.000	0.000	62.953	0.000	0.091	0.001	0.000	
HOUSE:BEDROOM1	3978.464	-0.00	0.000	0.000	0.000	0.000	1756.586	0.000	0.000	584.171	0.000	0.007	0.001	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	2011.860	0.000	0.000	1347.652	0.000	0.005	0.009	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	2004.780	0.000	0.000	0.000	0.000	42.875	0.021	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.312	209.703	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	197.453	685.833	0.000	
Total Facility	20363.308	-0.02	0.000	0.000	0.000	0.000	12733.318	0.000	0.000	5599.026	0.000	267.743	895.572	0.000	

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	26-OCT-12:35	0.00	-0.0	0.00	0.00	0.00	0.00	1173.23	0.00	0.00	3536.68	0.00	0.00	0.00
HOUSE:BEDROOM2	21-OCT-09:23	0.00	-0.0	0.00	0.00	0.00	0.00	311.92	0.00	0.00	2804.31	0.00	0.00	0.00
HOUSE:BATHROOM	19-OCT-06:20	0.00	-0.0	0.00	0.00	0.00	0.00	252.72	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	20-OCT-07:53	0.00	-0.0	0.00	0.00	0.00	0.00	390.02	0.00	0.00	1887.77	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	20-OCT-07:53	0.00	0.01	0.00	0.00	0.00	0.00	3598.88	0.00	0.00	5387.72	0.00	493.97	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	29-JAN-07:30	8759.16	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	29-JAN-07:30	2395.98	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	04-OCT-05:50	585.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	29-JAN-07:30	3011.95	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	29-JAN-07:30	14667.65	0.00	0.00	0.00	0.00	0.00	2770.77	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	535.17
Number of hours cooling loads not met	0.00
Number of hours not met	535.17

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.124	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	6413.01	4516.19	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	15.13	8.57	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	265.78	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	6693.92		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	22855.85
Natural Gas	0.00	0.00
Total	0.00	22855.85
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	833.45
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	833.45
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	6.15
Space Cooling	0.00
Fans-Interior	0.25
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.01
Subtotal	6.42

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	95.80
Space Cooling	0.00
Fans-Interior	3.97
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.23

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.000847	0.010596
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.000847	0.038883
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.000847

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 00:54:18**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	833.45	0.00	0.00	833.45
Cost per Total Building Area [£/ft2]	0.80	0.00	0.00	0.80
Cost per Net Conditioned Building Area [£/ft2]	0.93	0.00	0.00	0.93

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	833.45
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-19 00:54:18**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	211.85	172.37	123.55	0.00	0.00	0.00	0.00	0.00	0.00	41.39	81.14	173.04	803.33	211.85
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	214.36	174.88	126.06	2.51	2.51	2.51	2.51	2.51	2.51	43.90	83.65	175.55	833.45	214.36

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	211.85	172.37	123.55	0.00	0.00	0.00	0.00	0.00	0.00	41.39	81.14	173.04	803.33	211.85	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
TotalDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
PeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndShoulderDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
PeakAndMidPeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndMidPeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	1765.40	1436.40	1029.60	0.00	0.00	0.00	0.00	0.00	0.00	344.88	676.18	1442.00	6694.45	1765.40
PeakAndOffPeakDemand	4.58	4.04	3.68	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.68	3.53	20.03	4.58
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-19 00:54:18**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00

IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix M: Part 1 - Design Day Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:24**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-19 02:24:28**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	898.18	0.86	1.00
Net Site Energy	898.18	0.86	1.00
Total Source Energy	2844.53	2.73	3.16
Net Source Energy	2844.53	2.73	3.16

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	860.74	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	34.90	0.00	0.00	0.00	0.00	0.00
Pumps	2.54	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	898.18	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	860.74	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	34.90	0.00	0.00	0.00	0.00	0.00
Pumps	General	2.54	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	1.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.00	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	0.86	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.86	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	898.178	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	898.178	100.00
Total On-Site and Utility Electric Sources	898.178	100.00
Total Electricity End Uses	898.178	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	365.71	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	365.71	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	10.00
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	168.00

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

Economics Results Summary Report

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:24
RunPeriod	XYLA PLATFORM (13-01:19-01)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	168.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	14-JAN-07:19	-	-	-	-	-
Heating	11.76	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	11.99	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	11.76	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.03	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	2725.95	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	110.54	0.00	0.00	0.00	0.00
Pumps	8.04	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	2844.53	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	3.03	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.12	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	3.16	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	3.03	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.12	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	3.16	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	2.017960	3.63	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outc Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (13-01:19-01) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity F at Peak [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	168.00	168.00	168.00
HOUSE:BEDROOM2	146.17	168.00	146.17
HOUSE:BATHROOM	49.00	49.00	49.00
HOUSE:BEDROOM1	168.00	168.00	168.00
HOUSE:PORCH	168.00	168.00	168.00
1CARGARRAGE:ZONE1	70.00	70.00	70.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	168.00	168.00	168.00

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	37.00	0.00	10.00	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	37.00	0.00	10.00	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.685	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.685	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.687	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.685	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.023	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.023	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.028	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.023	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	8	8
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1614
Defaulted Fields	38
Fields with Defaults	3483
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	201

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
Electricity:Plant	0.74	0.61	16-JAN-15:00	11.05	14-JAN-07:40
WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Building	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Fans:Electricity	10.22	60.85	16-JAN-15:40	60.85	13-JAN-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityPurchased:Facility	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
ElectricityPurchased:Plant	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
Cogeneration:ElectricityPurchased	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
ElectricitySurplusSold:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricitySurplusSold:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityNet:Facility	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
ElectricityNet:Plant	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
Cogeneration:ElectricityNet	263.05	416.06	16-JAN-14:10	3512.32	14-JAN-07:20
Electricity:HVAC	262.31	411.83	16-JAN-14:10	3504.72	14-JAN-07:20
General:Fans:Electricity	10.22	60.85	16-JAN-15:40	60.85	13-JAN-00:10
Cooling:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:Electricity	252.09	350.98	16-JAN-14:10	3443.87	14-JAN-07:20
Pumps:Electricity	0.74	0.61	16-JAN-15:00	11.05	14-JAN-07:40

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	1265.37	279.96	14-JAN-07:30	37422.38	17-JAN-07:50
PlantLoopHeatingDemand:Plant	402.46	0.00	13-JAN-00:20	29661.35	17-JAN-07:50
WaterSystems:PlantLoopHeatingDemand	402.46	0.00	13-JAN-00:20	29661.35	17-JAN-07:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	402.46	0.00	13-JAN-00:20	29661.35	17-JAN-07:50
EnergyTransfer:Facility	3246.22	7409.93	16-JAN-14:00	28401.58	19-JAN-06:00
EnergyTransfer:Building	1645.22	3829.73	16-JAN-14:00	14344.58	19-JAN-06:00
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	928.36	2037.15	16-JAN-14:00	7956.00	19-JAN-06:00
Heating:EnergyTransfer	1645.22	3829.73	16-JAN-14:00	14344.58	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	928.36	2037.15	16-JAN-14:00	7956.00	19-JAN-06:00
Cooling:EnergyTransfer	0.00	0.00	13-JAN-00:10	2.76	16-JAN-12:30
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM2	213.80	5.54	16-JAN-12:20	2207.17	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	213.79	3.85	16-JAN-12:30	2207.17	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.00	0.00	13-JAN-00:10	2.76	16-JAN-12:30
EnergyTransfer:Zone:HOUSE:BATHROOM	189.93	477.35	14-JAN-07:10	1670.89	14-JAN-11:40
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	189.93	477.35	14-JAN-07:10	1670.89	14-JAN-11:40
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM1	313.14	927.70	16-JAN-14:00	2623.64	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	313.14	927.70	16-JAN-14:00	2623.64	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:HVAC	1601.00	3580.20	16-JAN-14:00	14057.00	19-JAN-06:00
CoolingCoils:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatingCoils:EnergyTransfer	1601.00	3580.20	16-JAN-14:00	14057.00	19-JAN-06:00
PlantLoopHeatingDemand:HVAC	862.91	274.62	14-JAN-07:40	8820.47	19-JAN-06:00
HeatingCoils:PlantLoopHeatingDemand	862.91	274.62	14-JAN-07:40	8820.47	19-JAN-06:00
SolarWater:Facility	365.71	-377.5	14-JAN-15:20	12874.35	14-JAN-10:30
SolarWater:Plant	365.71	-377.5	14-JAN-15:20	12874.35	14-JAN-10:30
HeatProduced:SolarWater	365.71	-377.5	14-JAN-15:20	12874.35	14-JAN-10:30
EnergyTransfer:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Chillers:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatRejection:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	Wi Re [
HOUSE:LIVINGROOMANDKITCHEN	928.358	0.000	0.000	0.000	0.000	0.000	206.011	0.000	0.000	96.338	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	213.795	-0.00	0.000	0.000	0.000	0.000	56.206	0.000	0.000	96.508	0.000	0.000	0.000	0.000	
HOUSE:BATHROOM	189.927	0.000	0.000	0.000	0.000	0.000	7.064	0.000	0.000	0.500	0.000	0.000	0.033	0.000	
HOUSE:BEDROOM1	313.140	0.000	0.000	0.000	0.000	0.000	67.792	0.000	0.000	19.117	0.000	0.000	0.000	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	82.760	0.000	0.000	61.181	0.000	0.000	0.024	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	77.235	0.000	0.000	0.000	0.000	0.144	0.094	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.181	16.882	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.208	56.411	0.000	
Total Facility	1645.220	-0.00	0.000	0.000	0.000	0.000	497.068	0.000	0.000	273.645	0.000	9.532	73.444	0.000	-:

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	16-JAN-12:25	0.00	-0.0	0.00	0.00	0.00	0.00	329.95	0.00	0.00	3006.65	0.00	0.00	0.00
HOUSE:BATHROOM	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	16-JAN-12:25	0.00	0.37	0.00	0.00	0.00	0.00	3585.20	0.00	0.00	10681.75	0.00	39.19	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	19-JAN-06:00	7955.96	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	19-JAN-06:00	2207.15	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	14-JAN-11:33	1688.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.14	0.00	0.00	0.00
HOUSE:BEDROOM1	19-JAN-06:00	2623.62	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	19-JAN-06:00	14344.50	0.00	0.00	0.00	0.00	0.00	2455.51	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	10.00
Number of hours cooling loads not met	0.00
Number of hours not met	10.00

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.234	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	252.09	3443.87	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.74	7.60	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	10.22	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	263.05		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	898.18
Natural Gas	0.00	0.00
Total	0.00	898.18
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	61.69
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	61.69
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	0.24
Space Cooling	0.00
Fans-Interior	0.01
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.00
Subtotal	0.25

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	95.83
Space Cooling	0.00
Fans-Interior	3.89
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.28

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.269703	3.37
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.269703	12.37
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.269703

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:24:28**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	61.69	0.00	0.00	61.69
Cost per Total Building Area [£/ft2]	0.06	0.00	0.00	0.06
Cost per Net Conditioned Building Area [£/ft2]	0.07	0.00	0.00	0.07

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	61.69
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-19 02:24:28**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	31.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.57	31.57
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	34.08	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	61.69	34.08
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	34.08	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	61.69	34.08
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	34.08	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	61.69	34.08

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	31.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.57	31.57	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08
TotalDemand	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
PeakEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08
PeakDemand	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08
PeakAndShoulderDemand	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
PeakAndMidPeakEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08
PeakAndMidPeakDemand	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	263.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.08	263.08
PeakAndOffPeakDemand	3.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50	3.50
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-19 02:24:28**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix M: Part 2 - Whole Winter Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:08**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-19 02:08:54**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	12182.30	11.68	13.54
Net Site Energy	12182.30	11.68	13.54
Total Source Energy	38581.33	36.98	42.90
Net Source Energy	38581.33	36.98	42.90

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	11231.81	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	42.99	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	12182.30	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	11231.81	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	General	42.99	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	13.54	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	13.54	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	11.68	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	11.68	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	12182.296	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	12182.296	100.00
Total On-Site and Utility Electric Sources	12182.296	100.00
Total Electricity End Uses	12182.296	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	5673.38	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	5673.38	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	65.33
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	4338.33

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

| COPY OF FLAT ELECTRICITY CHARGE | COPY OF FLAT GAS CHARGE |

Economics Results Summary Report

| Entire Facility |

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:08
RunPeriod	XYLA PLATFORM (01-10:31-03)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	4368.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	30-JAN-07:30	-	-	-	-	-
Heating	11.72	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.02	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	11.96	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	11.72	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.02	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	35571.14	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	2874.04	0.00	0.00	0.00	0.00
Pumps	136.16	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	38581.33	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	39.55	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.15	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	42.90	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	39.55	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.15	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	42.90	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	2.017960	3.63	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outd Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (01-10:31-03) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity F at Peak [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	3373.83	4363.17	3373.83
HOUSE:BEDROOM2	2946.17	4255.83	2881.67
HOUSE:BATHROOM	1075.00	1274.00	1075.00
HOUSE:BEDROOM1	3507.17	4368.00	3507.17
HOUSE:PORCH	4241.50	4368.00	4241.50
1CARGARRAGE:ZONE1	1820.00	1820.00	1820.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	4342.17	4368.00	4338.33

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	269.50	0.00	65.33	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	269.50	0.00	65.33	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.648	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.648	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.649	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.648	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.021	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.021	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.021	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.021	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	8	8
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1614
Defaulted Fields	38
Fields with Defaults	3483
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	201

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
Electricity:Plant	12.59	0.00	01-OCT-06:10	10.71	30-JAN-07:50
WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Building	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Fans:Electricity	265.78	60.85	04-OCT-01:00	60.85	01-OCT-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityPurchased:Facility	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
ElectricityPurchased:Plant	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
Cogeneration:ElectricityPurchased	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
ElectricitySurplusSold:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityNet:Facility	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
ElectricityNet:Plant	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
Cogeneration:ElectricityNet	3567.90	60.85	01-OCT-06:10	3501.68	30-JAN-07:30
Electricity:HVAC	3555.31	60.85	01-OCT-06:10	3494.43	30-JAN-07:30
General:Fans:Electricity	265.78	60.85	04-OCT-01:00	60.85	01-OCT-00:10
Cooling:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:Electricity	3289.52	0.00	01-OCT-06:10	3433.58	30-JAN-07:30
Pumps:Electricity	12.59	0.00	01-OCT-06:10	10.71	30-JAN-07:50

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	16899.86	0.00	01-OCT-06:10	40206.73	23-JAN-07:50
PlantLoopHeatingDemand:Plant	6382.68	0.00	01-OCT-00:10	31739.35	25-JAN-08:00
WaterSystems:PlantLoopHeatingDemand	6382.68	0.00	01-OCT-00:10	31739.35	25-JAN-08:00
Water Heater:WaterSystems:PlantLoopHeatingDemand	6382.68	0.00	01-OCT-00:10	31739.35	25-JAN-08:00
EnergyTransfer:Facility	40201.83	56.55	18-OCT-13:30	29842.34	29-JAN-07:30
EnergyTransfer:Building	20637.08	56.55	18-OCT-13:30	15057.46	29-JAN-07:30
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11416.76	10.11	18-OCT-13:30	8446.60	29-JAN-07:30
Heating:EnergyTransfer	20636.85	56.55	18-OCT-13:30	15057.46	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11416.76	10.11	18-OCT-13:30	8446.60	29-JAN-07:30
Cooling:EnergyTransfer	0.24	0.00	01-OCT-00:10	43.64	25-OCT-07:40
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	01-OCT-00:10	0.44	26-OCT-12:40
EnergyTransfer:Zone:HOUSE:BEDROOM2	2671.69	0.16	10-JAN-13:20	2378.42	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	2671.48	0.00	01-OCT-08:00	2378.42	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.21	0.00	01-OCT-00:10	32.33	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:BATHROOM	2784.34	3.78	01-OCT-06:30	1663.88	23-JAN-07:00
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	2784.32	0.00	01-OCT-06:10	1663.88	23-JAN-07:00
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.01	0.00	01-OCT-00:10	26.72	19-OCT-06:20
EnergyTransfer:Zone:HOUSE:BEDROOM1	3764.30	0.48	01-OCT-08:00	2800.64	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	3764.29	0.00	01-OCT-08:00	2800.64	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.01	0.00	01-OCT-00:10	11.31	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:HVAC	19564.74	0.00	01-OCT-06:10	14784.88	29-JAN-07:30
CoolingCoils:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatingCoils:EnergyTransfer	19564.74	0.00	01-OCT-06:10	14784.88	29-JAN-07:30
PlantLoopHeatingDemand:HVAC	10517.18	0.00	01-OCT-06:10	9485.65	23-JAN-07:00
HeatingCoils:PlantLoopHeatingDemand	10517.18	0.00	01-OCT-06:10	9485.65	23-JAN-07:00
SolarWater:Facility	5673.38	-2888.3	21-NOV-08:20	13868.21	28-MAR-11:30
SolarWater:Plant	5673.38	-2888.3	21-NOV-08:20	13868.21	28-MAR-11:30
HeatProduced:SolarWater	5673.38	-2888.3	21-NOV-08:20	13868.21	28-MAR-11:30
EnergyTransfer:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Chillers:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatRejection:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	W R
HOUSE:LIVINGROOMANDKITCHEN	11416.739	-0.00	0.000	0.000	0.000	0.000	5333.315	0.000	0.000	1905.281	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	2671.474	-0.02	0.000	0.000	0.000	0.000	1439.417	0.000	0.000	1698.366	0.000	0.000	0.004	0.000	
HOUSE:BATHROOM	2784.319	-0.00	0.000	0.000	0.000	0.000	178.595	0.000	0.000	59.972	0.000	0.091	0.000	0.000	
HOUSE:BEDROOM1	3764.279	-0.00	0.000	0.000	0.000	0.000	1756.546	0.000	0.000	583.799	0.000	0.007	0.001	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	2011.657	0.000	0.000	1347.322	0.000	0.005	0.009	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	2004.783	0.000	0.000	0.000	0.000	42.854	0.021	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.295	209.768	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	196.309	689.148	0.000	
Total Facility	20636.811	-0.02	0.000	0.000	0.000	0.000	12724.313	0.000	0.000	5594.740	0.000	266.561	898.952	0.000	

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	26-OCT-12:35	0.00	-0.0	0.00	0.00	0.00	0.00	1173.00	0.00	0.00	3536.60	0.00	0.00	0.00
HOUSE:BEDROOM2	21-OCT-09:23	0.00	-0.0	0.00	0.00	0.00	0.00	311.92	0.00	0.00	2804.30	0.00	0.00	0.00
HOUSE:BATHROOM	19-OCT-06:20	0.00	-0.0	0.00	0.00	0.00	0.00	252.66	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	20-OCT-07:53	0.00	-0.0	0.00	0.00	0.00	0.00	390.00	0.00	0.00	1887.76	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	20-OCT-07:53	0.00	0.01	0.00	0.00	0.00	0.00	3598.84	0.00	0.00	5387.70	0.00	493.96	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	29-JAN-07:30	8446.54	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	29-JAN-07:30	2378.41	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	23-JAN-07:00	1663.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	29-JAN-07:30	2800.62	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	29-JAN-07:30	15057.56	0.00	0.00	0.00	0.00	0.00	2719.01	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	65.33
Number of hours cooling loads not met	0.00
Number of hours not met	65.33

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.128	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	3289.52	3433.58	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	12.59	7.25	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	265.78	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	3567.90		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	12182.30
Natural Gas	0.00	0.00
Total	0.00	12182.30
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	458.30
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	458.30
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	3.15
Space Cooling	0.00
Fans-Interior	0.25
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.01
Subtotal	3.42

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	92.20
Space Cooling	0.00
Fans-Interior	7.45
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.35

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.269703	3.37
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.269703	12.37
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.269703

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:08:54**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	458.30	0.00	0.00	458.30
Cost per Total Building Area [£/ft2]	0.44	0.00	0.00	0.44
Cost per Net Conditioned Building Area [£/ft2]	0.51	0.00	0.00	0.51

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	458.30
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-19 02:08:54**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	101.75	105.59	62.48	0.00	0.00	0.00	0.00	0.00	0.00	21.12	33.61	103.62	428.18	105.59
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	104.26	108.10	64.99	2.51	2.51	2.51	2.51	2.51	2.51	23.63	36.12	106.13	458.30	108.10
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	104.26	108.10	64.99	2.51	2.51	2.51	2.51	2.51	2.51	23.63	36.12	106.13	458.30	108.10
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	104.26	108.10	64.99	2.51	2.51	2.51	2.51	2.51	2.51	23.63	36.12	106.13	458.30	108.10

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	101.75	105.59	62.48	0.00	0.00	0.00	0.00	0.00	0.00	21.12	33.61	103.62	428.18	105.59	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92
TotalDemand	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
PeakEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92
PeakDemand	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92
PeakAndShoulderDemand	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
PeakAndMidPeakEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92
PeakAndMidPeakDemand	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	847.95	879.92	520.69	0.00	0.00	0.00	0.00	0.00	0.00	176.03	280.10	863.50	3568.18	879.92
PeakAndOffPeakDemand	3.50	3.29	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.7213	1.24	3.39	14.34	3.50
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-19 02:08:54**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00

IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix N: Part 1 - Design Day Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 03:01**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-19 03:01:42**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	671.18	0.64	0.75
Net Site Energy	671.18	0.64	0.75
Total Source Energy	2125.62	2.04	2.36
Net Source Energy	2125.62	2.04	2.36

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	634.04	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	34.90	0.00	0.00	0.00	0.00	0.00
Pumps	2.23	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	671.18	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	634.04	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	34.90	0.00	0.00	0.00	0.00	0.00
Pumps	General	2.23	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	0.75	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.75	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	0.64	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.64	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	671.178	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	671.178	100.00
Total On-Site and Utility Electric Sources	671.178	100.00
Total Electricity End Uses	671.178	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	478.64	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	478.64	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	9.00
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	168.00

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

Economics Results Summary Report

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 03:01
RunPeriod	XYLA PLATFORM (13-01:19-01)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	168.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	14-JAN-07:19	-	-	-	-	-
Heating	8.30	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.02	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	8.52	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	8.30	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.02	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Values gathered over 168.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	2008.01	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	110.54	0.00	0.00	0.00	0.00
Pumps	7.07	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	2125.62	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	2.23	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.12	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	2.36	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	2.23	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	0.12	0.00	0.00	0.00	0.00
Pumps	0.01	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	2.36	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	3.000784	5.39	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outc Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (13-01:19-01) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (13-01:19-01) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity R at Peak [[lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (13-01:19-01)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	168.00	168.00	168.00
HOUSE:BEDROOM2	146.00	168.00	146.00
HOUSE:BATHROOM	49.00	49.00	49.00
HOUSE:BEDROOM1	168.00	168.00	168.00
HOUSE:PORCH	168.00	168.00	168.00
1CARGARRAGE:ZONE1	70.00	70.00	70.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	168.00	168.00	168.00

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	27.17	0.00	9.00	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	27.17	0.00	9.00	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.685	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.685	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.688	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.685	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.023	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.023	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.029	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.023	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	10	10
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1615
Defaulted Fields	38
Fields with Defaults	3484
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	202

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
Electricity:Plant	0.65	0.55	16-JAN-14:20	10.78	13-JAN-07:20
WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Building	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Fans:Electricity	10.22	60.85	15-JAN-19:50	60.85	13-JAN-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityPurchased:Facility	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
ElectricityPurchased:Plant	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
Cogeneration:ElectricityPurchased	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
ElectricitySurplusSold:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricitySurplusSold:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
ElectricityNet:Facility	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
ElectricityNet:Plant	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
Cogeneration:ElectricityNet	196.57	397.83	16-JAN-14:10	2496.25	14-JAN-07:20
Electricity:HVAC	195.92	391.90	16-JAN-14:10	2491.07	14-JAN-07:20
General:Fans:Electricity	10.22	60.85	15-JAN-19:50	60.85	13-JAN-00:10
Cooling:Electricity	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:Electricity	185.70	331.05	16-JAN-14:10	2430.23	14-JAN-07:20
Pumps:Electricity	0.65	0.55	16-JAN-14:20	10.78	13-JAN-07:20

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:Water	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Facility	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
MainsWater:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	13-JAN-00:10	0.000	13-JAN-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	1565.37	1221.76	13-JAN-07:50	47637.75	18-JAN-07:50
PlantLoopHeatingDemand:Plant	482.38	0.00	13-JAN-00:10	38181.00	18-JAN-07:50
WaterSystems:PlantLoopHeatingDemand	482.38	0.00	13-JAN-00:10	38181.00	18-JAN-07:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	482.38	0.00	13-JAN-00:10	38181.00	18-JAN-07:50
EnergyTransfer:Facility	3246.51	7361.15	16-JAN-14:00	28534.78	19-JAN-06:00
EnergyTransfer:Building	1645.49	3805.24	16-JAN-14:00	14410.84	19-JAN-06:00
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	923.33	2030.65	16-JAN-14:00	7944.83	19-JAN-06:00
Heating:EnergyTransfer	1645.49	3805.24	16-JAN-14:00	14410.84	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	923.33	2030.65	16-JAN-14:00	7944.83	19-JAN-06:00
Cooling:EnergyTransfer	0.00	0.00	13-JAN-00:10	2.77	16-JAN-12:30
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM2	213.46	5.50	16-JAN-12:20	2206.51	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	213.46	3.84	16-JAN-12:30	2206.51	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.00	0.00	13-JAN-00:10	2.77	16-JAN-12:30
EnergyTransfer:Zone:HOUSE:BATHROOM	198.89	557.86	13-JAN-07:20	1643.02	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	198.89	557.86	13-JAN-07:20	1643.02	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:BEDROOM1	309.81	923.25	16-JAN-14:00	2616.48	19-JAN-06:00
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	309.81	923.25	16-JAN-14:00	2616.48	19-JAN-06:00
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
EnergyTransfer:HVAC	1601.02	3555.92	16-JAN-14:00	14123.94	19-JAN-06:00
CoolingCoils:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatingCoils:EnergyTransfer	1601.02	3555.92	16-JAN-14:00	14123.94	19-JAN-06:00
PlantLoopHeatingDemand:HVAC	1083.00	1129.17	13-JAN-08:00	10740.24	19-JAN-06:00
HeatingCoils:PlantLoopHeatingDemand	1083.00	1129.17	13-JAN-08:00	10740.24	19-JAN-06:00
SolarWater:Facility	478.64	-2112.7	19-JAN-08:10	18679.36	14-JAN-10:30
SolarWater:Plant	478.64	-2112.7	19-JAN-08:10	18679.36	14-JAN-10:30
HeatProduced:SolarWater	478.64	-2112.7	19-JAN-08:10	18679.36	14-JAN-10:30
EnergyTransfer:Plant	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
Chillers:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10
HeatRejection:EnergyTransfer	0.00	0.00	13-JAN-00:10	0.00	13-JAN-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	Wi Re [
HOUSE:LIVINGROOMANDKITCHEN	923.333	0.000	0.000	0.000	0.000	0.000	206.011	0.000	0.000	96.331	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	213.455	-0.00	0.000	0.000	0.000	0.000	56.206	0.000	0.000	96.506	0.000	0.000	0.000	0.000	
HOUSE:BATHROOM	198.891	0.000	0.000	0.000	0.000	0.000	6.943	0.000	0.000	0.492	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM1	309.806	0.000	0.000	0.000	0.000	0.000	67.792	0.000	0.000	19.111	0.000	0.000	0.000	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	82.760	0.000	0.000	61.175	0.000	0.000	0.074	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	77.235	0.000	0.000	0.000	0.000	0.144	0.094	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.180	16.884	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.189	56.472	0.000	
Total Facility	1645.485	-0.00	0.000	0.000	0.000	0.000	496.947	0.000	0.000	273.615	0.000	9.513	73.524	0.000	-:

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	16-JAN-12:25	0.00	-0.0	0.00	0.00	0.00	0.00	329.92	0.00	0.00	3006.63	0.00	0.00	0.00
HOUSE:BATHROOM	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	16-JAN-12:25	0.00	0.37	0.00	0.00	0.00	0.00	3585.17	0.00	0.00	10681.58	0.00	39.17	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	19-JAN-06:00	7944.78	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	19-JAN-06:00	2206.49	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	19-JAN-06:00	1643.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	19-JAN-06:00	2616.47	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	19-JAN-06:00	14410.75	0.00	0.00	0.00	0.00	0.00	2455.51	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (13-01:19-01) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	9.00
Number of hours cooling loads not met	0.00
Number of hours not met	9.00

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.273	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	185.70	2430.23	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	0.65	5.17	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	10.22	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	196.57		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	671.18
Natural Gas	0.00	0.00
Total	0.00	671.18
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	53.71
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	53.71
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	0.18
Space Cooling	0.00
Fans-Interior	0.01
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.00
Subtotal	0.19

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	94.47
Space Cooling	0.00
Fans-Interior	5.20
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.33

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.401059	5.01
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.401059	18.40
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.401059

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 03:01:42**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	53.71	0.00	0.00	53.71
Cost per Total Building Area [£/ft2]	0.05	0.00	0.00	0.05
Cost per Net Conditioned Building Area [£/ft2]	0.06	0.00	0.00	0.06

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	53.71
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-19 03:01:42**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	23.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.59	23.59
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	26.10	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	53.71	26.10
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	26.10	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	53.71	26.10
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	26.10	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	53.71	26.10

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	23.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.59	23.59	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59
TotalDemand	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
PeakEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59
PeakDemand	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59
PeakAndShoulderDemand	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
PeakAndMidPeakEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59
PeakAndMidPeakDemand	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	196.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	196.59	196.59
PeakAndOffPeakDemand	2.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49	2.49
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-19 03:01:42**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00

IsNotWinter	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	11.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Appendix N: Part 2 - Whole Winter Results

Program Version:**EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:48**

Table of Contents

Tabular Output Report in Format: **HTML**

Building: **Building**

Environment: **XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116**

Simulation Timestamp: **2017-04-19 02:48:10**

Report: **Annual Building Utility Performance Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Site and Source Energy

	Total Energy [kBtu]	Energy Per Total Building Area [kBtu/ft2]	Energy Per Conditioned Building Area [kBtu/ft2]
Total Site Energy	9447.54	9.06	10.50
Net Site Energy	9447.54	9.06	10.50
Total Source Energy	29920.36	28.68	33.27
Net Source Energy	29920.36	28.68	33.27

Site to Source Energy Conversion Factors

	Site=>Source Conversion Factor
Electricity	3.167
Natural Gas	1.084
District Cooling	1.056
District Heating	3.613
Steam	0.250
Gasoline	1.050
Diesel	1.050
Coal	1.050
Fuel Oil #1	1.050
Fuel Oil #2	1.050
Propane	1.050
Other Fuel 1	1.000
Other Fuel 2	1.000

Building Area

	Area [ft2]
Total Building Area	1043.24
Net Conditioned Building Area	899.42
Unconditioned Building Area	143.83

End Uses

	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	8500.16	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	39.89	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00

Total End Uses	9447.54	0.00	0.00	0.00	0.00	0.00

Note: Electricity appears to be the principal heating source based on energy usage.

End Uses By Subcategory

	Subcategory	Electricity [kBtu]	Natural Gas [kBtu]	Additional Fuel [kBtu]	District Cooling [kBtu]	District Heating [kBtu]	Water [gal]
Heating	General	8500.16	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	907.49	0.00	0.00	0.00	0.00	0.00
Pumps	General	39.89	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Normalized Metrics

Utility Use Per Conditioned Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	10.50	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	10.50	0.00	0.00	0.00	0.00	0.00

Utility Use Per Total Floor Area

	Electricity Intensity [kBtu/ft2]	Natural Gas Intensity [kBtu/ft2]	Additional Fuel Intensity [kBtu/ft2]	District Cooling Intensity [kBtu/ft2]	District Heating Intensity [kBtu/ft2]	Water Intensity [gal/ft2]
Lighting	0.00	0.00	0.00	0.00	0.00	0.00
HVAC	9.06	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00
Total	9.06	0.00	0.00	0.00	0.00	0.00

Electric Loads Satisfied

	Electricity [kBtu]	Percent Electricity [%]
Fuel-Fired Power Generation	0.000	0.00
High Temperature Geothermal*	0.000	0.00
Photovoltaic Power	0.000	0.00
Wind Power	0.000	0.00
Power Conversion	0.000	0.00
Net Decrease in On-Site Storage	0.000	0.00
Total On-Site Electric Sources	0.000	0.00
Electricity Coming From Utility	9447.540	100.00
Surplus Electricity Going To Utility	0.000	0.00
Net Electricity From Utility	9447.540	100.00
Total On-Site and Utility Electric Sources	9447.540	100.00
Total Electricity End Uses	9447.540	100.00

On-Site Thermal Sources

	Heat [kBtu]	Percent Heat [%]
Water-Side Heat Recovery	0.00	0.00
Air to Air Heat Recovery for Cooling	0.00	0.00
Air to Air Heat Recovery for Heating	0.00	0.00
High-Temperature Geothermal*	0.00	0.00
Solar Water Thermal	6928.41	100.00
Solar Air Thermal	0.00	0.00

Total On-Site Thermal Sources	6928.41	100.00

Water Source Summary

	Water [gal]	Percent Water [%]
Rainwater Collection	0.00	-
Condensate Collection	0.00	-
Groundwater Well	0.00	-
Total On Site Water Sources	0.00	-
-	-	-
Initial Storage	0.00	-
Final Storage	0.00	-
Change in Storage	0.00	-
-	-	-
Water Supplied by Utility	0.00	-
-	-	-
Total On Site, Change in Storage, and Utility Water Sources	0.00	-
Total Water End Uses	0.00	-

Setpoint Not Met Criteria

	Degrees [deltaF]
Tolerance for Zone Heating Setpoint Not Met Time	2.00
Tolerance for Zone Cooling Setpoint Not Met Time	2.00

Comfort and Setpoint Not Met Summary

	Facility [Hours]
Time Setpoint Not Met During Occupied Heating	17.67
Time Setpoint Not Met During Occupied Cooling	0.00
Time Not Comfortable Based on Simple ASHRAE 55-2004	4338.33

Note 1: An asterisk (*) indicates that the feature is not yet implemented.

Table of Contents

Tariff Report

Economics Results Summary Report

Report: **Input Verification and Results Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

General

	Value
Program Version and Build	EnergyPlus, Version 8.5.0-c87e61b44b, YMD=2017.04.19 02:48
RunPeriod	XYLA PLATFORM (01-10:31-03)
Weather File	Lebanon Municipal NH USA TMY3 WMO#=726116
Latitude [deg]	43.63
Longitude [deg]	-72.3

Elevation [ft]	597.14
Time Zone	-5.0
North Axis Angle [deg]	0.00
Rotation for Appendix G [deg]	0.00
Hours Simulated [hrs]	4368.00

ENVELOPE

Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Above Ground Wall Area [ft2]	2184.70	639.68	452.67	639.68	452.67
Window Opening Area [ft2]	255.78	75.44	46.87	102.33	31.15
Gross Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88
Above Ground Window-Wall Ratio [%]	11.71	11.79	10.35	16.00	6.88

Conditioned Window-Wall Ratio

	Total	North (315 to 45 deg)	East (45 to 135 deg)	South (135 to 225 deg)	West (225 to 315 deg)
Gross Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Above Ground Wall Area [ft2]	1040.52	310.76	274.42	310.76	144.59
Window Opening Area [ft2]	175.76	35.43	46.87	62.32	31.15
Gross Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55
Above Ground Window-Wall Ratio [%]	16.89	11.40	17.08	20.05	21.55

Skylight-Roof Ratio

	Total
Gross Roof Area [ft2]	2127.51
Skylight Area [ft2]	0.00
Skylight-Roof Ratio [%]	0.00

PERFORMANCE

Zone Summary

	Area [ft2]	Conditioned (Y/N)	Part of Total Floor Area (Y/N)	Volume [ft3]	Multipliers	Gross Wall Area [ft2]	Window Glass Area [ft2]	Lighting [Btu/h-ft2]	People [ft2 per person]	Plug and Process [Btu/h-ft2]
HOUSE:LIVINGROOMANDKITCHEN	491.93	Yes	Yes	4468.59	1.00	480.68	37.02	0.0000	107.65	0.0000
HOUSE:BEDROOM2	139.04	Yes	Yes	1263.02	1.00	235.15	27.10	0.0000	107.65	0.0000
HOUSE:BATHROOM	100.85	Yes	Yes	916.11	1.00	65.89	10.05	0.0000	107.65	0.0000
HOUSE:BEDROOM1	167.59	Yes	Yes	1522.38	1.00	258.81	23.54	0.0000	107.65	0.0000
HOUSE:PORCH	143.83	No	Yes	1306.49	1.00	220.29	35.38	0.0000	107.65	0.0000
1CARGARRAGE:ZONE1	289.90	No	No	2250.05	1.00	567.38	0.00		107.65	
RFFRGRRGANDPT:ZONE1	463.13	No	No	1040.11	1.00	45.00	0.00		107.65	
ROOFFORHOUSE:ZONE1	911.91	No	No	4117.00	1.00	311.51	0.00		107.65	
Total	1043.24			9476.59		1260.81	133.09	0.0000	107.65	0.0000
Conditioned Total	899.42			8170.10		1040.52	97.71	0.0000	107.65	0.0000
Unconditioned Total	1808.77			8713.65		1144.18	35.38	0.0000	107.65	0.0000
Not Part of Total	1664.94			7407.16		923.89	0.00	0.0000	107.65	0.0000

Report: **Demand End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

End Uses

	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Time of Peak	15-FEB-04:00	-	-	-	-	-
Heating	9.62	0.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Fans	0.21	0.00	0.00	0.00	0.00	0.00

Pumps	0.04	0.00	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00	0.00
Total End Uses	9.86	0.00	0.00	0.00	0.00	0.00

End Uses By Subcategory

	Subcategory	Electricity [kBtuh]	Natural Gas [kBtuh]	Propane [kBtuh]	District Cooling [kBtuh]	Steam [kBtuh]	Water [gal/min]
Heating	General	9.62	0.00	0.00	0.00	0.00	0.00
Cooling	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	General	0.00	0.00	0.00	0.00	0.00	0.00
Interior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	General	0.00	0.00	0.00	0.00	0.00	0.00
Fans	Ventilation (simple)	0.00	0.00	0.00	0.00	0.00	0.00
	General	0.21	0.00	0.00	0.00	0.00	0.00
Pumps	General	0.04	0.00	0.00	0.00	0.00	0.00
Heat Rejection	General	0.00	0.00	0.00	0.00	0.00	0.00
Humidification	General	0.00	0.00	0.00	0.00	0.00	0.00
Heat Recovery	General	0.00	0.00	0.00	0.00	0.00	0.00
Water Systems	Water Heater	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration	General	0.00	0.00	0.00	0.00	0.00	0.00
Generators	General	0.00	0.00	0.00	0.00	0.00	0.00

Report: **Source Energy End Use Components Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Values gathered over 4368.00 hours

WARNING: THE REPORT DOES NOT REPRESENT A FULL ANNUAL SIMULATION.

Source Energy End Use Components Summary

	Source Electricity [kBtu]	Source Natural Gas [kBtu]	Source Additional Fuel [kBtu]	Source District Cooling [kBtu]	Source District Heating [kBtu]
Heating	26920.00	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	2874.04	0.00	0.00	0.00	0.00
Pumps	126.33	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	29920.36	0.00	0.00	0.00	0.00

Normalized Metrics

Source Energy End Use Components Per Conditioned Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	29.93	0.00	0.00	0.00	0.00

Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.14	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	33.27	0.00	0.00	0.00	0.00

Source Energy End Use Components Per Total Floor Area

	Source Electricity [kBtu/ft2]	Source Natural Gas [kBtu/ft2]	Source Additional Fuel [kBtu/ft2]	Source District Cooling [kBtu/ft2]	Source District Heating [kBtu/ft2]
Heating	29.93	0.00	0.00	0.00	0.00
Cooling	0.00	0.00	0.00	0.00	0.00
Interior Lighting	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00
Interior Equipment	0.00	0.00	0.00	0.00	0.00
Exterior Equipment	0.00	0.00	0.00	0.00	0.00
Fans	3.20	0.00	0.00	0.00	0.00
Pumps	0.14	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00
Humidification	0.00	0.00	0.00	0.00	0.00
Heat Recovery	0.00	0.00	0.00	0.00	0.00
Water Systems	0.00	0.00	0.00	0.00	0.00
Refrigeration	0.00	0.00	0.00	0.00	0.00
Generators	0.00	0.00	0.00	0.00	0.00
Total Source Energy End Use Components	33.27	0.00	0.00	0.00	0.00

Report: **Climatic Data Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

SizingPeriod:DesignDay

	Maximum Dry Bulb [F]	Daily Temperature Range [deltaF]	Humidity Value	Humidity Type	Wind Speed [ft/min]	Wind Direction
SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL	85.82	21.96	69.80	Wetbulb [F]	0.00	0.00
WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	-8.5	0.00	-8.5	Wetbulb [F]	1673.31	0.00

Weather Statistics File

	Value
None	

Report: **Envelope Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Opaque Exterior

	Construction	Reflectance	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Net Area [ft2]	Azimuth [deg]	Tilt [deg]	Cardinal Direction

HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	135.10	123.29	0.00	90.00	N
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	144.59	113.44	270.00	90.00	W
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	200.99	148.40	180.00	90.00	S
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	244.01	244.01	0.00	180.00	
HOUSE:LIVINGROOMANDKITCHEN_GROUNDFLOOR_0_0_1	PROJECT GROUND FLOOR	0.40	0.063	0.067	305.40	305.40	0.00	180.00	
HOUSE:BEDROOM2_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	125.38	109.67	90.00	90.00	E
HOUSE:BEDROOM2_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	78.61	180.00	90.00	S
HOUSE:BEDROOM2_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	166.79	166.79	0.00	180.00	
HOUSE:BATHROOM_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	65.89	54.08	0.00	90.00	N
HOUSE:BATHROOM_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	119.01	119.01	0.00	180.00	
HOUSE:BEDROOM1_WALL_2_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	149.04	117.88	90.00	90.00	E
HOUSE:BEDROOM1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	109.77	97.96	0.00	90.00	N
HOUSE:BEDROOM1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	198.26	198.26	0.00	180.00	
HOUSE:PORCH_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	0.00	90.00	N
HOUSE:PORCH_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	110.15	43.16	180.00	90.00	S
HOUSE:PORCH_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	173.30	173.30	0.00	180.00	
1CARGARRAGE:ZONE1_WALL_3_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	218.78	0.00	90.00	N
1CARGARRAGE:ZONE1_WALL_4_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	129.83	88.50	270.00	90.00	W
1CARGARRAGE:ZONE1_WALL_5_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	218.78	205.15	180.00	90.00	S
1CARGARRAGE:ZONE1_GROUNDFLOOR_0_0_0	PROJECT GROUND FLOOR	0.40	0.063	0.067	344.23	344.23	0.00	180.00	
RFFRGRRGANDPT:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	45.00	45.00	270.00	90.00	W
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.29	15.29	0.00	180.00	
RFFRGRRGANDPT:ZONE1_EXTFLOOR_1_1_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.11	35.11	0.00	180.00	
RFFRGRRGANDPT:ZONE1_ROOF_2_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	358.50	358.50	180.00	33.98	
RFFRGRRGANDPT:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	353.80	353.80	0.00	34.50	
ROOFFORHOUSE:ZONE1_WALL_0_0_0	UNITY HOMES WALL 2	0.30	0.032	0.033	178.25	178.25	90.00	90.00	E
ROOFFORHOUSE:ZONE1_WALL_4_1_0	UNITY HOMES WALL 2	0.30	0.032	0.033	133.26	133.26	270.00	90.00	W
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_0	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	15.92	15.92	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_1	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	35.21	35.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_2	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	31.21	31.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_EXTFLOOR_2_5_3	UNITY - FLOORS WOOD-JOIST 9.25 IN. (235MM) R-30 (5.29) U-0.033 (0.19)	0.30	0.023	0.024	36.21	36.21	0.00	180.00	
ROOFFORHOUSE:ZONE1_ROOF_1_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	0.00	34.50	
ROOFFORHOUSE:ZONE1_ROOF_3_0_0	PROJECT UNOCCUPIED PITCHED ROOF	0.30	0.520	0.875	707.60	707.60	180.00	34.50	

Exterior Fenestration

	Construction	Glass Area [ft2]	Frame Area [ft2]	Divider Area [ft2]	Area of One Opening [ft2]	Area of Multiplied Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Frame Conductance [Btu/h-ft2-F]	Divider Conductance [Btu/h-ft2-F]	Shade Control
HOUSE:LIVINGROOMANDKITCHEN_WALL_5_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_7_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_2_0_0_0_0_0_WIN	1001	13.11	2.10	0.50	15.71	15.71	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM2_WALL_5_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.16	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BATHROOM_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_2_0_0_0_0_0_WIN	1001	12.98	2.09	0.50	15.58	31.15	0.137	0.474	0.661	1.673	1.673	No
HOUSE:BEDROOM1_WALL_3_0_0_0_0_0_WIN	1001	9.64	1.75	0.42	11.81	11.81	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_3_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
HOUSE:PORCH_WALL_5_0_0_0_0_0_WIN	1001	17.13	2.31	0.56	20.00	40.01	0.137	0.474	0.661	1.673	1.673	No
Total or Average						255.78	0.137	0.474	0.661			
North Total or Average						75.44	0.137	0.474	0.661			
Non-North Total or Average						180.35	0.137	0.474	0.661			

Interior Fenestration

	Construction	Area of One Opening [ft2]	Area of Openings [ft2]	Glass U-Factor [Btu/h-ft2-F]	Glass SHGC	Glass Visible Transmittance	Parent Surface
Total or Average			0.00	-	-	-	

Exterior Door

	Construction	U-Factor with Film [Btu/h-ft2-F]	U-Factor no Film [Btu/h-ft2-F]	Gross Area [ft2]	Parent Surface
HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	21.43	HOUSE:LIVINGROOMANDKITCHEN_WALL_8_0_0
HOUSE:PORCH_WALL_3_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_3_0_0
HOUSE:PORCH_WALL_5_0_0_2_0_2_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	26.97	HOUSE:PORCH_WALL_5_0_0
1CARGARRAGE:ZONE1_WALL_4_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	41.33	1CARGARRAGE:ZONE1_WALL_4_0_0
1CARGARRAGE:ZONE1_WALL_5_0_0_0_0_0_DOOR	PROJECT EXTERNAL DOOR	0.527	0.956	13.63	1CARGARRAGE:ZONE1_WALL_5_0_0

Report: **Lighting Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Interior Lighting

	Zone	Lighting Power Density [Btu/h-ft2]	Zone Area [ft2]	Total Power [Btu/h]	End Use Subcategory	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Return Air Fraction	Conditioned (Y/N)	Consumption [kWh]
Interior Lighting Total		0.0000	0.00	0.00								0.00

Daylighting

	Zone	Daylighting Type	Control Type	Fraction Controlled	Lighting Installed in Zone [Btu/h]	Lighting Controlled [Btu/h]
None						

Exterior Lighting

	Total Watts	Astronomical Clock/Schedule	Schedule Name	Scheduled Hours/Week [hr]	Hours/Week > 1% [hr]	Full Load Hours/Week [hr]	Consumption [kWh]
Exterior Lighting Total	0.00						0.00

Report: **Equipment Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Central Plant

	Type	Nominal Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]	IPLV in SI Units [Btuh/Btuh]	IPLV in IP Units [Btu/W-h]
CHILLER	Chiller:Electric:EIR	34617.96	5.50	5.96	20.35

Cooling Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Sensible Capacity [Btu/h]	Nominal Latent Capacity [Btu/h]	Nominal Sensible Heat Ratio	Nominal Efficiency [Btuh/Btuh]	Nominal Coil UA Value [W/C]	Nominal Coil Surface Area [ft2]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		62421.51	20114.56	42306.95	0.32	0.00		
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2435.24	2366.90	68.34	0.97	0.00		
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		1698.00	1650.35	47.65	0.97	0.00		
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	Coil:Cooling:WaterToAirHeatPump:EquationFit		2708.62	2632.61	76.01	0.97	0.00		

DX Cooling Coils

	DX Cooling Coil Type	Standard Rated Net Cooling Capacity [ton]	Standard Rated Net COP [Btuh/Btuh]	EER [Btu/W-h]	SEER [Btu/W-h]	IEER [Btu/W-h]
None						

DX Cooling Coil ASHRAE 127 Standard Ratings Report

	DX Cooling Coil Type	Rated Net Cooling Capacity Test A [ton]	Rated Electric Power Test A [W]	Rated Net Cooling Capacity Test B [ton]	Rated Electric Power Test B [W]	Rated Net Cooling Capacity Test C [ton]	Rated Electric Power Test C [W]	Rated Net Cooling Capacity Test D [ton]	Rated Electric Power Test D [W]
None									

DX Heating Coils

	DX Heating Coil Type	High Temperature Heating (net) Rating Capacity [Btu/h]	Low Temperature Heating (net) Rating Capacity [Btu/h]	HSPF [Btu/W-h]	Region Number
None					

Heating Coils

	Type	Design Coil Load [Btu/h]	Nominal Total Capacity [Btu/h]	Nominal Efficiency [Btuh/Btuh]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		62421.51	0.00
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		16999.29	0.00
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		1698.00	0.00
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	Coil:Heating:WaterToAirHeatPump:EquationFit		2708.62	0.00
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		18846.64	1.00
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		5327.81	1.00
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		4111.84	1.00
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	Coil:Heating:Electric		6139.33	1.00

Fans

	Type	Total Efficiency [Btuh/Btuh]	Delta Pressure [psi]	Max Air Flow Rate [ft3/min]	Rated Electric Power [W]	Rated Power Per Max Air Flow Rate [W-min/ft3]	Motor Heat In Air Fraction	End Use
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	502.90	33.91	0.07	1.00	General
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	142.19	9.59	0.07	1.00	General
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	99.14	6.68	0.07	1.00	General
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	Fan:OnOff	0.70	0.01	158.15	10.66	0.07	1.00	General

Pumps

	Type	Control	Head [psi]	Water Flow [gal/min]	Electric Power [W]	Power Per Water Flow Rate [W-min/gal]	Motor Efficiency [Btuh/Btuh]
AUX HW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	4.769811	8.57	1.80	0.90
SOLAR LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	3.000784	5.39	1.80	0.90
CHW LOOP SUPPLY PUMP	Pump:VariableSpeed	Intermittent	2.90	10.449442	18.78	1.80	0.90

Service Water Heating

	Type	Storage Volume [ft3]	Input [Btu/h]	Thermal Efficiency [Btuh/Btuh]	Recovery Efficiency [Btuh/Btuh]	Energy Factor
SOLAR LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.80	0.00	0.00
AUX HW LOOP WATER HEATER	WaterHeater:Mixed	0.00	0.00	0.90	0.00	0.00

Report: **HVAC Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Zone Sensible Cooling

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Outc Humidity R at Peak L [lbWater/lb
						SUMMER DESIGN						

HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.000	96.817	DAY IN XYLA PLATFORM (01-10:31-03) JUL		88.90	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM2	0.00	0.00	0.00	0.000	27.365	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		92.86	32.00	0.00000	85.82	0.0
HOUSE:BATHROOM	0.00	0.00	0.00	0.000	23.818	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		86.59	32.00	0.00000	85.82	0.0
HOUSE:BEDROOM1	0.00	0.00	0.00	0.000	32.984	SUMMER DESIGN DAY IN XYLA PLATFORM (01-10:31-03) JUL		91.04	32.00	0.00000	85.82	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

Zone Sensible Heating

	Calculated Design Load [Btu/h]	User Design Load [Btu/h]	User Design Load per Area [Btu/h-ft2]	Calculated Design Air Flow [ft3/min]	User Design Air Flow [ft3/min]	Design Day Name	Date/Time Of Peak {TIMESTAMP}	Thermostat Setpoint Temperature at Peak Load [F]	Indoor Temperature at Peak Load [F]	Indoor Humidity Ratio at Peak Load [lbWater/lbAir]	Outdoor Temperature at Peak Load [F]	Out Humidity F at Peak [lbWater/lb
HOUSE:LIVINGROOMANDKITCHEN	8587.85	10734.81	21.82	402.321	502.902	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	70.00	0.00374	-8.5	0.0
HOUSE:BEDROOM2	2428.05	3035.07	21.83	113.749	142.186	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00364	-8.5	0.0
HOUSE:BATHROOM	1692.99	2116.24	20.98	79.313	99.141	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00358	-8.5	0.0
HOUSE:BEDROOM1	2700.62	3375.78	20.14	126.518	158.148	WINTER DESIGN DAY IN XYLA PLATFORM (01-10:31-03)	1/15 24:00:00	70.00	69.99	0.00361	-8.5	0.0

The Design Load is the zone sensible load only. It does not include any system effects or ventilation loads.

System Design Air Flow Rates

	Calculated cooling [ft3/min]	User cooling [ft3/min]	Calculated heating [ft3/min]	User heating [ft3/min]
None				

Plant Loop Coincident Design Fluid Flow Rate Adjustments

	Previous Design Volume Flow Rate [ft3/min]	Algorithm Volume Flow Rate [ft3/min]	Coincident Design Volume Flow Rate [ft3/min]	Coincident Size Adjusted	Peak Sizing Period Name	Peak Day into Period {TIMESTAMP}[day]	Peak Hour Of Day {TIMESTAMP}[hr]	Peak Step Start Minute {TIMESTAMP}[min]
None								

Report: **System Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Economizer

	High Limit Shutoff Control	Minimum Outdoor Air [ft3/min]	Maximum Outdoor Air [ft3/min]	Return Air Temp Limit	Return Air Enthalpy Limit	Outdoor Air Temperature Limit [F]	Outdoor Air Enthalpy Limit [F]
None							

Demand Controlled Ventilation using Controller:MechanicalVentilation

	Controller:MechanicalVentilation Name	Outdoor Air Per Person [ft3/min-person]	Outdoor Air Per Area [ft3/min-ft2]	Air Distribution Effectiveness in Cooling Mode	Air Distribution Effectiveness in Heating Mode	Air Distribution Effectiveness Schedule
None						

Time Not Comfortable Based on Simple ASHRAE 55-2004

	Winter Clothes [hr]	Summer Clothes [hr]	Summer or Winter Clothes [hr]
HOUSE:LIVINGROOMANDKITCHEN	3373.50	4363.17	3373.50
HOUSE:BEDROOM2	2945.17	4255.83	2880.67
HOUSE:BATHROOM	1074.83	1274.00	1074.83
HOUSE:BEDROOM1	3506.33	4368.00	3506.33
HOUSE:PORCH	4241.50	4368.00	4241.50
1CARGARRAGE:ZONE1	1820.00	1820.00	1820.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00
Facility	4342.17	4368.00	4338.33

Aggregated over the RunPeriods for Weather

Time Setpoint Not Met

	During Heating [hr]	During Cooling [hr]	During Occupied Heating [hr]	During Occupied Cooling [hr]
HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	59.50	0.00	17.67	0.00
HOUSE:BEDROOM1	0.00	0.00	0.00	0.00
HOUSE:PORCH	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	0.00	0.00	0.00	0.00
Facility	59.50	0.00	17.67	0.00

Aggregated over the RunPeriods for Weather

Report: **Outdoor Air Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Average Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.648	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.648	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.650	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.648	0.000	0.000

Values shown for a single zone without multipliers

Minimum Outdoor Air During Occupied Hours

	Average Number of Occupants	Nominal Number of Occupants	Zone Volume [ft3]	Mechanical Ventilation [ACH]	Infiltration [ACH]	AFN Infiltration [ACH]	Simple Ventilation [ACH]
HOUSE:LIVINGROOMANDKITCHEN	4.57	4.57	4468.59	0.000	0.021	0.000	0.000
HOUSE:BEDROOM2	1.29	1.29	1263.02	0.000	0.021	0.000	0.000
HOUSE:BATHROOM	0.51	0.94	916.11	0.000	0.026	0.000	0.000
HOUSE:BEDROOM1	1.56	1.56	1522.38	0.000	0.021	0.000	0.000

Values shown for a single zone without multipliers

Report: **Object Count Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Surfaces by Class

	Total	Outdoors
Wall	32	16
Floor	22	14
Roof	12	4

Internal Mass	0	0
Building Detached Shading	10	10
Fixed Detached Shading	0	0
Window	10	10
Door	5	5
Glass Door	0	0
Shading	0	0
Overhang	0	0
Fin	0	0
Tubular Daylighting Device Dome	0	0
Tubular Daylighting Device Diffuser	0	0

HVAC

	Count
HVAC Air Loops	0
Conditioned Zones	4
Unconditioned Zones	4
Supply Plenums	0
Return Plenums	0

Input Fields

	Count
IDF Objects	1615
Defaulted Fields	38
Fields with Defaults	3484
Autosized Fields	96
Autosizable Fields	117
Autocalculated Fields	68
Autocalculatable Fields	202

Report: **Energy Meters**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Annual and Peak Values - Electricity

	Electricity Annual Value [kWh]	Electricity Minimum Value [W]	Timestamp of Minimum {TIMESTAMP}	Electricity Maximum Value [W]	Timestamp of Maximum {TIMESTAMP}
Electricity:Facility	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
Electricity:Plant	11.68	0.00	01-OCT-06:10	11.68	15-FEB-05:00
WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Building	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Fans:Electricity	265.78	60.85	01-OCT-22:10	60.85	01-OCT-00:10
Fans:Electricity:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Ventilation (simple):Fans:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityPurchased:Facility	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
ElectricityPurchased:Plant	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
Cogeneration:ElectricityPurchased	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
ElectricitySurplusSold:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricitySurplusSold:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cogeneration:ElectricitySurplusSold	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
ElectricityNet:Facility	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
ElectricityNet:Plant	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
Cogeneration:ElectricityNet	2766.96	60.85	01-OCT-06:10	2888.57	15-FEB-05:00
Electricity:HVAC	2755.27	60.85	01-OCT-06:10	2876.89	15-FEB-05:00
General:Fans:Electricity	265.78	60.85	01-OCT-22:10	60.85	01-OCT-00:10
Cooling:Electricity	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:Electricity	2489.49	0.00	01-OCT-06:10	2816.04	15-FEB-05:00
Pumps:Electricity	11.68	0.00	01-OCT-06:10	11.68	15-FEB-05:00

Annual and Peak Values - Gas

	Gas Annual Value [therm]	Gas Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Gas Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Cooling

	Cooling Annual Value [ton-hrs]	Cooling Minimum Value [ton]	Timestamp of Minimum {TIMESTAMP}	Cooling Maximum Value [ton]	Timestamp of Maximum {TIMESTAMP}
PlantLoopCoolingDemand:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
PlantLoopCoolingDemand:HVAC	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
CoolingCoils:PlantLoopCoolingDemand	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Water

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
Water:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:Water	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Facility	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
MainsWater:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Water Heater:WaterSystems:MainsWater	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Annual and Peak Values - Other by Weight/Mass

	Annual Value [lb]	Minimum Value [lb/s]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [lb/s]	Timestamp of Maximum {TIMESTAMP}
Carbon Equivalent:Facility	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10
CarbonEquivalentEmissions:Carbon Equivalent	0.00	0.000	01-OCT-00:10	0.000	01-OCT-00:10

Annual and Peak Values - Other Volumetric

	Annual Value [ft3]	Minimum Value [ft3/min]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [ft3/min]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other Liquid/Gas

	Annual Value [gal]	Minimum Value [gal]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [gal]	Timestamp of Maximum {TIMESTAMP}
None					

Annual and Peak Values - Other

	Annual Value [kBtu]	Minimum Value [Btu/h]	Timestamp of Minimum {TIMESTAMP}	Maximum Value [Btu/h]	Timestamp of Maximum {TIMESTAMP}
PlantLoopHeatingDemand:Facility	20759.58	0.00	01-OCT-06:10	48588.08	29-JAN-08:00
PlantLoopHeatingDemand:Plant	7592.07	0.00	01-OCT-00:10	39952.40	20-JAN-07:50
WaterSystems:PlantLoopHeatingDemand	7592.07	0.00	01-OCT-00:10	39952.40	20-JAN-07:50
Water Heater:WaterSystems:PlantLoopHeatingDemand	7592.07	0.00	01-OCT-00:10	39952.40	20-JAN-07:50
EnergyTransfer:Facility	40262.74	56.55	18-OCT-13:30	30118.67	29-JAN-07:00
EnergyTransfer:Building	20668.70	56.55	18-OCT-13:30	15204.19	29-JAN-07:00
EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11378.78	10.11	18-OCT-13:30	8412.40	29-JAN-07:30
Heating:EnergyTransfer	20668.47	56.55	18-OCT-13:30	15204.19	29-JAN-07:00
Heating:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	11378.78	10.11	18-OCT-13:30	8412.40	29-JAN-07:30
Cooling:EnergyTransfer	0.24	0.00	01-OCT-00:10	43.64	25-OCT-07:40
Cooling:EnergyTransfer:Zone:HOUSE:LIVINGROOMANDKITCHEN	0.00	0.00	01-OCT-00:10	0.44	26-OCT-12:40
EnergyTransfer:Zone:HOUSE:BEDROOM2	2669.34	0.16	10-JAN-13:20	2377.16	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM2	2669.13	0.00	01-OCT-08:00	2377.16	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM2	0.21	0.00	01-OCT-00:10	32.33	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:BATHROOM	2881.53	3.78	01-OCT-06:30	1715.89	29-JAN-07:00
Heating:EnergyTransfer:Zone:HOUSE:BATHROOM	2881.52	0.00	01-OCT-06:10	1715.89	29-JAN-07:00
Cooling:EnergyTransfer:Zone:HOUSE:BATHROOM	0.01	0.00	01-OCT-00:10	26.72	19-OCT-06:20
EnergyTransfer:Zone:HOUSE:BEDROOM1	3739.05	0.48	01-OCT-08:00	2777.61	29-JAN-07:30
Heating:EnergyTransfer:Zone:HOUSE:BEDROOM1	3739.04	0.00	01-OCT-08:00	2777.61	29-JAN-07:30
Cooling:EnergyTransfer:Zone:HOUSE:BEDROOM1	0.01	0.00	01-OCT-00:10	11.31	25-OCT-07:40
EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Cooling:EnergyTransfer:Zone:HOUSE:PORCH	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:1CARGARRAGE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:RFFRGRRGANDPT:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Heating:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Cooling:EnergyTransfer:Zone:ROOFFORHOUSE:ZONE1	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
EnergyTransfer:HVAC	19594.04	0.00	01-OCT-06:10	14914.48	29-JAN-07:00
CoolingCoils:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatingCoils:EnergyTransfer	19594.04	0.00	01-OCT-06:10	14914.48	29-JAN-07:00
PlantLoopHeatingDemand:HVAC	13167.50	0.00	01-OCT-06:10	11172.36	29-JAN-07:00
HeatingCoils:PlantLoopHeatingDemand	13167.50	0.00	01-OCT-06:10	11172.36	29-JAN-07:00
SolarWater:Facility	6928.41	-4441.9	21-OCT-16:30	20207.92	28-MAR-11:30
SolarWater:Plant	6928.41	-4441.9	21-OCT-16:30	20207.92	28-MAR-11:30
HeatProduced:SolarWater	6928.41	-4441.9	21-OCT-16:30	20207.92	28-MAR-11:30
EnergyTransfer:Plant	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
Chillers:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10
HeatRejection:EnergyTransfer	0.00	0.00	01-OCT-00:10	0.00	01-OCT-00:10

Report: **Sensible Heat Gain Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Annual Building Sensible Heat Gain Components

	HVAC Zone Eq & Other Sensible Air Heating [kBtu]	HVAC Zone Eq & Other Sensible Air Cooling [ton-hrs]	HVAC Terminal Unit Sensible Air Heating [kBtu]	HVAC Terminal Unit Sensible Air Cooling [ton-hrs]	HVAC Input Heated Surface Heating [kBtu]	HVAC Input Cooled Surface Cooling [ton-hrs]	People Sensible Heat Addition [kBtu]	Lights Sensible Heat Addition [kBtu]	Equipment Sensible Heat Addition [kBtu]	Window Heat Addition [kBtu]	Interzone Air Transfer Heat Addition [kBtu]	Infiltration Heat Addition [kBtu]	Opaque Surface Conduction and Other Heat Addition [kBtu]	Equipment Sensible Heat Removal [kBtu]	W R
HOUSE:LIVINGROOMANDKITCHEN	11378.760	-0.00	0.000	0.000	0.000	0.000	5333.313	0.000	0.000	1905.217	0.000	0.000	0.000	0.000	
HOUSE:BEDROOM2	2669.121	-0.02	0.000	0.000	0.000	0.000	1439.405	0.000	0.000	1698.350	0.000	0.000	0.004	0.000	
HOUSE:BATHROOM	2881.515	-0.00	0.000	0.000	0.000	0.000	177.423	0.000	0.000	59.851	0.000	0.091	0.000	0.000	
HOUSE:BEDROOM1	3739.034	-0.00	0.000	0.000	0.000	0.000	1756.546	0.000	0.000	583.742	0.000	0.007	0.001	0.000	
HOUSE:PORCH	0.000	0.000	0.000	0.000	0.000	0.000	2011.637	0.000	0.000	1347.280	0.000	0.005	0.009	0.000	
1CARGARRAGE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	2004.783	0.000	0.000	0.000	0.000	42.851	0.021	0.000	
RFFRGRRGANDPT:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.291	209.778	0.000	
ROOFFORHOUSE:ZONE1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	196.172	689.561	0.000	
Total Facility	20668.430	-0.02	0.000	0.000	0.000	0.000	12723.108	0.000	0.000	5594.440	0.000	266.416	899.374	0.000	

Peak Cooling Sensible Heat Gain Components

	Time of Peak {TIMESTAMP}	HVAC Zone Eq & Other Sensible Air Heating [Btu/h]	HVAC Zone Eq & Other Sensible Air Cooling [ton]	HVAC Terminal Unit Sensible Air Heating [Btu/h]	HVAC Terminal Unit Sensible Air Cooling [ton]	HVAC Input Heated Surface Heating [Btu/h]	HVAC Input Cooled Surface Cooling [ton]	People Sensible Heat Addition [Btu/h]	Lights Sensible Heat Addition [Btu/h]	Equipment Sensible Heat Addition [Btu/h]	Window Heat Addition [Btu/h]	Interzone Air Transfer Heat Addition [Btu/h]	Infiltration Heat Addition [Btu/h]	Opaque Surface Conduction and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	26-OCT-12:35	0.00	-0.0	0.00	0.00	0.00	0.00	1173.00	0.00	0.00	3536.60	0.00	0.00	0.00
HOUSE:BEDROOM2	21-OCT-09:23	0.00	-0.0	0.00	0.00	0.00	0.00	311.92	0.00	0.00	2804.30	0.00	0.00	0.00
HOUSE:BATHROOM	19-OCT-06:20	0.00	-0.0	0.00	0.00	0.00	0.00	252.66	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	20-OCT-07:53	0.00	-0.0	0.00	0.00	0.00	0.00	390.00	0.00	0.00	1887.76	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	20-OCT-07:53	0.00	0.01	0.00	0.00	0.00	0.00	3598.84	0.00	0.00	5387.70	0.00	493.96	0.00

Peak Heating Sensible Heat Gain Components

		HVAC Zone Eq & Other	HVAC Zone Eq & Other	HVAC Terminal Unit	HVAC Terminal Unit	HVAC Input	HVAC Input	People Sensible	Lights Sensible	Equipment Sensible	Window	Interzone Air	Infiltration	Opaque Surface Conduction

	Time of Peak {TIMESTAMP}	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Sensible Air Heating [Btu/h]	Sensible Air Cooling [ton]	Heated Surface Heating [Btu/h]	Cooled Surface Cooling [ton]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Heat Addition [Btu/h]	Transfer Heat Addition [Btu/h]	Heat Addition [Btu/h]	and Other Heat Addition [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN	29-JAN-07:30	8412.33	0.00	0.00	0.00	0.00	0.00	1225.39	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM2	29-JAN-07:30	2377.15	0.00	0.00	0.00	0.00	0.00	334.54	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BATHROOM	29-JAN-07:00	1715.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:BEDROOM1	29-JAN-07:30	2777.59	0.00	0.00	0.00	0.00	0.00	403.24	0.00	0.00	0.00	0.00	0.00	0.00
HOUSE:PORCH	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1CARGARRAGE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RFFRGRRGANDPT:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROOFFORHOUSE:ZONE1	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Facility	29-JAN-07:00	15204.04	0.00	0.00	0.00	0.00	0.00	2455.51	0.00	0.00	0.00	0.00	0.00	0.00

Report: **LEED Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Sec1.1A-General Information

	Data
Weather File	XYLA PLATFORM (01-10:31-03) ** Lebanon Municipal NH USA TMY3 WMO#=726116
HDD and CDD data source	Weather File Stat
Total gross floor area [ft2]	1043.24
Principal Heating Source	Electricity

EAp2-1. Space Usage Type

	Space Area [ft2]	Regularly Occupied Area [ft2]	Unconditioned Area [ft2]	Typical Hours/Week in Operation [hr/wk]
HOUSE:LIVINGROOMANDKITCHEN	491.93	491.93	0.00	168.00
HOUSE:BEDROOM2	139.04	139.04	0.00	168.00
HOUSE:BATHROOM	100.85	100.85	0.00	49.00
HOUSE:BEDROOM1	167.59	167.59	0.00	168.00
HOUSE:PORCH	143.83	0.00	143.83	168.00
1CARGARRAGE:ZONE1	289.90	0.00	289.90	70.00
RFFRGRRGANDPT:ZONE1	463.13	0.00	463.13	0.00
ROOFFORHOUSE:ZONE1	911.91	0.00	911.91	0.00
Totals	1043.24	899.42	1808.77	

EAp2-2. Advisory Messages

	Data
Number of hours heating loads not met	17.67
Number of hours cooling loads not met	0.00
Number of hours not met	17.67

EAp2-3. Energy Type Summary

	Utility Rate	Virtual Rate [$/unit energy]	Units of Energy	Units of Demand
Electricity	COPY OF FLAT ELECTRICITY CHARGE	0.131	kWh	kW
Natural Gas	COPY OF FLAT GAS CHARGE		kWh	kW/Hr
Other				

EAp2-4/5. Performance Rating Method Compliance

	Electric Energy Use [kWh]	Electric Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]	Additional Energy Use [kBtu]	Additional Demand [Btu/h]
Interior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Exterior Lighting	0.00	0.00	0.00	0.00	0.00	0.00
Space Heating	2489.49	2816.04	0.00	0.00	0.00	0.00
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00
Pumps	11.68	11.68	0.00	0.00	0.00	0.00
Heat Rejection	0.00	0.00	0.00	0.00	0.00	0.00
Fans-Interior	265.78	60.85	0.00	0.00	0.00	0.00
Fans-Parking Garage	0.00	0.00	0.00	0.00	0.00	0.00
Service Water Heating	0.00	0.00	0.00	0.00	0.00	0.00

Receptacle Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Interior Lighting (process)	0.00	0.00	0.00	0.00	0.00	0.00
Refrigeration Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Cooking	0.00	0.00	0.00	0.00	0.00	0.00
Industrial Process	0.00	0.00	0.00	0.00	0.00	0.00
Elevators and Escalators	0.00	0.00	0.00	0.00	0.00	0.00
Total Line	2766.96		0.00		0.00	

EAp2-6. Energy Use Summary

	Process Subtotal [kBtu]	Total Energy Use [kBtu]
Electricity	0.00	9447.54
Natural Gas	0.00	0.00
Total	0.00	9447.54
Additional	0.00	0.00

EAp2-7. Energy Cost Summary

	Process Subtotal [$]	Total Energy Cost [$]
Electricity	0.00	362.18
Natural Gas	0.00	0.00
Other		0.00
Total	0.00	362.18
Additional	0.00	

Process energy cost based on ratio of process to total energy.

L-1. Renewable Energy Source Summary

	Rated Capacity [kW]	Annual Energy Generated [kBtu]
Photovoltaic	0.00	0.00
Wind	0.00	0.00

EAp2-17a. Energy Use Intensity - Electricity

	Electricty [kWh/ft2]
Interior Lighting	0.00
Space Heating	2.39
Space Cooling	0.00
Fans-Interior	0.25
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.01
Subtotal	2.65

EAp2-17b. Energy Use Intensity - Natural Gas

	Natural Gas [kBtu/ft2]
Space Heating	0.00
Service Water Heating	0.00
Miscellaneous	0.00
Subtotal	0.00

EAp2-17c. Energy Use Intensity - Additional

	Additional [kBtu/ft2]
Miscellaneous	0.00
Subtotal	0.00

EAp2-18. End Use Percentage

	Percent [%]
Interior Lighting	0.00
Space Heating	89.97
Space Cooling	0.00
Fans-Interior	9.61
Service Water Heating	0.00
Receptacle Equipment	0.00
Miscellaneous	0.42

Report: **Component Sizing Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

ZoneHVAC:WaterToAirHeatPump

	Design Size Cooling Supply Air Flow Rate [ft3/min]	Design Size Heating Supply Air Flow Rate [ft3/min]	Design Size No Load Supply Air Flow Rate [ft3/min]	Design Size Maximum Supply Air Temperature from Supplemental Heater [F]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP	502.90	502.90	502.90	89.99
HOUSE:BEDROOM2 WATERTOAIR HP	142.19	142.19	142.19	89.99
HOUSE:BATHROOM WATERTOAIR HP	99.14	99.14	99.14	89.99
HOUSE:BEDROOM1 WATERTOAIR HP	158.15	158.15	158.15	89.99

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:COOLING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Total Cooling Capacity [ton]	Design Size Rated Sensible Cooling Capacity [ton]	Design Size Rated Water Flow Rate [gal/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP COOLING COIL	502.90	5.20	1.68	18.83
HOUSE:BEDROOM2 WATERTOAIR HP HP COOLING COIL	142.19	0.202937	0.197242	0.734787
HOUSE:BATHROOM WATERTOAIR HP HP COOLING COIL	99.14	0.141500	0.137529	0.512339
HOUSE:BEDROOM1 WATERTOAIR HP HP COOLING COIL	158.15	0.225718	0.219384	0.817273

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

COIL:HEATING:WATERTOAIRHEATPUMP:EQUATIONFIT

	Design Size Rated Air Flow Rate [ft3/min]	Design Size Rated Heating Capacity [Btu/h]	Design Size Rated Water Flow Rate [gal/min]	User-Specified Rated Heating Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HP HEATING COIL	502.90	62421.51	7.10	
HOUSE:BEDROOM2 WATERTOAIR HP HP HEATING COIL	142.19	2435.24	1.93	16999.29
HOUSE:BATHROOM WATERTOAIR HP HP HEATING COIL	99.14	1698.00	0.193234	
HOUSE:BEDROOM1 WATERTOAIR HP HP HEATING COIL	158.15	2708.62	0.308242	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Fan:OnOff

	Design Size Maximum Flow Rate [ft3/min]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP SUPPLY FAN	502.90
HOUSE:BEDROOM2 WATERTOAIR HP SUPPLY FAN	142.19
HOUSE:BATHROOM WATERTOAIR HP SUPPLY FAN	99.14
HOUSE:BEDROOM1 WATERTOAIR HP SUPPLY FAN	158.15

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Coil:Heating:Electric

	Design Size Nominal Capacity [Btu/h]
HOUSE:LIVINGROOMANDKITCHEN WATERTOAIR HP HEATING COIL	18846.64
HOUSE:BEDROOM2 WATERTOAIR HP HEATING COIL	5327.81
HOUSE:BATHROOM WATERTOAIR HP HEATING COIL	4111.84
HOUSE:BEDROOM1 WATERTOAIR HP HEATING COIL	6139.33

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

PlantLoop

	Maximum Loop Flow Rate [ft3/min]	Plant Loop Volume [ft3]
AUX HW LOOP	0.637492	7.97
SOLAR LOOP	0.401059	5.01
CHW LOOP	1.40	17.46

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Pump:VariableSpeed

	Design Flow Rate [ft3/min]	Design Power Consumption [Btu/h]
AUX HW LOOP SUPPLY PUMP	0.637492	29.25
SOLAR LOOP SUPPLY PUMP	0.401059	18.40
CHW LOOP SUPPLY PUMP	1.40	64.08

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

WaterHeater:Mixed

	Use Side Design Flow Rate [ft3/min]	Source Side Design Flow Rate [ft3/min]
SOLAR LOOP WATER HEATER	0.637492	0.401059

AUX HW LOOP WATER HEATER	0.637492	

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Chiller:Electric:EIR

	Design Size Reference Chilled Water Flow Rate [gal/min]	Design Size Reference Capacity [Btu/h]	User-Specified Reference Condenser Water Flow Rate [gal/min]
CHILLER	10.45	34617.96	17.44

User-Specified values were used. Design Size values were used if no User-Specified values were provided.

Report: **Adaptive Comfort Summary**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Time Not Meeting the Adaptive Comfort Models during Occupied Hours

	ASHRAE55 90% Acceptability Limits [Hours]	ASHRAE55 80% Acceptability Limits [Hours]	CEN15251 Category I Acceptability Limits [Hours]	CEN15251 Category II Acceptability Limits [Hours]	CEN15251 Category III Acceptability Limits [Hours]

Report: **Economics Results Summary Report**

Table of Contents

For: **Entire Facility**

Timestamp: **2017-04-19 02:48:10**

Annual Cost

	Electric	Gas	Other	Total
Cost [£]	362.18	0.00	0.00	362.18
Cost per Total Building Area [£/ft2]	0.35	0.00	0.00	0.35
Cost per Net Conditioned Building Area [£/ft2]	0.40	0.00	0.00	0.40

Tariff Summary

	Selected	Qualified	Meter	Buy or Sell	Group	Annual Cost (£)
COPY OF FLAT ELECTRICITY CHARGE	Yes	Yes	ELECTRICITY:FACILITY	Buy	(none)	362.18
COPY OF FLAT GAS CHARGE	Yes	Yes	GAS:FACILITY	Buy	(none)	0.00

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT ELECTRICITY CHARGE**

Timestamp: **2017-04-19 02:48:10**

General

	Parameter
Meter	ELECTRICITY:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	74.82	78.80	52.93	0.00	0.00	0.00	0.00	0.00	0.00	20.39	31.19	73.93	332.06	78.80
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	30.12	2.51
Basis (£)	77.33	81.31	55.44	2.51	2.51	2.51	2.51	2.51	2.51	22.90	33.70	76.44	362.18	81.31
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	77.33	81.31	55.44	2.51	2.51	2.51	2.51	2.51	2.51	22.90	33.70	76.44	362.18	81.31
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	77.33	81.31	55.44	2.51	2.51	2.51	2.51	2.51	2.51	22.90	33.70	76.44	362.18	81.31

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATELECTRICITYCHARGE (£)	74.82	78.80	52.93	0.00	0.00	0.00	0.00	0.00	0.00	20.39	31.19	73.93	332.06	78.80	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67
TotalDemand	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
PeakEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67
PeakDemand	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00
IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67
PeakAndShoulderDemand	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
PeakAndMidPeakEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67
PeakAndMidPeakDemand	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	623.51	656.67	441.08	0.00	0.00	0.00	0.00	0.00	0.00	169.95	259.89	616.07	2767.17	656.67
PeakAndOffPeakDemand	2.43	2.88	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.6283	0.9529	2.73	11.67	2.88
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATELECTRICITYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATELECTRICITYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes

Report: **Tariff Report**

Table of Contents

For: **COPY OF FLAT GAS CHARGE**

Timestamp: **2017-04-19 02:48:10**

General

	Parameter
Meter	GAS:FACILITY
Selected	Yes
Group	(none)
Qualified	Yes
Disqualifier	n/a
Computation	automatic
Units	kWh

Categories

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
EnergyCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DemandCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ServiceCharges (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Basis (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adjustment (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surcharge (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Taxes (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max	Category
FLATGASENERGYCHARGE (£)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EnergyCharges

Corresponding Sources for Charges

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ratchets

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Qualifies

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max

Native Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
TotalEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TotalDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsOffPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OffPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsMidPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MidPeakExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakExceedsShoulder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderExceedsPeak	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsWinter	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	6.00	1.00

IsNotWinter	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	0.00	6.00	1.00
IsSpring	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSpring	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsSummer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotSummer	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
IsAutumn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IsNotAutumn	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	12.00	1.00
PeakAndShoulderEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndShoulderDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndMidPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ShoulderAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PeakAndOffPeakDemand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RealTimePriceCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseCosts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AboveCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BelowCustomerBaseEnergy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Other Variables

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum	Max
NotIncluded	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Computation - Automatic

FLATGASENERGYCHARGE FROM TotalEnergy
EnergyCharges SUM FLATGASENERGYCHARGE
Basis SUM EnergyCharges DemandCharges ServiceCharges
Subtotal SUM Basis Adjustment Surcharge
Total SUM Subtotal Taxes