

Final Report
White Earth Community Facilities Solar PV
Project

DE-IE0000044

July 1, 2016 – December 31, 2019

June 4, 2020

Technical Contact: Michael Triplett, Planner,
White Earth Reservation Tribal Council,
P.O. Box 418, White Earth, MN 56591,
218-983-3285

Executive Summary

Funded project was for the design, installation, and performance monitoring of 2 – 11.4 kW AC and 1 – 38.0 kW AC ground-mount solar installations for three tribal community facilities, for a total 60.8 kW AC, including a daycare facility and two community centers. Of in excess of 120 tribal buildings these facilities had showed the best promise for implementing solar, based upon site characteristics, roof loads, roof orientation and building size.

The White Earth Nation seeks to move forward proactively to address the following project goals and objectives: 1) Reduction of energy costs, 2) Increasing energy security for Indian Tribes and tribal members, 3) Adding 60.8 KW in renewable energy generation (solar PV), 4) Offsets, reduces coal-fired electric energy demand by 76,397 kWh, 817,448 Source Energy Btu annually, and 5) Meets the overall solar PV target set in the FOA.

The three-year grant was awarded July 1, 2016 and was extended 6 months to accommodate a full one-year performance monitoring after some delays in the installations. The first year was devoted to the solicitation of and hiring of an engineer, final design, and bidding. The second year was for installation scheduling and the beginning of performance monitoring with the third and final year devoted to performance monitoring.

The design engineer and performance monitoring on this project was Clark Engineering from Minneapolis. The installation was completed by REAL SOLAR, a division of RREAL of Backus, MN.

The solar arrays were completed by July 2018 and the performance modeling was started in 2018 and continued through late 2019. The monitoring report is attached as part of this document. The project was successfully built to deliver the 60.8 kWAC as specified in the funding application.

This project integrates with the cultural, social and long-term energy goals of the Tribe in that it represents a tangible effort on the part of the Tribe to put into practice environmentally sound, low impact, sustainable technologies that is not inconsistent with maintaining cultural traditions or depleting local natural resources while potentially creating new technology-based employment for tribal members.

The greatest anticipated economic benefit to the Tribe is the targeted reduction of about \$8,864.00 exported funds out of the community annually times 30 years, as adjusted for inflation and anticipated increasing power rates, amounting to \$356,207.64, for the purchase of non-renewable fossil fuels allowing the saved funds to be reallocated for much needed programs and projects (including renewable energy projects) to benefit the local Native American community.

Two persons received training or eventual renewable industry employment based upon the skills learned in the installation and operation of the proposed system.

Environmental benefits include the estimated reduction in greenhouse gas emissions including SO₂, NO_x, and CO₂ in tons:

☐ 134 pounds of NO_x annually

☐ 245 pounds of SOX annually

☐ 118,861 pounds of CO2 annually

☐ Grid energy offset in 30 years – 2,056,050 kWh

☐ Tons of CO2 offset in 30 years - 1,563

☐ Equivalent to the greenhouse gas emissions annually from passenger vehicles – 298.8

☐ Equivalent tons of waste not sent to landfill in a year – 508.3

☐ Equivalent acres of forest carbon sequestration – 1,162

☐ Equivalent CO2 from gallons of gasoline burned – 159,531

☐ Equivalent CO2 from pounds of coal burned – 1,522,827

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Project Overview

Funded project was for the design, installation, and performance monitoring of approximate 2 – 11.4 kW AC and 1 – 38.0 kW AC ground-mount solar installations for three tribal community facilities, for a total 60.8 kW AC, including a daycare facility and two community centers. Of in excess of 120 tribal buildings these facilities had showed the best promise for implementing solar, based upon site characteristics, roof loads, roof orientation and building size.

Project locations – Rice Lake Community Center, Rice Lake Daycare Center, Elbow Lake Community Center

Type of technology being proposed – Ground-Mounted Flat Panel Solar Photovoltaic Electric
Rice Lake Community Center – approximately 12-year old building community building, gym, offices, elderly nutrition site, 16,400 s. f., 175,520 kWh electric usage; annually, projected reduction in energy use of 46,214 kWh, or 26.3 percent, or \$5,222.18. Trust status land, 13830 Community Loop, Bagley, MN 56621.

Rice Lake Daycare Center – approximately 30-year old building, daycare, tribal program offices, 3,520 s.f., 52,837 kWh electric usage; annually, projected reduction in energy use of 15,245 kWh, or 28.85 percent, or \$1,814.16. Trust status land, 26209 Water Tower Loop, Bagley, MN 56621,

Elbow Lake Community Center – approximately one-year old building, community building, elderly nutrition site, 2,464 s.f., 30,453 kWh electric usage; annually, projected reduction in energy use of 14,938 kWh, or 49.0 percent, or \$1,628.24. Trust status land, 39988 N Elbow Lake Drive, Waubun, MN 56589.

The estimated overall electric energy reduction is 29.5 percent across the three buildings. Ground-mounted solar PV selected due to inadvisability of using roofs due to weight.

Objectives

This project integrates with the long-term energy goals of the Tribe with implementation of additional facilities of the Tribe achieving a higher degree of self-sufficiency, operational profitability, and reduced dependence upon non-renewable fossil fuels. The White Earth Nation has received and successfully implemented 1) a DOE Tribal Energy Program “First Steps...” grant in 2003 to develop a strategic energy plan/program, 2) a Congressionally-Directed Project – awarded 2005-2007 – for a utility-scale wind turbine, 3) a DOE Tribal Energy Program grant for a feasibility study for a potential biogas/biomass to energy project focuses on reducing the energy and greenhouse gas footprint of the tribal casino – the Shooting Star Casino – the highest energy consuming buildings on the tribal reservation.

The White Earth Band of Chippewa Indians, as governed by the White Earth Reservation Tribal Council (White Earth Business Committee), is a federally-recognized tribe located in northwest

Minnesota with an enrollment of 4,096 on the reservation, 10,000 in the vicinity of the total 17,000 enrolled membership.

The White Earth Reservation encompasses three Minnesota counties; all of Mahnomen and portions of Becker and Clearwater; and contains 36 townships (1,300 square miles).

The White Earth Reservation is one of six member reservations which constitute the Minnesota Chippewa Tribe. The White Earth Reservation Tribal Council obtains its governmental authority through the constitution and bylaws of the Minnesota Chippewa Tribe which was agreed upon by the six tribes/bands on June 14, 1934. The Chairman and Secretary/Treasurer of each of the six Reservations make up the 12-member Tribal Executive Committee. Each of the six Reservations is federally-recognized. The White Earth Reservation is governed by the Reservation Tribal Council which is composed of five elected officials. The Council consists of a tribal chairman/chairwoman, secretary/treasurer, and three district representatives. There are approximately 800 full-time personnel on the tribal payroll. Separately, the tribal casino employment is approximately 1,000. This council exercises management control over the operations of the White Earth Reservation programs and tribal enterprises. The White Earth Reservation has effectively managed federal and state grants since 1965.

The White Earth Nation seeks to move forward proactively to address the following project goals and objectives: 1) Reduction of energy costs, 2) Increasing energy security for Indian Tribes and tribal members, 3) Adding 60.8 KW in renewable energy generation (solar PV), 4) targeted offsets, reduces coal-fired electric energy demand by 76,397 kWh, 817,448 Source Energy Btu annually, and 5) Targeted to meet and exceeds the overall DOE energy saving targets set in the FOA.

Description of Activities Performed

The three-year grant was awarded July 1, 2016 and was extended 6 months to accommodate a full one-year performance monitoring after some delays in the installations. The first year was devoted to the solicitation of and hiring of an engineer, final design, and bidding. The second year was for installation scheduling and the beginning of performance monitoring with the third and final year devoted to performance monitoring.

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Conclusions and Recommendations

This project integrates with the cultural, social and long-term energy goals of the Tribe in that it represents a tangible effort on the part of the Tribe to put into practice environmentally sound, low impact, sustainable technologies that is not inconsistent with maintaining cultural traditions or depleting local natural resources while potentially creating new technology-based employment for tribal members.

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Environmental benefits include the reduction in greenhouse gas emissions including SO₂, NO_x, and CO₂ in tons:

- ☐ 134 pounds of NO_x annually
- ☐ 245 pounds of SO_x annually

- ☐ 118,861 pounds of CO₂ annually
- ☐ Grid energy offset in 30 years – 2,056,050 kWh
- ☐ Tons of CO₂ offset in 30 years - 1,563
- ☐ Equivalent to the greenhouse gas emissions annually from passenger vehicles – 298.8
- ☐ Equivalent tons of waste not sent to landfill in a year – 508.3
- ☐ Equivalent acres of forest carbon sequestration – 1,162
- ☐ Equivalent CO₂ from gallons of gasoline burned – 159,531
- ☐ Equivalent CO₂ from pounds of coal burned – 1,522,827

The Tribe is highly dependent upon federal grants and modest casino net revenue distribution back to the Tribe for tribal program operation. The tribal government relies upon federal funding and a limited revenue stream from the net gaming receipts of the Shooting Star Casino transferred to the tribal government for tribal programs and tribal government operations in the modest vicinity of \$7 million annually.

Acquisition of such grant opportunities as this funding source is critical as the Tribe seeks to leverage outside resources to advance and strengthen its ability to become more self-sustaining and energy efficient.

Lessons Learned

Lessons learned, reinforced:

- 1) Plan, plan, plan – be well-prepared before putting together the grant application
- 2) Communicate, communicate, communicate – over a three to four year roll-out from application through implementation - with changing Tribal leadership keep informed re commitments made never too many assumptions

November 8, 2019

Mike Triplett
Planner
Economic Development Division
White Earth Nation
P.O. Box 418, White Earth, MN 56591

RE: White Earth Solar Performance Documentation
White Earth, MN

Dear Mike:

We have completed gathering available data to document the performance of three solar arrays that were installed in 2018. The three sites include the Rice Lake Community Center, the Elbow Lake Community Center, and the Rice Lake Daycare Center. The actual performance of each array along with location information, predicted performance, energy dollars saved and reductions in Carbon Dioxide emissions is summarized in Attachment A, included with this report. Photos of each site are attached as Attachment B. Attachment C through O document sources and methods used to collect and interpret this data.

Rice Lake Community Center - 41.6 kW DC, 38.0 kW AC

The interconnect agreement for this location was signed on June 14, 2018 with Clearwater Polk Electric Utility. The original installation was planned for 37.05 kW DC, 34.2 kW AC. During construction, the array size was increased to 41.6 kW DC, 38.0 kW AC. Over a 12-month period from August 1, 2018 through July 31, 2019, this array produced 45,660 kWh's of electrical power with a peak power of 38.87 KW AC. During this period, carbon dioxide emissions were reduced by 6.9 tons and utility electrical costs were reduced by \$2,968. This is within 1% of the predicted proposal performance of 46,214 kWh.

Elbow Lake Community Center – 12.35 kW DC, 10.8 kW AC

The interconnect agreement for this location was signed on April 20, 2018 with Wild Rice Electric Utility. Over a 12-month period from August 1, 2018 through July 31, 2019, this array produced 12,394 kWh's of electrical power. Peak power readings were not recorded. During this period, carbon dioxide emissions were reduced by 1.78 tons and utility electrical costs were reduced by \$1,871. This is 17 % below the predicted proposal performance of 14,938 kWh.

The probable reason for this reduction is significant shading that occurs from October to March due to a 72 foot high evergreen tree that exists across the street to the south of the array. From October to March, the lower elevation angle of the sun causes the tree shadow to shade the array during portions of the day. The White Earth Facilities organization is in the process of removing this tree. Refer to Attachments L through O for documentation of this shading issue.

Rice Lake Daycare Center – 12.35 kW DC, 10.8 kW AC

The interconnect agreement for this location was signed on June 14, 2018 with Clearwater Polk Electric Utility. In December of 2018 the facility was closed, and the building was unoccupied until April of 2019 when the facility, including the electrical service, was demolished. The solar array remains.

Solar array production readings were recorded from June 21, 2018 until March 19, 2019 when the electrical service was demolished along with the building. To give a representative 12-month period of expected performance, predicted values from the NREL PVWatts Calculator software was used for February, March and April data. Using this method, over the 12-month period from June 2018 through July, 2019, this array could be expected to produce 12,875 kWh's of electrical power with a peak power of 11.26 kW AC. During this period, carbon dioxide emissions could be expected to be reduced by 6.9 tons and utility electrical costs reduced by \$837. This is 16% below the predicted proposal performance of 15,245 kWh.

The probable reason for this reduced performance is the unoccupied condition of the building from December 2018 to April 2019 and the removal of the electrical service in April 2019. During this period the array was not attended, and it is probable that ice and snow accumulations and other maintenance deficiencies caused the low readings during this period. Peak power readings over this period were as expected and show that the array had the capacity to produce power as predicted.

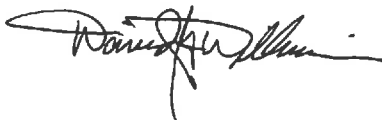
Discussions with Clearwater Polk Electric utility have resulted in arrangements to re-install the electrical service and array production meter. All array production power will then go into the grid and more consistent reading will be available going forward. The service meters were reinstalled in October of 2019.

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- C Rice Lake Community Center Solar One-Line Diagram
- D Rice Lake Community Center Solar Performance Meter Readings
- E Rice Lake Community Center Solar PVWatts Production Calculation
- F Rice Lake Daycare Center Solar One-line Diagram
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- I Elbow Lake Community Center Solar One-line Diagram
- J Elbow Lake Community Center Solar Monthly Performance Meter Readings
- K Elbow Lake Community Center Solar PVWatts Production Calculation
- L Solar Elevation And Azimuth Angles – October 18
- M Solar Elevation and Azimuth Angles – September 30
- N Solar Elevation and Azimuth Angles - March 10
- O Shading Documentation Elbow Lake Community Center Solar Array

Snow and ice buildup also reduced output during the winter. It is recommended that the arrays be swept when snow accumulates to increase power. Thank you for your time and consideration. If you have any comments or questions, please feel free to contact me directly at (612) 859-1202.

Sincerely,
Clark Engineering Corporation



Electrical Engineer.

Appendix A
White Earth Solar Performance Documentation

11/4/2015

Rice Lake Community Center

Address 13830 Community Loop, Bagley, MN 56621
 Latitude and Longitude 47.41, -95.5
 Install Date 6/14/2018
 Installed Capacity 41.6/38
 Utility Average Rate 0.068

Actual Production Meter Results/Month
 PV Watts Production Prediction/Month
 Percent above or below (-) PV Watts per Month
 Peak AC Power/Month
 Actual Energy Dollars Saved/Month
 Carbon Dioxide Emissions Reduced/Month

	8/18	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19	6/19	7/19	Total	Abstract
kWh	5,839	4,315	2,994	1,534	1,633	1,455	419	4,202	5,226	5,197	6,162	6,693	45,669	46,214
kWh	5,782	5,066	3,632	2,890	2,607	3,118	4,121	5,319	5,731	5,935	5,766	6,410	56,377	
%	1%	-15%	-18%	-47%	-37%	-53%	-90%	-21%	-9%	-12%	7%	4%	-19%	-1%
kW ac	36.31	36.65	37.10	32.55	31.13	34.30	7.47	38.87	38.45	38.06	38.56	35.76		
\$	397.05	293.42	203.59	104.31	111.04	98.94	28.49	285.74	355.37	353.40	419.02	455.12	3,105	
Tons	5.84	4.32	2.99	1.53	1.63	1.46	0.42	4.20	5.23	5.20	6.16	6.69	45.67	

Elbow Lake Community Center

Address 39988 N Elbow Lake Drive, Waubun, MN
 Latitude and Longitude 47.13, -95.51
 Install Date 4/20/2018
 Installed Capacity 12.35/10.8
 Utility Average Rate 0.151

Actual Production Meter Results/Month
 PV Watts Production Prediction/Month
 Percent above or below (-) PV Watts per Month
 Peak AC Power/Month
 Actual Energy Dollars Saved/Month
 Carbon Dioxide Emissions Reduced/Month

	8/18	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19	6/19	7/19	Total	Abstract
kWh	2,142	1,431	663	707	277	255	97	118	1,548	1,622	1,752	1,782	12,394	14,938
kWh	1,712	1,472	1,193	891	801	990	1,285	1,561	1,715	1,705	1,714	1,856	16,895	
%	25%	-3%	-44%	-21%	-65%	-74%	-92%	-92%	-10%	-5%	2%	-4%	-27%	-17%
kW ac	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR		
\$	323.44	216.08	100.11	106.76	41.83	38.51	14.65	17.82	233.75	244.92	264.55	269.08	1,871	
Tons	2.14	1.43	0.66	0.71	0.28	0.26	0.10	0.12	1.55	1.62	1.75	1.78	12.99	

Rice Lake Day Care Center

Address 26209 Water Tower Loop, Bagley, MN 56621
 Latitude and Longitude 47.37, -95.50
 Install Date 6/14/2018
 Installed Capacity 12.35/11.4
 Utility Average Rate 0.065

Actual Production Meter Results/Month
 PV Watts Production Prediction/Month
 Percent above or below (-) PV Watts per Month
 Peak AC Power/Month
 Actual Energy Dollars Saved/Month
 Carbon Dioxide Emissions Reduced/Month

	7/18	8/18	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19	6/19	Total	Abstract
kWh	1,375	1,857	1,546	781	646	506	354	327	326	1,690	1,753	1,714	12,875	15,245
kWh	1,880	1,710	1,470	1,101	864	772	944	1,229	1,508	1,691	1,753	1,714	16,656	
%	-27%	9%	5%	-29%	-25%	-34%	-63%	-73%	-78%	0%	0%	0%	-23%	-16%
kW ac	11.07	11.24	11.12	11.12	10.65	9.82	9.38	10.64	11.26	DNR	DNR	DNR		
\$	89.38	120.71	100.49	50.77	41.99	32.89	23.01	21.26	21.19	109.85	113.95	111.41	837	
Tons	1.38	1.86	1.55	0.78	0.65	0.51	0.35	0.33	0.33	1.69	1.75	1.71	12.88	

red = PV Watts Production Prediction/Month
 DNR = Data Not Recorded

Appendix B
Site Pictures



Elbow Lake Community Center Array



Rice Lake Community Center Array



Rice Lake Daycare Center Array

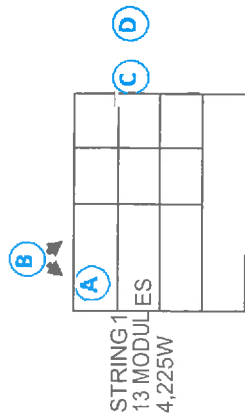


Rice Lake Community Center Added Modules (Left)

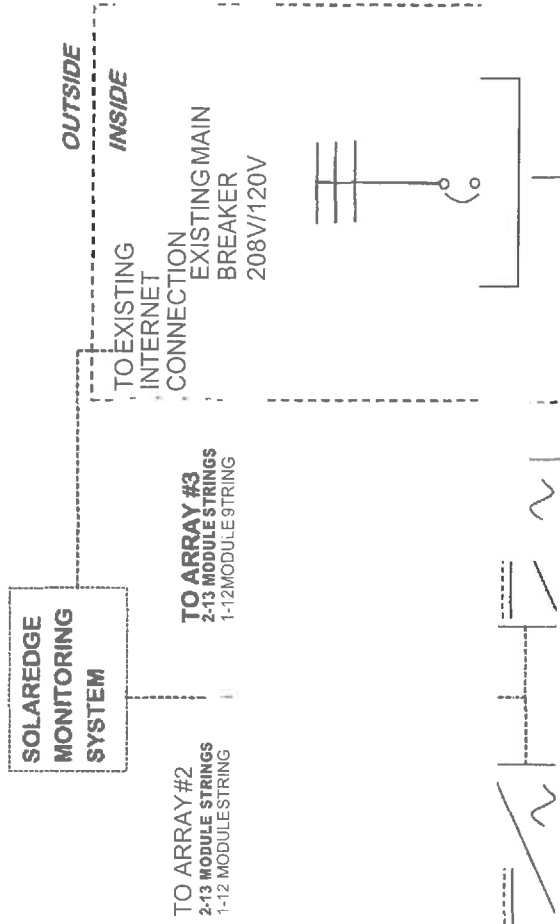


Elbow Lake Community Center Tree

114x PV MODULES TOTAL - JINKOSOLAR 325W
 114x OPTIMIZERS TOTAL—SOLAREEDGE P400

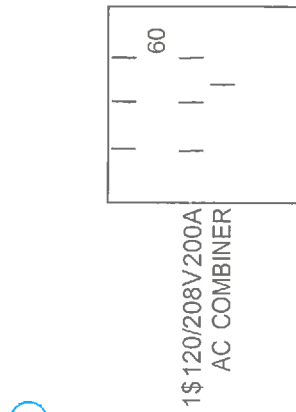


STRING 5
 12 MODULES
 5,900W



SOLAREGE
 CE10000A-US

*integrated arcfault protection
 *located at the array
 *UL 1741 listed
 *integrated DC disconnect



TO CLEARWATER-
 POLKELECTRIC
 CO-OP RATIVE

DATE 17-
 SCALE NTS

7

Appendix C
Rice Lake Community
Center One-Line



200A

- UTILITY SOLAR PRODUCTION METER
- 1 208V/200A BYPASS DISCONNECT
- CT CABINET
- 1 208V UTILITY SOLARAC DISCONNECT
- METER 3φ 208/120

WEND2

E.1

ELECTRICAL SPECIFICATIONS

DC WATT Calculated **37,050W**

AC WATT Nameplate 32,400W

MODULE JINKO SOLAR JKM325PP-72-V 325W POLY

Pmax Rated 325W
 Vmp Nameplate 37.6VDC
 Imp Nameplate 8.66A
 Voc@-40°C Calculated 55.8VDC
 Iec Nameplate 9.10A

(A)

POWER OPTIMIZERS SOLAREDDGE P400

Wattinput Maximum Rated **400WDC**
Vinput Maximum Rated **80VDC**
I input Maximum Rated **12.63A**
Voutput Maximum Rated **60VDC**
Ioutput Maximum Rated **15A**

(B)

SUB-ARRAY 13 OPTIMIZERS PER 13-MODULE STRING
 Pmax Calculated 4,225WDC
 DCV Nominal 325VDC
 Max Output I Rated 15A

(C)

SUB-ARRAY 12 OPTIMIZERS PER 12-MODULE STRING
 Pmax Calculated 3,900WDC
 DCV Nominal 325VDC
 Max Output I Rated 15A

(D)

INVERTER SOLAREDDGE 10000A-US

V input Nominal **325VDC**
V input Max rated **500VDC**
I input Max rated **33A**
Pmax output Rated **10,800WAC**
Output V Nominal **208VAC, 1**
Max Output I Rated, continuous **48A**
Efficiency Rated **98%¹**

(E)

(F)

INVERTER ISUL1741 LISTED, WITH AFCI

ARRAY

Pmax Calculated **37.05WDC**
Pmax Calculated **32.4kWAC**
Output V Nominal **208VAC, 1g**
Max Output I Calculated, continuous **144A**

(G)

PROJECT FOR: PV INSTALL
 RICE LAI E DAY CARE

REV ON HISTORY

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 DRAWING DATE: 01/2018

Appendix D
Rice Lake Community Center Solar Array Production Meter Readings
August 31, 2019 Through July 31, 2018
Source: Clearwater Polk Electric Meter Data

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
8/31/2019 6:30 PM	59488.0000	38.7640	217.00	6034.00
8/31/2019 9:45 AM	59293.0000	38.7640		
8/31/2019 1:00 AM	59271.0000	38.7640		
8/30/2019 6:30 PM	59268.0000	36.5130	246.00	
8/30/2019 9:45 AM	59048.0000	36.5130		
8/30/2019 1:00 AM	59025.0000	36.5130		
8/29/2019 6:30 PM	59022.0000	36.0190	187.00	
8/29/2019 9:45 AM	58853.0000	36.0190		
8/29/2019 1:00 AM	58838.0000	36.0190		
8/28/2019 6:30 PM	58835.0000	16.0560	271.00	
8/28/2019 9:45 AM	58590.0000	16.0560		
8/28/2019 1:00 AM	58567.0000	16.0560		
8/27/2019 6:30 PM	58567.0000	19.8040	59.00	
8/27/2019 9:45 AM	58517.0000	19.8040		
8/27/2019 1:00 AM	58508.0000	19.8040		
8/26/2019 6:30 PM	58506.0000	18.0330	67.00	
8/26/2019 9:45 AM	58442.0000	18.0330		
8/26/2019 1:00 AM	58441.0000	18.0330		
8/25/2019 11:30 PM	58441.0000		73.00	
8/25/2019 12:15 PM	58408.0000	34.9560		
8/25/2019 1:00 AM	58368.0000	34.9560		
8/24/2019 6:30 PM	58364.0000	33.7120	266.00	
8/24/2019 9:45 AM	58124.0000	33.7120		
8/24/2019 1:00 AM	58102.0000	33.7120		
8/23/2019 6:30 PM	58097.0000	34.8430	254.00	
8/23/2019 9:45 AM	57871.0000	34.8430		
8/23/2019 1:00 AM	57848.0000	34.8430		
8/22/2019 6:30 PM	57845.0000	37.9720	203.00	
8/22/2019 9:45 AM	57665.0000	37.9720		
8/22/2019 1:00 AM	57645.0000	37.9720		
8/21/2019 6:30 PM	57641.0000	32.0490	216.00	
8/21/2019 9:45 AM	57452.0000	32.0490		
8/21/2019 1:00 AM	57429.0000	32.0490		
8/20/2019 6:30 PM	57424.0000	33.8400	182.00	
8/20/2019 9:45 AM	57263.0000	33.8400		
8/20/2019 1:00 AM	57247.0000	33.8400		
8/19/2019 6:30 PM	57242.0000	35.8840	251.00	
8/19/2019 9:45 AM	57018.0000	35.8840		
8/19/2019 1:00 AM	56996.0000	35.8840		
8/18/2019 11:30 PM	56996.0000		260.00	
8/18/2019 12:15 PM	56826.0000	31.0510		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
8/18/2019 1:00 AM	56736.0000	31.0510		
8/17/2019 6:30 PM	56736.0000	33.4820	165.00	
8/17/2019 9:45 AM	56593.0000	33.4820		
8/17/2019 1:00 AM	56571.0000	33.4820		
8/16/2019 6:30 PM	56566.0000	32.5530	258.00	
8/16/2019 9:45 AM	56336.0000	32.5530		
8/16/2019 1:00 AM	56313.0000	32.5530		
8/15/2019 6:30 PM	56311.0000	35.9540	148.00	
8/15/2019 9:45 AM	56187.0000	35.9540		
8/15/2019 1:00 AM	56165.0000	35.9540		
8/14/2019 6:30 PM	56163.0000	17.2050	167.00	
8/14/2019 9:45 AM	56009.0000	17.2050		
8/14/2019 1:00 AM	55998.0000	17.2050		
8/13/2019 6:30 PM	55995.0000	10.1970	78.00	
8/13/2019 9:45 AM	55930.0000	10.1970		
8/13/2019 1:00 AM	55920.0000	10.1970		
8/12/2019 6:30 PM	55918.0000	33.7770	38.00	
8/12/2019 9:45 AM	55886.0000	33.7770		
8/12/2019 1:00 AM	55882.0000	33.7770		
8/11/2019 11:30 PM	55882.0000		195.00	
8/11/2019 12:15 PM	55741.0000	34.9000		
8/11/2019 1:00 AM	55687.0000	34.9000		
8/10/2019 6:30 PM	55683.0000	35.8990	195.00	
8/10/2019 9:45 AM	55513.0000	35.8990		
8/10/2019 1:00 AM	55492.0000	35.8990		
8/9/2019 6:30 PM	55487.0000	37.9650	237.00	
8/9/2019 9:45 AM	55281.0000	37.9650		
8/9/2019 1:00 AM	55255.0000	37.9650		
8/8/2019 6:30 PM	55248.0000	33.2230	259.00	
8/8/2019 9:45 AM	55021.0000	33.2230		
8/8/2019 1:00 AM	54996.0000	33.2230		
8/7/2019 6:30 PM	54990.0000	32.9900	206.00	
8/7/2019 9:45 AM	54810.0000	32.9900		
8/7/2019 1:00 AM	54790.0000	32.9900		
8/6/2019 6:30 PM	54785.0000	33.5760	261.00	
8/6/2019 9:45 AM	54552.0000	33.5760		
8/6/2019 1:00 AM	54529.0000	33.5760		
8/5/2019 6:30 PM	54522.0000	32.9040	233.00	
8/5/2019 9:45 AM	54305.0000	32.9040		
8/5/2019 1:00 AM	54296.0000	32.9040		
8/4/2019 11:30 PM	54296.0000		195.00	
8/4/2019 12:15 PM	54187.0000	32.1480		
8/4/2019 1:00 AM	54101.0000	32.1480		
8/3/2019 6:30 PM	54094.0000	36.5370	254.00	
8/3/2019 9:45 AM	53870.0000	36.5370		
8/3/2019 1:00 AM	53847.0000	36.5370		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
8/2/2019 6:30 PM	53842.0000	30.8520	179.00	
8/2/2019 9:45 AM	53674.0000	30.8520		
8/2/2019 1:00 AM	53668.0000	30.8520		
8/1/2019 6:30 PM	53661.0000	33.7820	214.00	
8/1/2019 9:45 AM	53475.0000	33.7820		
8/1/2019 1:00 AM	53454.0000	33.7820		
7/31/2019 6:30 PM	53447.0000	34.4200	251.00	6693.00
7/31/2019 9:45 AM	53224.0000	34.4200		
7/31/2019 1:00 AM	53203.0000	34.4200		
7/30/2019 6:30 PM	53196.0000	30.5300	276.00	
7/30/2019 9:45 AM	131071.0000	28.6720		
7/30/2019 1:00 AM	52927.0000	30.5300		
7/29/2019 6:30 PM	52920.0000	24.5490	190.00	
7/29/2019 9:45 AM	52753.0000	24.5490		
7/29/2019 1:00 AM	52737.0000	24.5490		
7/28/2019 11:30 PM	52737.0000		100.00	
7/28/2019 12:15 PM	52657.0000	32.7930		
7/28/2019 1:00 AM	52637.0000	32.7930		
7/27/2019 6:30 PM	52629.0000	33.8610	232.00	
7/27/2019 9:45 AM	52428.0000	33.8610		
7/27/2019 1:00 AM	52405.0000	33.8610		
7/26/2019 6:30 PM	52397.0000	34.6480	254.00	
7/26/2019 9:45 AM	52176.0000	34.6480		
7/26/2019 1:00 AM	52151.0000	34.6480		
7/25/2019 6:30 PM	52147.0000	35.5290	214.00	
7/25/2019 9:45 AM	51954.0000	35.5290		
7/25/2019 1:00 AM	51937.0000	35.5290		
7/24/2019 6:30 PM	51930.0000	32.9850	254.00	
7/24/2019 9:45 AM	51707.0000	32.9850		
7/24/2019 1:00 AM	51683.0000	32.9850		
7/23/2019 6:30 PM	51676.0000	35.8720	263.00	
7/23/2019 9:45 AM	51445.0000	35.8720		
7/23/2019 1:00 AM	51420.0000	35.8720		
7/22/2019 6:30 PM	51411.0000	31.7130	266.00	
7/22/2019 9:45 AM	51179.0000	31.7130		
7/22/2019 1:00 AM	51154.0000	31.7130		
7/21/2019 11:30 PM	51154.0000		224.00	
7/21/2019 12:15 PM	51016.0000	33.7960		
7/21/2019 1:00 AM	50930.0000	33.7960		
7/20/2019 6:30 PM	50921.0000	33.2830	232.00	
7/20/2019 9:45 AM	50709.0000	33.2830		
7/20/2019 1:00 AM	50698.0000	33.2830		
7/19/2019 6:30 PM	50690.0000	33.8830	144.00	
7/19/2019 9:45 AM	50558.0000	33.8830		
7/19/2019 1:00 AM	50554.0000	33.8830		
7/18/2019 6:30 PM	50546.0000	33.7560	224.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
7/18/2019 9:45 AM	50347.0000	33.7560		
7/18/2019 1:00 AM	50330.0000	33.7560		
7/17/2019 6:30 PM	50323.0000	35.6200	193.00	
7/17/2019 9:45 AM	50140.0000	35.6200		
7/17/2019 1:00 AM	50137.0000	35.6200		
7/16/2019 6:30 PM	50131.0000	35.3680	242.00	
7/16/2019 9:45 AM	49922.0000	35.3680		
7/16/2019 1:00 AM	49895.0000	35.3680		
7/15/2019 6:30 PM	49886.0000	29.8530	221.00	
7/15/2019 9:45 AM	49697.0000	29.8530		
7/15/2019 1:00 AM	49674.0000	29.8530		
7/14/2019 11:30 PM	49674.0000		209.00	
7/14/2019 12:15 PM	49544.0000	35.2630		
7/14/2019 1:00 AM	49465.0000	35.2630		
7/13/2019 6:30 PM	49457.0000	34.2600	230.00	
7/13/2019 9:45 AM	49260.0000	34.2600		
7/13/2019 1:00 AM	49235.0000	34.2600		
7/12/2019 6:30 PM	49227.0000	33.5130	256.00	
7/12/2019 9:45 AM	49004.0000	33.5130		
7/12/2019 1:00 AM	48979.0000	33.5130		
7/11/2019 6:30 PM	48971.0000	27.9450	264.00	
7/11/2019 9:45 AM	48742.0000	27.9450		
7/11/2019 1:00 AM	48715.0000	27.9450		
7/10/2019 6:30 PM	48708.0000	15.9840	137.00	
7/10/2019 9:45 AM	48590.0000	15.9840		
7/10/2019 1:00 AM	48578.0000	15.9840		
7/9/2019 6:30 PM	48577.0000	32.9160	56.00	
7/9/2019 9:45 AM	48532.0000	32.9160		
7/9/2019 1:00 AM	48522.0000	32.9160		
7/8/2019 6:30 PM	48517.0000	34.8690	252.00	
7/8/2019 9:45 AM	48297.0000	34.8690		
7/8/2019 1:00 AM	48270.0000	34.8690		
7/7/2019 11:30 PM	48270.0000		238.00	
7/7/2019 12:15 PM	48118.0000	34.5980		
7/7/2019 1:00 AM	48032.0000	34.5980		
7/6/2019 6:30 PM	48023.0000	15.0380	254.00	
7/6/2019 9:45 AM	47805.0000	15.0380		
7/6/2019 1:00 AM	47778.0000	15.0380		
7/5/2019 6:30 PM	47770.0000	33.2590	94.00	
7/5/2019 9:45 AM	47710.0000	33.2590		
7/5/2019 1:00 AM	47684.0000	33.2590		
7/4/2019 6:30 PM	47676.0000	33.0860	208.00	
7/4/2019 9:45 AM	47490.0000	33.0860		
7/4/2019 1:00 AM	47476.0000	33.0860		
7/3/2019 6:30 PM	47468.0000	32.9520	210.00	
7/3/2019 9:45 AM	47284.0000	32.9520		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
7/3/2019 1:00 AM	47266.0000	32.9520		
7/2/2019 6:30 PM	47259.0000	36.3620	253.00	
7/2/2019 9:45 AM	47040.0000	36.3620		
7/2/2019 1:00 AM	47013.0000	36.3620		
7/1/2019 6:30 PM	47005.0000	32.6010	252.00	
7/1/2019 9:45 AM	46790.0000	32.6010		
7/1/2019 1:00 AM	46761.0000	32.6010		
6/30/2019 11:30 PM	46761.0000		193.00	6162.00
6/30/2019 12:15 PM	46619.0000	18.6840		
6/30/2019 1:00 AM	46568.0000	18.6840		
6/29/2019 6:30 PM	46558.0000	33.0360	107.00	
6/29/2019 9:45 AM	46485.0000	33.0360		
6/29/2019 1:00 AM	46461.0000	33.0360		
6/28/2019 6:30 PM	46453.0000	20.7140	224.00	
6/28/2019 9:45 AM	46266.0000	20.7140		
6/28/2019 1:00 AM	46237.0000	20.7140		
6/27/2019 6:30 PM	46227.0000	36.0720	92.00	
6/27/2019 9:45 AM	46150.0000	36.0720		
6/27/2019 1:00 AM	46145.0000	36.0720		
6/26/2019 6:30 PM	46137.0000	34.8020	235.00	
6/26/2019 9:45 AM	45938.0000	34.8020		
6/26/2019 1:00 AM	45910.0000	34.8020		
6/25/2019 6:30 PM	45901.0000	22.2450	195.00	
6/25/2019 9:45 AM	45729.0000	22.2450		
6/25/2019 1:00 AM	45715.0000	22.2450		
6/24/2019 6:30 PM	45709.0000	34.1730	130.00	
6/24/2019 9:45 AM	45601.0000	34.1730		
6/24/2019 1:00 AM	45585.0000	34.1730		
6/23/2019 11:30 PM	45585.0000		280.00	
6/23/2019 12:15 PM	45404.0000	19.0920		
6/23/2019 1:00 AM	45305.0000	19.0920		
6/22/2019 6:30 PM	45304.0000	21.4030	82.00	
6/22/2019 9:45 AM	45236.0000	21.4030		
6/22/2019 1:00 AM	45223.0000	21.4030		
6/21/2019 6:30 PM	45217.0000	33.9840	149.00	
6/21/2019 9:45 AM	45093.0000	33.9840		
6/21/2019 1:00 AM	45074.0000	33.9840		
6/20/2019 6:30 PM	45067.0000	33.5780	198.00	
6/20/2019 9:45 AM	44907.0000	33.5780		
6/20/2019 1:00 AM	44876.0000	33.5780		
6/19/2019 6:30 PM	44871.0000	35.9850	210.00	
6/19/2019 9:45 AM	44695.0000	35.9850		
6/19/2019 1:00 AM	44666.0000	35.9850		
6/18/2019 6:30 PM	44657.0000	16.1610	231.00	
6/18/2019 9:45 AM	44464.0000	16.1610		
6/18/2019 1:00 AM	44435.0000	16.1610		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
6/17/2019 6:30 PM	44429.0000	24.6860	83.00	
6/17/2019 9:45 AM	44360.0000	24.6860		
6/17/2019 1:00 AM	44352.0000	24.6860		
6/16/2019 11:30 PM	44352.0000		130.00	
6/16/2019 12:15 PM	44283.0000	20.6540		
6/16/2019 1:00 AM	44222.0000	20.6540		
6/15/2019 6:30 PM	44221.0000	35.7720	116.00	
6/15/2019 9:45 AM	44123.0000	35.7720		
6/15/2019 1:00 AM	44106.0000	35.7720		
6/14/2019 6:30 PM	44097.0000	35.5480	246.00	
6/14/2019 9:45 AM	43884.0000	35.5480		
6/14/2019 1:00 AM	43860.0000	35.5480		
6/13/2019 6:30 PM	43851.0000	38.5580	278.00	
6/13/2019 9:45 AM	43612.0000	38.5580		
6/13/2019 1:00 AM	43582.0000	38.5580		
6/12/2019 6:30 PM	43573.0000	33.7800	305.00	
6/12/2019 9:45 AM	43308.0000	33.7800		
6/12/2019 1:00 AM	43277.0000	33.7800		
6/11/2019 6:30 PM	43273.0000	36.9860	178.00	
6/11/2019 9:45 AM	43130.0000	36.9860		
6/11/2019 1:00 AM	43099.0000	36.9860		
6/10/2019 6:30 PM	43091.0000	31.7730	280.00	
6/10/2019 9:45 AM	42849.0000	31.7730		
6/10/2019 1:00 AM	42819.0000	31.7730		
6/9/2019 11:30 PM	42819.0000		174.00	
6/9/2019 12:15 PM	42677.0000	35.0970		
6/9/2019 1:00 AM	42645.0000	35.0970		
6/8/2019 6:30 PM	42641.0000	34.0870	231.00	
6/8/2019 9:45 AM	42444.0000	34.0870		
6/8/2019 1:00 AM	42414.0000	34.0870		
6/7/2019 6:30 PM	42406.0000	34.2450	255.00	
6/7/2019 9:45 AM	42188.0000	34.2450		
6/7/2019 1:00 AM	42159.0000	34.2450		
6/6/2019 6:30 PM	42151.0000	35.4720	277.00	
6/6/2019 9:45 AM	41910.0000	35.4720		
6/6/2019 1:00 AM	41882.0000	35.4720		
6/5/2019 6:30 PM	41874.0000	33.8040	279.00	
6/5/2019 9:45 AM	41633.0000	33.8040		
6/5/2019 1:00 AM	41603.0000	33.8040		
6/4/2019 6:30 PM	41595.0000	34.1010	188.00	
6/4/2019 9:45 AM	41438.0000	34.1010		
6/4/2019 1:00 AM	41415.0000	34.1010		
6/3/2019 6:30 PM	41408.0000	33.4200	256.00	
6/3/2019 9:45 AM	41188.0000	33.4200		
6/3/2019 1:00 AM	41159.0000	33.4200		
6/2/2019 11:30 PM	41159.0000		271.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
6/2/2019 12:15 PM	40992.0000	36.9070		
6/2/2019 1:00 AM	40888.0000	36.9070		
6/1/2019 6:30 PM	40881.0000	35.2290	289.00	
6/1/2019 9:45 AM	40630.0000	35.2290		
6/1/2019 1:00 AM	40599.0000	35.2290		
5/31/2019 6:30 PM				5197.00
5/31/2019 9:45 AM				
5/31/2019 1:00 AM				
5/30/2019 6:30 PM				
5/30/2019 9:45 AM				
5/30/2019 1:00 AM	40092	34.3720		
5/29/2019 6:30 PM	40084	35.3970	280.00	
5/29/2019 9:45 AM	39842	35.3970		
5/29/2019 1:00 AM	39812	35.3970		
5/28/2019 6:30 PM	39804	29.0710	280.00	
5/28/2019 9:45 AM	39565	29.0710		
5/28/2019 1:00 AM	39532	29.0710		
5/27/2019 6:30 PM	39526	35.3320	157.00	
5/27/2019 9:45 AM	39379	35.3320		
5/27/2019 1:00 AM	39375	35.3320		
5/26/2019 11:30 PM	39375		179.00	
5/26/2019 12:15 PM	39289	20.3420		
5/26/2019 1:00 AM	39196	20.3420		
5/25/2019 6:30 PM	39189	15.2400	127.00	
5/25/2019 9:45 AM	39083	15.2400		
5/25/2019 1:00 AM	39069	15.2400		
5/24/2019 6:30 PM	39066	22.7180	63.00	
5/24/2019 9:45 AM	39009	22.7180		
5/24/2019 1:00 AM	39006	22.7180		
5/23/2019 6:30 PM	39004	6.8560	78.00	
5/23/2019 9:45 AM	38939	6.8560		
5/23/2019 1:00 AM	38928	6.8560		
5/22/2019 6:30 PM	38924	34.4040	45.00	
5/22/2019 9:45 AM	38886	34.4040		
5/22/2019 1:00 AM	38883	34.4040		
5/21/2019 6:30 PM	38879	38.0540	246.00	
5/21/2019 9:45 AM	38665	38.0540		
5/21/2019 1:00 AM	38637	38.0540		
5/20/2019 6:30 PM	38629	27.8110	289.00	
5/20/2019 9:45 AM	38378	27.8110		
5/20/2019 1:00 AM	38348	27.8110		
5/19/2019 11:30 PM	38348		155.00	
5/19/2019 12:15 PM	38223	23.2750		
5/19/2019 1:00 AM	38193	23.2750		
5/18/2019 6:30 PM	38190	37.5210	76.00	
5/18/2019 9:45 AM	38121	37.5210		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
5/18/2019 1:00 AM	38117	37.5210		
5/17/2019 6:30 PM	38115	32.9060	208.00	
5/17/2019 9:45 AM	37940	32.9060		
5/17/2019 1:00 AM	37909	32.9060		
5/16/2019 6:30 PM	37901	35.6470	167.00	
5/16/2019 9:45 AM	37746	35.6470		
5/16/2019 1:00 AM	37742	35.6470		
5/15/2019 6:30 PM	37740	28.8140	253.00	
5/15/2019 9:45 AM	37519	28.8140		
5/15/2019 1:00 AM	37489	28.8140		
5/14/2019 6:30 PM	37483	36.3260	185.00	
5/14/2019 9:45 AM	37326	36.3260		
5/14/2019 1:00 AM	37304	36.3260		
5/13/2019 6:30 PM	37299	32.4040	214.00	
5/13/2019 9:45 AM	37116	32.4040		
5/13/2019 1:00 AM	37090	32.4040		
5/12/2019 11:30 PM	37090		168.00	
5/12/2019 12:15 PM	37013	36.6090		
5/12/2019 1:00 AM	36922	36.6090		
5/11/2019 6:30 PM	36918	37.8090	251.00	
5/11/2019 9:45 AM	36696	37.8090		
5/11/2019 1:00 AM	36671	37.8090		
5/10/2019 6:30 PM	36665	30.0640	283.00	
5/10/2019 9:45 AM	36418	30.0640		
5/10/2019 1:00 AM	36388	30.0640		
5/9/2019 6:30 PM	36382	13.0480	164.00	
5/9/2019 9:45 AM	36242	13.0480		
5/9/2019 1:00 AM	36224	13.0480		
5/8/2019 6:30 PM	36222	38.0640	60.00	
5/8/2019 9:45 AM	36169	38.0640		
5/8/2019 1:00 AM	36164	38.0640		
5/7/2019 6:30 PM	36158	35.3160	300.00	
5/7/2019 9:45 AM	35895	35.3160		
5/7/2019 1:00 AM	35864	35.3160		
5/6/2019 6:30 PM	35861	38.0350	258.00	
5/6/2019 9:45 AM	35637	38.0350		
5/6/2019 1:00 AM	35606	38.0350		
5/5/2019 11:30 PM	35606		287.00	
5/5/2019 12:15 PM	35424	26.3760		
5/5/2019 1:00 AM	35319	26.3760		
5/4/2019 6:30 PM	35317	26.1860	149.00	
5/4/2019 9:45 AM	35198	26.1860		
5/4/2019 1:00 AM	35170	26.1860		
5/3/2019 6:30 PM	35167	28.4970	97.00	
5/3/2019 9:45 AM	35093	28.4970		
5/3/2019 1:00 AM	35073	28.4970		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
5/2/2019 6:30 PM	35067	10.8240	127.00	
5/2/2019 9:45 AM	34958	10.8240		
5/2/2019 1:00 AM	34946	10.8240		
5/1/2019 6:30 PM	34945	17.0230	51.00	
5/1/2019 9:45 AM	34904	17.0230		
5/1/2019 1:00 AM	34895	17.0230		
4/30/2019 6:30 PM	34894.00	17.02	96.00	5226.00
4/30/2019 9:45 AM	34815.00	8.06		
4/30/2019 1:00 AM	34799.00	0.00		
4/29/2019 6:30 PM	34795.00	9.37	51.00	
4/29/2019 9:45 AM	34750.00	1.43		
4/29/2019 1:00 AM	34748.00	0.00		
4/28/2019 11:30 PM	34748.00		93.00	
4/28/2019 12:15 PM	34698.00	13.47		
4/28/2019 1:00 AM	34655.00	0.00		
4/27/2019 6:30 PM	34650.00	38.45	222.00	
4/27/2019 9:45 AM	34447.00	9.26		
4/27/2019 1:00 AM	34433.00	0.00		
4/26/2019 6:30 PM	34428.00	35.19	252.00	
4/26/2019 9:45 AM	34208.00	18.06		
4/26/2019 1:00 AM	34181.00	0.00		
4/25/2019 6:30 PM	34176.00	37.76	279.00	
4/25/2019 9:45 AM	33929.00	18.75		
4/25/2019 1:00 AM	33902.00	0.00		
4/24/2019 6:30 PM	33898.00	35.89	263.00	
4/24/2019 9:45 AM	33662.00	17.08		
4/24/2019 1:00 AM	33639.00	0.00		
4/23/2019 6:30 PM	33636.00	35.78	244.00	
4/23/2019 9:45 AM	33421.00	18.63		
4/23/2019 1:00 AM	33395.00	0.00		
4/22/2019 6:30 PM	33390.00	38.02	287.00	
4/22/2019 9:45 AM	33134.00	19.33		
4/22/2019 1:00 AM	33108.00	0.00		
4/21/2019 11:30 PM	33108.00		205.00	
4/21/2019 12:15 PM	32970.00	35.93		
4/21/2019 1:00 AM	32903.00	0.00		
4/20/2019 6:30 PM	32900.00	32.54	131.00	
4/20/2019 9:45 AM	32786.00	11.37		
4/20/2019 1:00 AM	32772.00	0.00		
4/19/2019 6:30 PM	32769.00	37.67	268.00	
4/19/2019 9:45 AM	32530.00	17.48		
4/19/2019 1:00 AM	32504.00	0.00		
4/18/2019 6:30 PM	32500.00	38.42	266.00	
4/18/2019 9:45 AM	32258.00	16.62		
4/18/2019 1:00 AM	32238.00	0.00		
4/17/2019 6:30 PM	32237.00	10.19	64.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
4/17/2019 9:45 AM	32189.00	9.82		
4/17/2019 1:00 AM	32174.00	0.00		
4/16/2019 6:30 PM	32171.00	38.37	278.00	
4/16/2019 9:45 AM	31921.00	18.62		
4/16/2019 1:00 AM	31896.00	0.00		
4/15/2019 6:30 PM	31893.00	21.84	96.00	
4/15/2019 9:45 AM	31811.00	9.74		
4/15/2019 1:00 AM	31800.00	0.00		
4/14/2019 11:30 PM	31800.00		302.00	
4/14/2019 12:15 PM	31606.00	36.87		
4/14/2019 1:00 AM	31498.00	0.00		
4/13/2019 6:30 PM	31493.00	38.85	292.00	
4/13/2019 9:45 AM	31219.00	9.06		
4/13/2019 1:00 AM	31206.00	0.00		
4/12/2019 6:30 PM	31205.00	12.62	59.00	
4/12/2019 9:45 AM	31148.00	0.50		
4/12/2019 1:00 AM	31147.00	0.00		
4/11/2019 6:30 PM	31147.00	18.24	32.00	
4/11/2019 9:45 AM	31123.00	5.13		
4/11/2019 1:00 AM	31115.00	0.00		
4/10/2019 6:30 PM	31113.00	28.56	100.00	
4/10/2019 9:45 AM	31022.00	4.09		
4/10/2019 1:00 AM	31015.00	0.00		
4/9/2019 6:30 PM	31011.00	34.10	200.00	
4/9/2019 9:45 AM	30825.00	7.86		
4/9/2019 1:00 AM	30815.00	0.00		
4/8/2019 6:30 PM	30813.00	36.83	127.00	
4/8/2019 9:45 AM	30693.00	3.92		
4/8/2019 1:00 AM	30688.00	0.00		
4/7/2019 11:30 PM	30688.00		66.00	
4/7/2019 12:15 PM	30629.00	4.58		
4/7/2019 1:00 AM	30622.00	0.00		
4/6/2019 6:30 PM	30621.00	22.52	104.00	
4/6/2019 9:45 AM	30525.00	5.61		
4/6/2019 1:00 AM	30518.00	0.00		
4/5/2019 6:30 PM	30517.00	9.88	51.00	
4/5/2019 9:45 AM	30470.00	2.76		
4/5/2019 1:00 AM	30467.00	0.00		
4/4/2019 6:30 PM	30467.00	30.48	159.00	
4/4/2019 9:45 AM	30329.00	18.31		
4/4/2019 1:00 AM	30308.00	0.00		
4/3/2019 6:30 PM	30305.00	38.84	298.00	
4/3/2019 9:45 AM	30031.00	20.56		
4/3/2019 1:00 AM	30010.00	0.00		
4/2/2019 6:30 PM	30007.00	30.81	128.00	
4/2/2019 9:45 AM	29883.00	0.76		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
4/2/2019 1:00 AM	29882.00	0.00		
4/1/2019 6:30 PM	29878.00	38.82	213.00	
4/1/2019 9:45 AM	29680.00	15.14		
4/1/2019 1:00 AM	29669.00	0.00		
3/31/2019 11:30 PM	29668		88.00	4202.00
3/31/2019 12:15 PM	29617	38.8170		
3/31/2019 1:00 AM	29581	38.8170		
3/30/2019 6:30 PM	29578	38.1600	302.00	
3/30/2019 9:45 AM	29301	38.1600		
3/30/2019 1:00 AM	29279	38.1600		
3/29/2019 6:30 PM	29278.00	38.8720	245.00	
3/29/2019 9:45 AM	29055.00	38.8720		
3/29/2019 1:00 AM	29034.00	38.8720		
3/28/2019 6:30 PM	29032.00	37.0720	215.00	
3/28/2019 9:45 AM	28825.00	37.0720		
3/28/2019 1:00 AM	28819.00	37.0720		
3/27/2019 6:30 PM	28819.00	17.9470	179.00	
3/27/2019 9:45 AM	28648.00	17.9470		
3/27/2019 1:00 AM	28640.00	17.9470		
3/26/2019 6:30 PM	28639	38.8560	87.00	
3/26/2019 9:45 AM	28559	38.8560		
3/26/2019 1:00 AM	28553	38.8560		
3/25/2019 6:30 PM	28551	38.6680	291.00	
3/25/2019 9:45 AM	28281	38.6680		
3/25/2019 1:00 AM	28262	38.6680		
3/24/2019 11:30 PM	28262		189.00	
3/24/2019 12:15 PM	28123	38.8580		
3/24/2019 1:00 AM	28073	38.8580		
3/23/2019 6:30 PM	28071	38.8390	285.00	
3/23/2019 9:45 AM	27808	38.8390		
3/23/2019 1:00 AM	27788	38.8390		
3/22/2019 6:30 PM	27786	38.7480	289.00	
3/22/2019 9:45 AM	27519	38.7480		
3/22/2019 1:00 AM	27499	38.7480		
3/21/2019 6:30 PM	27497	38.6060	283.00	
3/21/2019 9:45 AM	27234	38.6060		
3/21/2019 1:00 AM	27216	38.6060		
3/20/2019 6:30 PM	27215	38.4020	259.00	
3/20/2019 9:45 AM	26971	38.4020		
3/20/2019 1:00 AM	26957	38.4020		
3/19/2019 6:30 PM	26956	38.1450	241.00	
3/19/2019 9:45 AM	26730	38.1450		
3/19/2019 1:00 AM	26716	38.1450		
3/18/2019 6:30 PM	26714	37.5280	197.00	
3/18/2019 9:45 AM	26535	37.5280		
3/18/2019 1:00 AM	26519	37.5280		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
3/17/2019 11:30 PM	26519		229.00	
3/17/2019 12:15 PM	26348	36.7390		
3/17/2019 1:00 AM	26290	36.7390		
3/16/2019 6:30 PM	26287	25.1040	258.00	
3/16/2019 9:45 AM	26045	25.1040		
3/16/2019 1:00 AM	26032	25.1040		
3/15/2019 6:30 PM	26030	12.2880	105.00	
3/15/2019 9:45 AM	25933	12.2880		
3/15/2019 1:00 AM	25927	12.2880		
3/14/2019 6:30 PM	25927	15.1600	42.00	
3/14/2019 9:45 AM	25886	15.1600		
3/14/2019 1:00 AM	25885	15.1600		
3/13/2019 6:30 PM	25885	22.6270	64.00	
3/13/2019 9:45 AM	25824	22.6270		
3/13/2019 1:00 AM	25821	22.6270		
3/12/2019 6:30 PM	25821	7.1130	122.00	
3/12/2019 9:45 AM	25703	7.1130		
3/12/2019 1:00 AM	25699	7.1130		
3/11/2019 6:30 PM	25699	0.1990	25.00	
3/11/2019 9:45 AM	25675	0.1990		
3/11/2019 1:00 AM	25674	0.1990		
3/10/2019 11:30 PM	25674		1.00	
3/10/2019 12:15 PM	25674	2.7620		
3/10/2019 12:00 AM	25673	27.0520		
3/9/2019 5:30 PM	25673	27.0520	7.00	
3/9/2019 8:45 AM	25668	27.0520		
3/9/2019 12:00 AM	25666	8.6780		
3/8/2019 5:30 PM	25666	8.6780	101.00	
3/8/2019 8:45 AM	25566	8.6780		
3/8/2019 12:00 AM	25565	4.5330		
3/7/2019 5:30 PM	25565	4.5330	44.00	
3/7/2019 8:45 AM	25522	4.5330		
3/7/2019 12:00 AM	25521	1.6840		
3/6/2019 5:30 PM	25521	1.6840	21.00	
3/6/2019 8:45 AM	25500	1.6840		
3/6/2019 12:00 AM	25500	1.6840		
3/5/2019 5:30 PM	25500	1.2140	9.00	
3/5/2019 8:45 AM	25491	1.2140		
3/5/2019 12:00 AM	25491	1.6630		
3/4/2019 5:30 PM	25490	1.6630	4.00	
3/4/2019 8:45 AM	25487	1.6630		
3/4/2019 12:00 AM	25487	1.6000		
3/3/2019 10:30 PM	25487		9.00	
3/3/2019 11:15 AM	25480	1.6000		
3/3/2019 12:00 AM	25478	0.6040		
3/2/2019 5:30 PM	25478	0.6040	9.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
3/2/2019 8:45 AM	25470	0.6040		
3/2/2019 12:00 AM	25469	3.4220		
3/1/2019 5:30 PM	25469	3.4220	2.00	
3/1/2019 8:45 AM	25467	3.4220		
3/1/2019 12:00 AM	25467	1.3960		
2/28/2019 5:30 PM	25467	1.3960	289.00	419.00
2/28/2019 8:45 AM	25454	1.3960		
2/28/2019 12:00 AM	25453	0.7050		
2/27/2019 5:30 PM	25453	0.7050	6.00	
2/27/2019 8:45 AM	25447	0.7050		
2/27/2019 12:00 AM	25447	0.7050		
2/26/2019 5:30 PM	25447	1.8190	3.00	
2/26/2019 8:45 AM	25444	1.8190		
2/26/2019 12:00 AM	25444	1.8190		
2/25/2019 5:30 PM	25443	1.5930	9.00	
2/25/2019 8:45 AM	25436	1.5930		
2/25/2019 12:00 AM	25435	1.5930		
2/24/2019 10:30 PM	25435		7.00	
2/24/2019 11:15 AM	25429	0.0380		
2/24/2019 12:00 AM	25428	7.4730		
2/23/2019 5:30 PM	25428	7.4730	1.00	
2/23/2019 8:45 AM	25427	7.4730		
2/23/2019 12:00 AM	25427	6.1240		
2/22/2019 5:30 PM	25427	6.1240	29.00	
2/22/2019 8:45 AM	25399	6.1240		
2/22/2019 12:00 AM	25398	0.0000		
2/21/2019 5:30 PM	25398	0.0000	17.00	
2/21/2019 8:45 AM	25381	0.0000		
2/21/2019 12:00 AM	25381	0.0000		
2/20/2019 5:30 PM	25380	2.2080	1.00	
2/20/2019 8:45 AM	25380	2.2080		
2/20/2019 12:00 AM	25380	2.2080		
2/19/2019 5:30 PM	25380	1.8430	11.00	
2/19/2019 8:45 AM	25369	1.8430		
2/19/2019 12:00 AM	25369	1.8430		
2/18/2019 5:30 PM	25368	0.8590	9.00	
2/18/2019 8:45 AM	25360	0.8590		
2/18/2019 12:00 AM	25360	0.8590		
2/17/2019 10:30 PM	25360		3.00	
2/17/2019 11:15 AM	25357	0.3790		
2/17/2019 12:00 AM	25357	0.6450		
2/16/2019 5:30 PM	25356	0.6450	1.00	
2/16/2019 8:45 AM	25356	0.6450		
2/16/2019 12:00 AM	25356	0.3500		
2/15/2019 5:30 PM	25355	0.3500	3.00	
2/15/2019 8:45 AM	25353	0.3500		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
2/15/2019 12:00 AM	25353	0.6480		
2/14/2019 5:30 PM	25352	0.6480	2.00	
2/14/2019 8:45 AM	25351	0.6480		
2/14/2019 12:00 AM	25351	0.0000		
2/13/2019 5:30 PM	25351	0.0000	1.00	
2/13/2019 8:45 AM	25350	0.0000		
2/13/2019 12:00 AM	25350	0.0000		
2/12/2019 5:30 PM	25349	0.0000	1.00	
2/12/2019 8:45 AM	25349	0.0000		
2/12/2019 12:00 AM	25349	0.0000		
2/11/2019 5:30 PM	25349	0.0000	1.00	
2/11/2019 8:45 AM	25348	0.0000		
2/11/2019 12:00 AM	25348	0.0000		
2/10/2019 10:30 PM	25348		1.00	
2/10/2019 11:15 AM	25348	0.0000		
2/10/2019 12:00 AM	25347	0.0000		
2/9/2019 5:30 PM	25347	0.0500	0.00	
2/9/2019 8:45 AM	25347	0.0500		
2/9/2019 12:00 AM	25347	0.0500		
2/8/2019 5:30 PM	25346	0.0000	1.00	
2/8/2019 8:45 AM	25346	0.0000		
2/8/2019 12:00 AM	25346	0.0000		
2/7/2019 5:30 PM	25346	0.0000	1.00	
2/7/2019 8:45 AM	25345	0.0000		
2/7/2019 12:00 AM	25345	0.0000		
2/6/2019 5:30 PM	25345	0.0000	1.00	
2/6/2019 8:45 AM	25345	0.0000		
2/6/2019 12:00 AM	25344	0.0000		
2/5/2019 5:30 PM	25344	0.2880	0.00	
2/5/2019 8:45 AM	25344	0.2880		
2/5/2019 12:00 AM	25344	0.2880		
2/4/2019 5:30 PM	25343	1.1080	1.00	
2/4/2019 8:45 AM	25343	1.1080		
2/4/2019 12:00 AM	25343	3.4080		
2/3/2019 10:30 PM	25343		5.00	
2/3/2019 11:15 AM	25339	3.4080		
2/3/2019 12:00 AM	25338	0.3860		
2/2/2019 5:30 PM	25338	0.3860	13.00	
2/2/2019 8:45 AM	25325	0.3860		
2/2/2019 12:00 AM	25325	2.1190		
2/1/2019 5:30 PM	25325	2.1190	2.00	
2/1/2019 8:45 AM	25323	2.1190		
2/1/2019 12:00 AM	25323.0000	1.9700		
1/31/2019 5:30 PM	25323.0000	1.9700	8.00	1455.00
1/31/2019 8:45 AM	25315.0000	1.9700		
1/31/2019 12:00 AM	25315.0000	0.8540		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
1/30/2019 5:30 PM	25315.0000	0.8540	10.00	
1/30/2019 8:45 AM	25305.0000	0.8540		
1/30/2019 12:00 AM	25305.0000	0.2590		
1/29/2019 5:30 PM	25305.0000	0.2590	3.00	
1/29/2019 8:45 AM	25303.0000	0.2590		
1/29/2019 12:00 AM	25302.0000	0.2590		
1/28/2019 5:30 PM	25302.0000	0.3500	1.00	
1/28/2019 8:45 AM	25301.0000	0.3500		
1/28/2019 12:00 AM	25301.0000	0.7240		
1/27/2019 10:30 PM	25343.0000		1.00	
1/27/2019 11:15 AM	25300.0000	0.7240		
1/27/2019 12:00 AM	25300.0000	0.7680		
1/26/2019 5:30 PM	25300.0000	0.7680	3.00	
1/26/2019 8:45 AM	25297.0000	0.7680		
1/26/2019 12:00 AM	25297.0000	0.7320		
1/25/2019 5:30 PM	25296.0000	0.7320	4.00	
1/25/2019 8:45 AM	25293.0000	0.7320		
1/25/2019 12:00 AM	25293.0000	0.2490		
1/24/2019 5:30 PM	25293.0000	0.2490	4.00	
1/24/2019 8:45 AM	25290.0000	0.2490		
1/24/2019 12:00 AM	25289.0000	0.0380		
1/23/2019 5:30 PM	25289.0000	0.0380	1.00	
1/23/2019 8:45 AM	25289.0000	0.0380		
1/23/2019 12:00 AM	25288.0000	7.9920		
1/22/2019 5:30 PM	25288.0000	7.9920	1.00	
1/22/2019 8:45 AM	25288.0000	7.9920		
1/22/2019 12:00 AM	25287.0000	7.9920		
1/21/2019 5:30 PM	25287.0000	34.4590	29.00	
1/21/2019 8:45 AM	25258.0000	34.4590		
1/21/2019 12:00 AM	25258.0000	34.4590		
1/20/2019 10:30 PM	25258.0000		192.00	
1/20/2019 11:15 AM	25118.0000	34.2960		
1/20/2019 12:00 AM	25066.0000	34.2960		
1/19/2019 5:30 PM	25066.0000	28.3530	188.00	
1/19/2019 8:45 AM	24879.0000	28.3530		
1/19/2019 12:00 AM	24878.0000	28.3530		
1/18/2019 5:30 PM	24878.0000	16.0510	90.00	
1/18/2019 8:45 AM	24789.0000	16.0510		
1/18/2019 12:00 AM	24788.0000	16.0510		
1/17/2019 5:30 PM	24788.0000	28.8330	51.00	
1/17/2019 8:45 AM	24738.0000	28.8330		
1/17/2019 12:00 AM	24737.0000	28.8330		
1/16/2019 5:30 PM	24737.0000	21.7460	92.00	
1/16/2019 8:45 AM	24645.0000	21.7460		
1/16/2019 12:00 AM	24645.0000	21.7460		
1/15/2019 5:30 PM	24644.0000	7.8550	29.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
1/15/2019 8:45 AM	24616.0000	7.8550		
1/15/2019 12:00 AM	24616.0000	7.8550		
1/14/2019 5:30 PM	24616.0000	3.5760	32.00	
1/14/2019 8:45 AM	24584.0000	3.5760		
1/14/2019 12:00 AM	24584.0000	3.5760		
1/13/2019 10:30 PM	24584.0000		13.00	
1/13/2019 11:15 AM	24574.0000	4.7250		
1/13/2019 12:00 AM	24571.0000	4.7250		
1/12/2019 5:30 PM	24571.0000	28.2980	16.00	
1/12/2019 8:45 AM	24555.0000	28.2980		
1/12/2019 12:00 AM	24555.0000	28.2980		
1/11/2019 5:30 PM	24554.0000	32.1140	132.00	
1/11/2019 8:45 AM	24423.0000	32.1140		
1/11/2019 12:00 AM	24423.0000	31.4040		
1/10/2019 5:30 PM	24423.0000	31.4040	75.00	
1/10/2019 8:45 AM	24348.0000	31.4040		
1/10/2019 12:00 AM	24348	31.4040		
1/9/2019 5:30 PM	24347.0000	10.3530	158.00	
1/9/2019 8:45 AM	24191.0000	10.3530		
1/9/2019 12:00 AM	24190.0000	10.3530		
1/8/2019 5:30 PM	24190.0000	23.8440	43.00	
1/8/2019 8:45 AM	24147.0000	23.8440		
1/8/2019 12:00 AM	24147.0000	5.7240		
1/7/2019 5:30 PM	24146.0000	5.7240	61.00	
1/7/2019 8:45 AM	24086.0000	5.7240		
1/7/2019 12:00 AM	24086.0000	5.7240		
1/6/2019 10:30 PM	24086.0000		20.00	
1/6/2019 11:15 AM	24070.0000	26.7210		
1/6/2019 12:00 AM	24066.0000	26.7210		
1/5/2019 5:30 PM	24065.0000	24.9570	66.00	
1/5/2019 8:45 AM	24000.0000	24.9570		
1/5/2019 12:00 AM	24000.0000	24.9570		
1/4/2019 5:30 PM	24000.0000	13.6720	88.00	
1/4/2019 8:45 AM	23913.0000	13.6720		
1/4/2019 12:00 AM	23912.0000	0.0000		
1/3/2019 5:30 PM	23912.0000	0.0000	42.00	
1/3/2019 8:45 AM	23870.0000	0.0000		
1/3/2019 12:00 AM	23870.0000	0.3740		
1/2/2019 5:30 PM	23870.0000	0.3740	1.00	
1/2/2019 8:45 AM	23869.0000	0.3740		
1/2/2019 12:00 AM	23869.0000	0.5180		
1/1/2019 5:30 PM	23869.0000	0.5180	1.00	
1/1/2019 8:45 AM	23868.0000	0.5180		
1/1/2019 12:00 AM	23868.0000	0.0000		
12/31/2018 5:30 PM	23868.0000	0.0000	2.00	1633.00
12/31/2018 8:45 AM	23866.0000	0.0000		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
12/31/2018 12:00 AM	23866.0000	0.4290		
12/30/2018 10:30 PM	23866.0000		1.00	
12/30/2018 11:15 AM	23865.0000	0.4290		
12/30/2018 12:00 AM	23865.0000	0.5010		
12/29/2018 5:30 PM	23865.0000	0.5010	1.00	
12/29/2018 8:45 AM	23864.0000	0.5010		
12/29/2018 12:00 AM	23864.0000	0.0000		
12/28/2018 5:30 PM	23863.0000	0.0000	2.00	
12/28/2018 8:45 AM	23862.0000	0.0000		
12/28/2018 12:00 AM	23862.0000	5.8600		
12/27/2018 5:30 PM	23862.0000	5.8600	1.00	
12/27/2018 8:45 AM	23861.0000	5.8600		
12/27/2018 12:00 AM	23861.0000	0.9480		
12/26/2018 5:30 PM	23861.0000	0.9480	13.00	
12/26/2018 8:45 AM	23848.0000	0.9480		
12/26/2018 12:00 AM	23848.0000	4.1730		
12/25/2018 5:30 PM	23847.0000	4.1730	4.00	
12/25/2018 8:45 AM	23844.0000	4.1730		
12/25/2018 12:00 AM	23844.0000	1.0100		
12/24/2018 5:30 PM	23844.0000	1.0100	14.00	
12/24/2018 8:45 AM	23831.0000	1.0100		
12/24/2018 12:00 AM	23830.0000	0.4600		
12/23/2018 10:30 PM	23830.0000		3.00	
12/23/2018 11:15 AM	23828	0.46		
12/23/2018 12:00 AM	23827.0000	18.8680		
12/22/2018 5:30 PM	23827.0000	18.8680	2.00	
12/22/2018 8:45 AM	23826.0000	18.8680		
12/22/2018 12:00 AM	23825.0000	4.3410		
12/21/2018 5:30 PM	23825.0000	4.3410	54.00	
12/21/2018 8:45 AM	23772.0000	4.3410		
12/21/2018 12:00 AM	23771.0000	9.9720		
12/20/2018 5:30 PM	23771	9.9720	17.00	
12/20/2018 8:45 AM	23754.0000	9.9720		
12/20/2018 12:00 AM	23754.0000	9.9720		
12/19/2018 5:30 PM	23753.0000	28.4780	32.00	
12/19/2018 8:45 AM	23723.0000	28.4780		
12/19/2018 12:00 AM	23722.0000	28.4780		
12/18/2018 5:30 PM	23722.0000	29.0490	108.00	
12/18/2018 8:45 AM	23615.0000	29.0490		
12/18/2018 12:00 AM	23614.0000	29.0490		
12/17/2018 5:30 PM	23614.0000	30.6880	148.00	
12/17/2018 8:45 AM	23467.0000	30.6880		
12/17/2018 12:00 AM	23466.0000	30.6880		
12/16/2018 10:30 PM	23466.0000		155.00	
12/16/2018 11:15 AM	23356.0000	31.1320		
12/16/2018 12:00 AM	23311.0000	31.1320		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
12/15/2018 5:30 PM	23311.0000	26.7040	145.00	
12/15/2018 8:45 AM	23167.0000	26.7040		
12/15/2018 12:00 AM	23166.0000	30.1290		
12/14/2018 5:30 PM	23166.0000	30.1290	124.00	
12/14/2018 8:45 AM	23043.0000	30.1290		
12/14/2018 12:00 AM	23042.0000	22.7880		
12/13/2018 5:30 PM	23042.0000	22.7880	88.00	
12/13/2018 8:45 AM	22955.0000	22.7880		
12/13/2018 12:00 AM	22954.0000	5.6040		
12/12/2018 5:30 PM	22954.0000	5.6040	54.00	
12/12/2018 8:45 AM	22900.0000	5.6040		
12/12/2018 12:00 AM	22900.0000	29.8340		
12/11/2018 5:30 PM	22899.0000	29.8340	24.00	
12/11/2018 8:45 AM	22877.0000	29.8340		
12/11/2018 12:00 AM	22876.0000	29.4070		
12/10/2018 5:30 PM	22876.0000	29.4070	152.00	
12/10/2018 8:45 AM	22725.0000	29.4070		
12/10/2018 12:00 AM	22724.0000	28.8210		
12/9/2018 10:30 PM	22724.0000		146.00	
12/9/2018 11:15 AM	22618.0000	28.8210		
12/9/2018 12:00 AM	22578.0000	21.6210		
12/8/2018 5:30 PM	22578.0000	21.6210	133.00	
12/8/2018 8:45 AM	22446.0000	21.6210		
12/8/2018 12:00 AM	22445.0000	17.2290		
12/7/2018 5:30 PM	22445.0000	17.2290	73.00	
12/7/2018 8:45 AM	22373.0000	17.2290		
12/7/2018 12:00 AM	22372.0000	17.2290		
12/6/2018 5:30 PM	22372.0000	1.8000	74.00	
12/6/2018 8:45 AM	22298.0000	1.8000		
12/6/2018 12:00 AM	22298.0000	1.8000		
12/5/2018 5:30 PM	22298.0000	4.5480	8.00	
12/5/2018 8:45 AM	22291.0000	4.5480		
12/5/2018 12:00 AM	22290.0000	4.5480		
12/4/2018 5:30 PM	22290.0000	3.0140	13.00	
12/4/2018 8:45 AM	22277.0000	3.0140		
12/4/2018 12:00 AM	22277.0000	3.0140		
12/3/2018 5:30 PM	22277.0000	2.4360	14.00	
12/3/2018 8:45 AM	22263.0000	2.4360		
12/3/2018 12:00 AM	22263.0000	2.4360		
12/2/2018 10:30 PM	22263.0000		10.00	
12/2/2018 11:15 AM	22256.0000	4.6800		
12/2/2018 12:00 AM	22253.0000	4.6800		
12/1/2018 5:30 PM	22252.0000	1.3890	18.00	
12/1/2018 8:45 AM	22235.0000	1.3890		
12/1/2018 12:00 AM	22235.0000	1.3890		
11/30/2018 5:30 PM	22235.0000	0.3040	4.00	1534.00

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
11/30/2018 8:45 AM	22231.0000	0.3040		
11/30/2018 12:00 AM	22231.0000	0.3040		
11/29/2018 5:30 PM	22230.0000	8.7760	289.00	
11/29/2018 8:45 AM	22230.0000	8.7760		
11/29/2018 12:00 AM	22229.0000	8.7760		
11/28/2018 5:30 PM	22229.0000	32.5530	32.00	
11/28/2018 8:45 AM	22198.0000	32.5530		
11/28/2018 12:00 AM	22197.0000	32.5530		
11/27/2018 5:30 PM	22197.0000	30.7940	158.00	
11/27/2018 8:45 AM	22041.0000	30.7940		
11/27/2018 12:00 AM	22039.0000	30.7940		
11/26/2018 5:30 PM	22039.0000	31.9890	96.00	
11/26/2018 8:45 AM	21943.0000	31.9890		
11/26/2018 12:00 AM	21943.0000	31.9890		
11/25/2018 10:30 PM	21942.0000		104.00	
11/25/2018 11:15 AM	21868.0000	3.4580		
11/25/2018 12:00 AM	21839.0000	3.4580		
11/24/2018 5:30 PM	21839.0000	5.5200	13.00	
11/24/2018 8:45 AM	21826.0000	5.5200		
11/24/2018 12:00 AM	21826.0000	5.5200		
11/23/2018 5:30 PM	21825.0000	1.8880	17.00	
11/23/2018 8:45 AM	21809.0000	1.8880		
11/23/2018 12:00 AM	21809.0000	1.8880		
11/22/2018 5:30 PM	21809.0000	1.6000	7.00	
11/22/2018 8:45 AM	21802.0000	1.6000		
11/22/2018 12:00 AM	21802.0000	1.6000		
11/21/2018 5:30 PM	21802.0000	0.4890	6.00	
11/21/2018 8:45 AM	21796.0000	0.4890		
11/21/2018 12:00 AM	21796.0000	0.4890		
11/20/2018 5:30 PM	21796.0000	2.8920	2.00	
11/20/2018 8:45 AM	21794.0000	2.8920		
11/20/2018 12:00 AM	21794.0000	2.8920		
11/19/2018 5:30 PM	21794.0000	1.6050	9.00	
11/19/2018 8:45 AM	21786.0000	1.6050		
11/19/2018 12:00 AM	21785.0000	1.6050		
11/18/2018 10:30 PM	21785.0000		6.00	
11/18/2018 11:15 AM	21782.0000	5.3300		
11/18/2018 12:00 AM	21779.0000	2.4310		
11/17/2018 5:30 PM	21778.0000	2.4310	28.00	
11/17/2018 8:45 AM	21751.0000	2.4310		
11/17/2018 12:00 AM	21751.0000	27.7480		
11/16/2018 5:30 PM	21751.0000	27.7480	6.00	
11/16/2018 8:45 AM	21746.0000	27.7480		
11/16/2018 12:00 AM	21745.0000	17.4640		
11/15/2018 5:30 PM	21745.0000	17.4640	40.00	
11/15/2018 8:45 AM	21706.0000	17.4640		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
11/15/2018 12:00 AM	21705.0000	1.5520		
11/14/2018 5:30 PM	21705.0000	1.5520	60.00	
11/14/2018 8:45 AM	21645.0000	1.5520		
11/14/2018 12:00 AM	21645.0000	3.3280		
11/13/2018 5:30 PM	21644.0000	3.3280	6.00	
11/13/2018 8:45 AM	21640.0000	3.3280		
11/13/2018 12:00 AM	21639.0000	0.3760		
11/12/2018 5:30 PM	21639.0000	0.3760	10.00	
11/12/2018 8:45 AM	21629.0000	0.3760		
11/12/2018 12:00 AM	21629.0000	0.3760		
11/11/2018 10:30 PM	21629.0000		2.00	
11/11/2018 11:15 AM	21628.0000	0.7820		
11/11/2018 12:00 AM	21627.0000	0.7820		
11/10/2018 5:30 PM	21627.0000	0.4770	3.00	
11/10/2018 8:45 AM	21625.0000	0.48		
11/10/2018 12:00 AM	21624.0000	0.4770		
11/9/2018 5:30 PM	21624.0000	0.8780	2.00	
11/9/2018 8:45 AM	21623.0000	0.8780		
11/9/2018 12:00 AM	21622.0000	0.8780		
11/8/2018 5:30 PM	21622.0000	0.9670	3.00	
11/8/2018 8:45 AM	21620.0000	0.9670		
11/8/2018 12:00 AM	21619.0000	0.9670		
11/7/2018 5:30 PM	21619.0000	0.6480	4.00	
11/7/2018 8:45 AM	21616.0000	0.6480		
11/7/2018 12:00 AM	21615.0000	0.6480		
11/6/2018 5:30 PM	21615.0000	4.6990	3.00	
11/6/2018 8:45 AM	21612.0000	4.6990		
11/6/2018 12:00 AM	21612.0000	4.6990		
11/5/2018 5:30 PM	21612.0000	33.3040	18.00	
11/5/2018 8:45 AM	21595.0000	33.3040		
11/5/2018 12:00 AM	21594.0000	25.8550		
11/4/2018 10:30 PM	21594.0000		193.00	
11/4/2018 11:15 AM	21468.0000	25.8550		
11/4/2018 1:00 AM	21401.0000	25.8550		
11/3/2018 6:30 PM	21401.0000	32.1670	117.00	
11/3/2018 9:45 AM	21287.0000	32.1670		
11/3/2018 1:00 AM	21284.0000	32.1670		
11/2/2018 6:30 PM	21284.0000	29.3280	196.00	
11/2/2018 9:45 AM	21099.0000	29.3280		
11/2/2018 1:00 AM	21088.0000	29.3280		
11/1/2018 6:30 PM	21088.0000	12.7150	100.00	
11/1/2018 9:45 AM	20991.0000	12.7150		
11/1/2018 1:00 AM	20988.0000	12.7150		
10/31/2018 6:30 PM	20988.0000	32.0590	44.00	2994.00
10/31/2018 9:45 AM	20945.0000	32.0590		
10/31/2018 1:00 AM	20944.0000	32.0590		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
10/30/2018 6:30 PM	20944.0000	24.5540	151.00	
10/30/2018 9:45 AM	20794.0000	24.5540		
10/30/2018 1:00 AM	20793.0000	24.5540		
10/29/2018 6:30 PM	20793.0000	12.5350	58.00	
10/29/2018 9:45 AM	20736.0000	12.5350		
10/29/2018 1:00 AM	20735.0000	12.5350		
10/28/2018 11:30 PM	20735.0000		34.00	
10/28/2018 12:15 PM	20723.0000	24.5710		
10/28/2018 1:00 AM	20701.0000	24.5710		
10/27/2018 6:30 PM	20700.0000	2.4790	80.00	
10/27/2018 9:45 AM	20626.0000	2.4790		
10/27/2018 1:00 AM	20621.0000	2.4790		
10/26/2018 6:30 PM	20621.0000	5.3640	10.00	
10/26/2018 9:45 AM	20611.0000	5.3640		
10/26/2018 1:00 AM	20611.0000	5.3640		
10/25/2018 6:30 PM	20610.0000	29.5770	17.00	
10/25/2018 9:45 AM	20598.0000	29.5770		
10/25/2018 1:00 AM	20594.0000	29.5770		
10/24/2018 6:30 PM	20594.0000	33.5780	109.00	
10/24/2018 9:45 AM	20499.0000	33.5780		
10/24/2018 1:00 AM	20485.0000	33.5780		
10/23/2018 6:30 PM	20484.0000	35.0130	199.00	
10/23/2018 9:45 AM	20292.0000	35.0130		
10/23/2018 1:00 AM	20286.0000	35.0130		
10/22/2018 6:30 PM	20286.0000	34.1130	207.00	
10/22/2018 9:45 AM	20094.0000	34.1130		
10/22/2018 1:00 AM	20079.0000	34.1130		
10/21/2018 11:30 PM	20079.0000		221.00	
10/21/2018 12:15 PM	19940.0000	37.1080		
10/21/2018 1:00 AM	19858.0000	37.1080		
10/20/2018 6:30 PM	19858.0000	34.0990	212.00	
10/20/2018 9:45 AM	19655.0000	34.0990		
10/20/2018 1:00 AM	19646.0000	34.0990		
10/19/2018 6:30 PM	19646.0000	32.6880	180.00	
10/19/2018 9:45 AM	19470.0000	32.6880		
10/19/2018 1:00 AM	19466.0000	32.6880		
10/18/2018 6:30 PM	19466.0000	35.4430	214.00	
10/18/2018 9:45 AM	19267.0000	35.4430		
10/18/2018 1:00 AM	19252.0000	35.4430		
10/17/2018 6:30 PM	19251.0000	11.3440	232.00	
10/17/2018 9:45 AM	19036.0000	11.3440		
10/17/2018 1:00 AM	19020.0000	11.3440		
10/16/2018 6:30 PM	19020.0000	36.0960	41.00	
10/16/2018 9:45 AM	18984.0000	36.0960		
10/16/2018 1:00 AM	18979.0000	36.0960		
10/15/2018 6:30 PM	18979.0000	7.1400	164.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
10/15/2018 9:45 AM	18816.0000	7.1400		
10/15/2018 1:00 AM	18815.0000	7.1400		
10/14/2018 11:30 PM	18815.0000		29.00	
10/14/2018 12:15 PM	18798.0000	11.5630		
10/14/2018 1:00 AM	18786.0000	11.5630		
10/13/2018 6:30 PM	18785.0000	35.9540	33.00	
10/13/2018 9:45 AM	18760.0000	35.9540		
10/13/2018 1:00 AM	18753.0000	35.9540		
10/12/2018 6:30 PM	18753.0000	1.4080	202.00	
10/12/2018 9:45 AM	18554.0000	1.4080		
10/12/2018 1:00 AM	18551.0000	1.4080		
10/11/2018 6:30 PM	18551.0000	5.1310	6.00	
10/11/2018 9:45 AM	18545.0000	5.1310		
10/11/2018 1:00 AM	18545.0000	5.1310		
10/10/2018 6:30 PM	18545.0000	7.9800	20.00	
10/10/2018 9:45 AM	18526.0000	7.9800		
10/10/2018 1:00 AM	18525.0000	7.9800		
10/9/2018 6:30 PM	18525.0000	5.5510	34.00	
10/9/2018 9:45 AM	18494.0000	5.5510		
10/9/2018 1:00 AM	18491.0000	5.5510		
10/8/2018 6:30 PM	18491.0000	9.2950	27.00	
10/8/2018 9:45 AM	18466.0000	9.2950		
10/8/2018 1:00 AM	18464.0000	9.2950		
10/7/2018 11:30 PM	18464.0000		29.00	
10/7/2018 12:15 PM	18449.0000	7.6800		
10/7/2018 1:00 AM	18435.0000	7.6800		
10/6/2018 6:30 PM	18435.0000	7.0770	39.00	
10/6/2018 9:45 AM	18399.0000	7.0770		
10/6/2018 1:00 AM	18396.0000	7.0770		
10/5/2018 6:30 PM	18396.0000	33.9360	24.00	
10/5/2018 9:45 AM	18372.0000	33.9360		
10/5/2018 1:00 AM	18372.0000	33.9360		
10/4/2018 6:30 PM	18372.0000	8.5270	172.00	
10/4/2018 9:45 AM	18221.0000	8.5270		
10/4/2018 1:00 AM	18200.0000	8.5270		
10/3/2018 6:30 PM	18200.0000	28.9960	17.00	
10/3/2018 9:45 AM	18183.0000	28.9960		
10/3/2018 1:00 AM	18183.0000	28.9960		
10/2/2018 6:30 PM	18183.0000	32.9010	112.00	
10/2/2018 9:45 AM	18075.0000	32.9010		
10/2/2018 1:00 AM	18071.0000	32.9010		
10/1/2018 6:30 PM	18071.0000	30.4080	77.00	
10/1/2018 9:45 AM	17996.0000	30.4080		
10/1/2018 1:00 AM	17994.0000	30.4080		
9/30/2018 11:30 PM	17994.0000		135.00	4315.00
9/30/2018 12:15 PM	17921.0000	13.7490		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
9/30/2018 1:00 AM	17859.0000	13.7490		
9/29/2018 6:30 PM	17858.0000	22.4470	64.00	
9/29/2018 9:45 AM	17805.0000	22.4470		
9/29/2018 1:00 AM	17795.0000	22.4470		
9/28/2018 6:30 PM	17794.0000	34.2930	95.00	
9/28/2018 9:45 AM	17707.0000	34.2930		
9/28/2018 1:00 AM	17700.0000	34.2930		
9/27/2018 6:30 PM	17700.0000	32.4620	79.00	
9/27/2018 9:45 AM	17623.0000	32.4620		
9/27/2018 1:00 AM	17621.0000	32.4620		
9/26/2018 6:30 PM	17620.0000	12.2540	139.00	
9/26/2018 9:45 AM	17496.0000	12.2540		
9/26/2018 1:00 AM	17482.0000	12.2540		
9/25/2018 6:30 PM	17481.0000	3.7820	61.00	
9/25/2018 9:45 AM	17427.0000	3.7820		
9/25/2018 1:00 AM	17421.0000	3.7820		
9/24/2018 6:30 PM	17421.0000	7.3960	10.00	
9/24/2018 9:45 AM	17412.0000	7.3960		
9/24/2018 1:00 AM	17411.0000	7.3960		
9/23/2018 11:30 PM	17411.0000		34.00	
9/23/2018 12:15 PM	17391.0000	34.8600		
9/23/2018 1:00 AM	17377.0000	34.8600		
9/22/2018 6:30 PM	17377.0000	34.9340	182.00	
9/22/2018 9:45 AM	17206.0000	34.9340		
9/22/2018 1:00 AM	17195.0000	34.9340		
9/21/2018 6:30 PM	17194.0000	5.4400	208.00	
9/21/2018 9:45 AM	16992.0000	5.4400		
9/21/2018 1:00 AM	16987.0000	5.4400		
9/20/2018 6:30 PM	16987.0000	30.6790	23.00	
9/20/2018 9:45 AM	16969.0000	30.6790		
9/20/2018 1:00 AM	16964.0000	30.6790		
9/19/2018 6:30 PM	16963.0000	25.7920	87.00	
9/19/2018 9:45 AM	16881.0000	25.7920		
9/19/2018 1:00 AM	16877.0000	25.7920		
9/18/2018 6:30 PM	16876.0000	27.1630	135.00	
9/18/2018 9:45 AM	16752.0000	27.1630		
9/18/2018 1:00 AM	16742.0000	27.1630		
9/17/2018 6:30 PM	16741.0000	33.6930	140.00	
9/17/2018 9:45 AM	16611.0000	33.6930		
9/17/2018 1:00 AM	16602.0000	33.6930		
9/16/2018 11:30 PM	16602.00		230.00	
9/16/2018 12:15 PM	16458.0000	15.5830		
9/16/2018 1:00 AM	16372.0000	15.5830		
9/15/2018 6:30 PM	16372.0000	32.0590	63.00	
9/15/2018 9:45 AM	16318.0000	32.0590		
9/15/2018 1:00 AM	16309.0000	32.0590		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
9/14/2018 6:30 PM	16309.0000	16.8380	207.00	
9/14/2018 9:45 AM	16111.0000	16.8380		
9/14/2018 1:00 AM	16102.0000	16.8380		
9/13/2018 6:30 PM	16102.0000	35.5080	53.00	
9/13/2018 9:45 AM	16065.0000	35.5080		
9/13/2018 1:00 AM	16049.0000	35.5080		
9/12/2018 6:30 PM	16047.0000	33.4890	117.00	
9/12/2018 9:45 AM	15938.0000	33.4890		
9/12/2018 1:00 AM	15932.0000	33.4890		
9/11/2018 6:30 PM	15932.0000	30.7820	213.00	
9/11/2018 9:45 AM	15739.0000	30.7820		
9/11/2018 1:00 AM	15719.0000	30.7820		
9/10/2018 6:30 PM	15718.0000	36.7870	152.00	
9/10/2018 9:45 AM	15571.0000	36.7870		
9/10/2018 1:00 AM	15567.0000	36.7870		
9/9/2018 11:30 PM	15567.0000		238.00	
9/9/2018 12:15 PM	15411.0000	34.3440		
9/9/2018 1:00 AM	15329.0000	34.3440		
9/8/2018 6:30 PM	15328.0000	34.9390	232.00	
9/8/2018 9:45 AM	15117.0000	34.9390		
9/8/2018 1:00 AM	15097.0000	34.9390		
9/7/2018 6:30 PM	15095.0000	34.6120	145.00	
9/7/2018 9:45 AM	14958.0000	34.6120		
9/7/2018 1:00 AM	14952.0000	34.6120		
9/6/2018 6:30 PM	14951.0000	36.0840	226.00	
9/6/2018 9:45 AM	14747.0000	36.0840		
9/6/2018 1:00 AM	14726.0000	36.0840		
9/5/2018 6:30 PM	14723.0000	24.3570	272.00	
9/5/2018 9:45 AM	14476.0000	24.3570		
9/5/2018 1:00 AM	14454.0000	24.3570		
9/4/2018 6:30 PM	14451.0000	36.6450	94.00	
9/4/2018 9:45 AM	14366.0000	36.6450		
9/4/2018 1:00 AM	14360.0000	36.6450		
9/3/2018 6:30 PM	14358.0000	35.3730	217.00	
9/3/2018 9:45 AM	14165.0000	35.3730		
9/3/2018 1:00 AM	14143.0000	35.3730		
9/2/2018 11:30 PM	14143.0000		204.00	
9/2/2018 12:15 PM	13978.0000	34.2210		
9/2/2018 1:00 AM	13939.0000	34.2210		
9/1/2018 6:30 PM	13936.0000	18.8470	260.00	
9/1/2018 9:45 AM	13701.0000	18.8470		
9/1/2018 1:00 AM	13679.0000	18.8470		
8/31/2018 6:30 PM	13675.0000	35.2170	83.00	5839.00
8/31/2018 9:45 AM	13600.0000	35.2170		
8/31/2018 1:00 AM	13596.0000	35.2170		
8/30/2018 6:30 PM	13596.0000	34.8450	289.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
8/30/2018 9:45 AM	13374.0000	34.8450		
8/30/2018 1:00 AM	13353.0000	34.8450		
8/29/2018 6:30 PM	13350.0000	18.4050	202.00	
8/29/2018 9:45 AM	13170.0000	18.4050		
8/29/2018 1:00 AM	13151.0000	18.4050		
8/28/2018 6:30 PM	13151.0000	23.3420	68.00	
8/28/2018 9:45 AM	13096.0000	23.3420		
8/28/2018 1:00 AM	13083.0000	23.3420		
8/27/2018 6:30 PM	13082.0000	14.4040	88.00	
8/27/2018 9:45 AM	12999.0000	14.4040		
8/27/2018 1:00 AM	12995.0000	14.4040		
8/26/2018 11:30 PM	12995.0000		37.00	
8/26/2018 12:15 PM	12977.0000	33.0790		
8/26/2018 1:00 AM	12958.0000	33.0790		
8/25/2018 6:30 PM	12955.0000	20.0760	174.00	
8/25/2018 9:45 AM	12793.0000	20.0760		
8/25/2018 1:00 AM	12784.0000	20.0760		
8/24/2018 6:30 PM	12782.0000	31.6460	83.00	
8/24/2018 9:45 AM	12705.0000	31.6460		
8/24/2018 1:00 AM	12701.0000	31.6460		
8/23/2018 6:30 PM	12700.0000	33.5180	195.00	
8/23/2018 9:45 AM	12527.0000	33.5180		
8/23/2018 1:00 AM	12506.0000	33.5180		
8/22/2018 6:30 PM	12502.0000	35.6280	257.00	
8/22/2018 9:45 AM	12271.0000	35.6280		
8/22/2018 1:00 AM	12249.0000	35.6280		
8/21/2018 6:30 PM	12245.0000	33.6810	250.00	
8/21/2018 9:45 AM	12010.0000	33.6810		
8/21/2018 1:00 AM	11999.0000	33.6810		
8/20/2018 6:30 PM	11995.0000	14.5050	199.00	
8/20/2018 9:45 AM	11812.0000	14.5050		
8/20/2018 1:00 AM	11800.0000	14.5050		
8/19/2018 11:30 PM	11800.0000		46.00	
8/19/2018 12:15 PM	11770.0000	23.2050		
8/19/2018 1:00 AM	11754.0000	23.2050		
8/18/2018 6:30 PM	11750.0000	24.8730	164.00	
8/18/2018 9:45 AM	11604.0000	24.8730		
8/18/2018 1:00 AM	11590.0000	24.8730		
8/17/2018 6:30 PM	11587.0000	32.5080	178.00	
8/17/2018 9:45 AM	11428.0000	32.5080		
8/17/2018 1:00 AM	11412.0000	32.5080		
8/16/2018 6:30 PM	11407.0000	34.5880	254.00	
8/16/2018 9:45 AM	11180.0000	34.5880		
8/16/2018 1:00 AM	11158.0000	34.5880		
8/15/2018 6:30 PM	11152.0000	34.0600	270.00	
8/15/2018 9:45 AM	10912.0000	34.0600		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
8/15/2018 1:00 AM	10888.0000	34.0600		
8/14/2018 6:30 PM	10882.0000	30.6400	212.00	
8/14/2018 9:45 AM	10685.0000	30.6400		
8/14/2018 1:00 AM	10676.0000	30.6400		
8/13/2018 6:30 PM	10671.0000	32.4520	219.00	
8/13/2018 9:45 AM	10474.0000	32.4520		
8/13/2018 1:00 AM	10457.0000	32.4520		
8/12/2018 11:30 PM	10457.0000		237.00	
8/12/2018 12:15 PM	10301.0000	23.8100		
8/12/2018 1:00 AM	10220.0000	23.8100		
8/11/2018 6:30 PM	10215.0000	27.4770	183.00	
8/11/2018 9:45 AM	10054.0000	27.4770		
8/11/2018 1:00 AM	10037.0000	27.4770		
8/10/2018 6:30 PM	10032.0000	35.3760	203.00	
8/10/2018 9:45 AM	9855.0000	35.3760		
8/10/2018 1:00 AM	9834.0000	35.3760		
8/9/2018 6:30 PM	9828.0000	30.2400	261.00	
8/9/2018 9:45 AM	9596.0000	30.2400		
8/9/2018 1:00 AM	9573.0000	30.2400		
8/8/2018 6:30 PM	9567.0000	34.6510	235.00	
8/8/2018 9:45 AM	9359.0000	34.6510		
8/8/2018 1:00 AM	9338.0000	34.6510		
8/7/2018 6:30 PM	9331.0000	35.0950	272.00	
8/7/2018 9:45 AM	9091.0000	35.0950		
8/7/2018 1:00 AM	9066.0000	35.0950		
8/6/2018 6:30 PM	9058.0000	34.6870	268.00	
8/6/2018 9:45 AM	8818.0000	34.6870		
8/6/2018 1:00 AM	8798.0000	34.6870		
8/5/2018 11:30 PM	8798.0000		238.00	
8/5/2018 12:15 PM	8649.0000	25.7660		
8/5/2018 1:00 AM	8560.0000	25.7660		
8/4/2018 6:30 PM	8554.0000	27.1700	163.00	
8/4/2018 9:45 AM	8422.0000	27.1700		
8/4/2018 1:00 AM	8397.0000	27.1700		
8/3/2018 6:30 PM	8388.0000	36.3140	139.00	
8/3/2018 9:45 AM	8283.0000	36.3140		
8/3/2018 1:00 AM	8258.0000	36.3140		
8/2/2018 6:30 PM	8252.0000	19.8260	250.00	
8/2/2018 9:45 AM	8033.0000	19.8260		
8/2/2018 1:00 AM	8008.0000	19.8260		
8/1/2018 6:30 PM	8004.0000	33.7800	122.00	
8/1/2018 9:45 AM	7899.0000	33.7800		
8/1/2018 1:00 AM	7886.0000	33.7800		
7/31/2018 6:30 PM	7880.0000	35.0920	265.00	6050.00
7/31/2018 9:45 AM	7645.0000	35.0920		
7/31/2018 1:00 AM	7621.0000	35.0920		

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
7/30/2018 6:30 PM	7614.0000	37.3890	249.00	
7/30/2018 9:45 AM	7397.0000	37.3890		
7/30/2018 1:00 AM	7372.0000	37.3890		
7/29/2018 11:30 PM	7372.0000		183.00	
7/29/2018 12:15 PM	7280.0000	37.4640		
7/29/2018 1:00 AM	7189.0000	37.4640		
7/28/2018 6:30 PM	7181.0000	36.5160	207.00	
7/28/2018 9:45 AM	7007.0000	36.5160		
7/28/2018 1:00 AM	6982.0000	36.5160		
7/27/2018 6:30 PM	6974.0000	25.2450	269.00	
7/27/2018 9:45 AM	6741.0000	25.2450		
7/27/2018 1:00 AM	6713.0000	25.2450		
7/26/2018 6:30 PM	6705.0000	31.9080	118.00	
7/26/2018 9:45 AM	6602.0000	31.9080		
7/26/2018 1:00 AM	6595.0000	31.9080		
7/25/2018 6:30 PM	6589.0000	31.5190	201.00	
7/25/2018 9:45 AM	6404.0000	31.5190		
7/25/2018 1:00 AM	6394.0000	31.5190		
7/24/2018 6:30 PM	6387.0000	30.8780	245.00	
7/24/2018 9:45 AM	6171.0000	30.8780		
7/24/2018 1:00 AM	6149.0000	30.8780		
7/23/2018 6:30 PM	6142.0000	31.5040	229.00	
7/23/2018 9:45 AM	5941.0000	31.5040		
7/23/2018 1:00 AM	5920.0000	31.5040		
7/22/2018 11:30 PM	5920.0000		214.00	
7/22/2018 12:15 PM	5783.0000	15.6860		
7/22/2018 1:00 AM	5706.0000	15.6860		
7/21/2018 6:30 PM	5700.0000	29.1570	90.00	
7/21/2018 9:45 AM	5625.0000	29.1570		
7/21/2018 1:00 AM	5616.0000	29.1570		
7/20/2018 6:30 PM	5610.0000	12.9980	103.00	
7/20/2018 9:45 AM	5522.0000	12.9980		
7/20/2018 1:00 AM	5513.0000	12.9980		
7/19/2018 6:30 PM	5511.0000	29.1380	70.00	
7/19/2018 9:45 AM	5462.0000	29.1380		
7/19/2018 1:00 AM	5443.0000	29.1380		
7/18/2018 6:30 PM	5436.0000	32.4310	178.00	
7/18/2018 9:45 AM	5290.0000	32.4310		
7/18/2018 1:00 AM	5265.0000	32.4310		
7/17/2018 6:30 PM	5257.0000	31.8120	232.00	
7/17/2018 9:45 AM	5057.0000	31.8120		
7/17/2018 1:00 AM	5033.0000	31.8120		
7/16/2018 6:30 PM	5026.0000	31.5430	246.00	
7/16/2018 9:45 AM	4810.0000	31.5430		
7/16/2018 1:00 AM	4787.0000	31.5430		
7/15/2018 11:30 PM	4787.0000		190.00	

Meter Read Date	kWh1	PKw	24 hr kWh	Monthly kWh
7/15/2018 12:15 PM	4645.0000	30.5830		
7/15/2018 1:00 AM	4597.0000	30.5830		
7/14/2018 6:30 PM	4590.0000	29.7120	244.00	
7/14/2018 9:45 AM	4376.0000	29.7120		
7/14/2018 1:00 AM	4353.0000	29.7120		
7/13/2018 6:30 PM	4346.0000	32.2650	233.00	
7/13/2018 9:45 AM	4144.0000	32.2650		
7/13/2018 1:00 AM	4120.0000	32.2650		
7/12/2018 6:30 PM	4113.0000	28.8020	164.00	
7/12/2018 9:45 AM	3976.0000	28.8020		
7/12/2018 1:00 AM	3956.0000	28.8020		
7/11/2018 6:30 PM	3949.0000	30.5060	131.00	
7/11/2018 9:45 AM	3842.0000	30.5060		
7/11/2018 1:00 AM	3825.0000	30.5060		
7/10/2018 6:30 PM	3817.0000	32.2340	225.00	
7/10/2018 9:45 AM	3611.0000	32.2340		
7/10/2018 1:00 AM	3600.0000	32.2340		
7/9/2018 6:30 PM	3592.0000	22.0270	240.00	
7/9/2018 9:45 AM	3383.0000	22.0270		
7/9/2018 1:00 AM	3360.0000	22.0270		
7/8/2018 11:30 PM	3360.0000		83.00	
7/8/2018 12:15 PM	3323.0000	30.4290		
7/8/2018 1:00 AM	3277.0000	30.4290		
7/7/2018 6:30 PM	3269.0000	32.1790	246.00	
7/7/2018 9:45 AM	3055.0000	32.1790		
7/7/2018 1:00 AM	3031.0000	32.1790		
7/6/2018 6:30 PM	3024.0000	32.5440	237.00	
7/6/2018 9:45 AM	2818.0000	32.5440		
7/6/2018 1:00 AM	2794.0000	32.5440		
7/5/2018 6:30 PM	2786.0000	28.9390	262.00	
7/5/2018 9:45 AM	2557.0000	28.9390		
7/5/2018 1:00 AM	2532.0000	28.9390		
7/4/2018 6:30 PM	2524.0000	27.7170	210.00	
7/4/2018 9:45 AM	2333.0000	27.7170		
7/4/2018 1:00 AM	2322.0000	27.7170		
7/3/2018 6:30 PM	2320.0000	31.9340	159.00	
7/3/2018 9:45 AM	2173.0000	31.9340		
7/3/2018 1:00 AM	2163.0000	31.9340		
7/2/2018 6:30 PM	2158.0000	28.5860	178.00	
7/2/2018 9:45 AM	2010.0000	28.5860		
7/2/2018 1:00 AM	1985.0000	28.5860		
7/1/2018 11:30 PM	1985.0000		149.00	
7/1/2018 12:15 PM	1853.0000	23.9320		
7/1/2018 1:00 AM	1836.0000	23.9320		

Appendix E

PVWatts: Monthly PV Performance Data

Requested Location:	1380 Community Loop Bagley, MN 56621
Location:	Lat, Lon: 47.41, -95.5
Lat (deg N):	47.41
Long (deg W):	95.5
Elev (m):	475.7000122
DC System Size (kW):	41.6
Module Type:	Standard
Array Type:	Fixed (open rack)
Array Tilt (deg):	30
Array Azimuth (deg):	180
System Losses:	14.08
Invert Efficiency:	96
DC to AC Size Ratio:	1.2
Average Cost of Electricity Purchased from Utility (\$/kWh):	0.068
Capacity Factor (%)	15.5

Month	AC System Output(kWh)	Solar Radiation (kWh/m^ 2/day)	Plane of Array Irradiance (W/m^2)	DC array Output (kWh)	Value (\$)
1	3181.497559	2.785995	86.36585236	3329.711	216.34
2	4121.372559	4.089307	114.5005875	4301.792	280.25
3	5319.368164	4.893439	151.6966095	5606.071	361.72
4	5730.503906	5.803777	174.1132965	5994.555	389.67
5	5934.634766	5.812781	180.1962128	6216.67	403.56
6	5766.353516	6.003665	180.1099701	6027.68	392.11
7	6410.407715	6.675094	206.9279022	6695.211	435.91
8	5782.09082	6.027971	186.867096	6041.687	393.18
9	5065.849609	5.306915	159.2074432	5290.476	344.48
10	3631.517334	3.444533	106.78051	3802.927	246.94
11	2890.003906	2.7488	82.46398926	3026.771	196.52
12	2606.888184	2.272764	70.45569611	2732.046	177.27
Total	56440.48804	55.86504	1699.685165	59065.6	3837.95

ELECTRICAL SPECIFICATIONS

DC WATT Calculated 12,350W

AC WATT Nameplate 10,800W

MODULE JINKO SOLAR JKM325PP-72-V 325W POLY

Pmax	Rated	325W
Vmp	Nameplate	37.6VDC
Imp	Nameplate	8.66A
Voc@-40°C	Calculated	55.8VDC
Isc	Nameplate	9.10A

(A)

POWER OPTIMIZERS SOLAREEDGE P400

Wattsinput	Maximum Rated	400W
Vinput	Maximum Rated	80VDC
Iinput	Maximum Rated	12.63A
Voutput	Maximum Rated	60VDC
Ioutput	Maximum Rated	15A

SUB-ARRAY 13OPTIMIZERS PER 15-MODULE STRING

Pmax	Calculated	4,225WDC
DC V	Nominal	325VDC
Max Output I	Rated	15A

(C)

SUB-ARRAY 12OPTIMIZERS PER 12-MODULE STRING

Pmax	Calculated	3,900WDC
DC V	Nominal	325VDC
Max Output I	Rated	15A

(D)

INVERTERSOLAREEDGE 10000A-US

V input	Nominal	325VDC
V input	Max rated	500VDC
Iinput	Max rated	33A
Pmax output	Rated	10,800WAC
Output V	Nominal	208VAC, 1\$
Max Output I	Rated, continuous	48A
Efficiency	Rated	98% ϵ

(E)

(F)

INVERTER IS UL1741 LISTED, WITHAFCI

PROJECT FOR
PV INSTALL
RICE LAKE DAY CARE

QTY:

REVISION:



www.real.org 218-947-3779 info@real.org

BJA *****

16-NIAR-18

NTS

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WENOS

3.2

Appendix G

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
3/19/2019 1:00 AM	8107.0000	11.0590		326.00
3/18/2019 6:30 PM	8106.00	11.2600	59.00	
3/18/2019 9:45 AM	8053.0000	11.2600		
3/18/2019 1:00 AM	8048.0000	11.2600		
3/17/2019 11:30 PM	8048.0000		74.00	
3/17/2019 12:15 PM	7993.0000	11.2530		
3/17/2019 1:00 AM	7974.0000	11.2530		
3/16/2019 6:30 PM	7974.0000	9.0600	82.00	
3/16/2019 9:45 AM	7897.0000	9.0600		
3/16/2019 1:00 AM	7892.0000	9.0600		
3/15/2019 6:30 PM	7892.0000	3.4290	32.00	
3/15/2019 9:45 AM	7861.0000	3.4290		
3/15/2019 1:00 AM	7860.0000	3.4290		
3/14/2019 6:30 PM	7860.0000	2.7640	13.00	
3/14/2019 9:45 AM	7848.0000	2.7640		
3/14/2019 1:00 AM	7847.0000	2.7640		
3/13/2019 6:30 PM	7847.0000	2.3800	11.00	
3/13/2019 9:45 AM	7836.0000	2.3800		
3/13/2019 1:00 AM	7836.0000	2.3800		
3/12/2019 6:30 PM	7836.0000	0.0260	6.00	
3/12/2019 9:45 AM	7830.0000	0.0260		
3/12/2019 1:00 AM	7830.0000	0.0260		
3/11/2019 6:30 PM	7830.0000	0.0190	0.00	
3/11/2019 9:45 AM	7830.0000	0.0190		
3/11/2019 1:00 AM	7830.0000	0.0190		
3/10/2019 11:30 PM	7830.0000		1.00	
3/10/2019 12:15 PM	7829.0000	0.4000		
3/10/2019 12:00 AM	7829.0000	4.7610		
3/9/2019 5:30 PM	7829.0000	4.7610	1.00	
3/9/2019 8:45 AM	7829.0000	4.7610		
3/9/2019 12:00 AM	7828.0000	1.2330		
3/8/2019 5:30 PM	7828.0000	1.2330	17.00	
3/8/2019 8:45 AM	7811.0000	1.2330		
3/8/2019 12:00 AM	7811.0000	1.2070		
3/7/2019 5:30 PM	7811.0000	1.2070	7.00	
3/7/2019 8:45 AM	7804.0000	1.2070		
3/7/2019 12:00 AM	7804.0000	0.5850		
3/6/2019 5:30 PM	7804.0000	0.5850	6.00	
3/6/2019 8:45 AM	7798.0000	0.5850		
3/6/2019 12:00 AM	7798.0000	0.5850		
3/5/2019 5:30 PM	7798.0000	0.1170	2.00	
3/5/2019 8:45 AM	7796.0000	0.1170		
3/5/2019 12:00 AM	73332.0000	0.1920		
3/4/2019 5:30 PM	7796.0000	0.1920	1.00	
3/4/2019 8:45 AM	7795.0000	0.1920		
3/4/2019 12:00 AM	7795.0000	0.1840		
3/3/2019 10:30 PM	7795.0000		1.00	
3/3/2019 11:15 AM	7794.0000	0.1840		
3/3/2019 12:00 AM	7794.0000	0.0400		
3/2/2019 5:30 PM	7794.0000	0.0400	1.00	
3/2/2019 8:45 AM	7793.0000	0.0400		
3/2/2019 12:00 AM	7793.0000	0.2230		
3/1/2019 5:30 PM	7793.0000	0.2230	0.00	
3/1/2019 8:45 AM	7793.0000	0.2230		
3/1/2019 12:00 AM	7793.0000	0.1840		
2/28/2019 5:30 PM	7793.0000	0.1840	1.00	
2/28/2019 8:45 AM	7792.0000	0.1840		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
2/28/2019 12:00 AM	7792.0000	0.0690		
2/27/2019 5:30 PM	7792.0000	0.0690	1.00	
2/27/2019 8:45 AM	7791.0000	0.0690		
2/27/2019 12:00 AM	7791.0000	0.0690		
2/26/2019 5:30 PM	7791.0000	0.2010	0.00	
2/26/2019 8:45 AM	7791.0000	0.2010		
2/26/2019 12:00 AM	7791.0000	0.2010		
2/25/2019 5:30 PM	7791.0000	0.1650	1.00	
2/25/2019 8:45 AM	7790.0000	0.1650		
2/25/2019 12:00 AM	7790.0000	0.1650		
2/24/2019 10:30 PM	7790.0000		1.00	
2/24/2019 11:15 AM	7789.0000	0.0090		
2/24/2019 12:00 AM	7789.0000	1.6000		
2/23/2019 5:30 PM	7789.0000	1.6000	0.00	
2/23/2019 8:45 AM	7789.0000	1.6000		
2/23/2019 12:00 AM	7789.0000	0.9620		
2/22/2019 5:30 PM	7789.0000	0.9620	6.00	
2/22/2019 8:45 AM	7783.0000	0.9620		
2/22/2019 12:00 AM	7783.0000	0.0070		
2/21/2019 5:30 PM	7783.0000	0.0070	2.00	
2/21/2019 8:45 AM	7781.0000	0.0070		
2/21/2019 12:00 AM	7781.0000	0.0070		
2/20/2019 5:30 PM	7781.0000	0.0380	0.00	
2/20/2019 8:45 AM	7781.0000	0.0380		
2/20/2019 12:00 AM	7781.0000	0.0380		
2/19/2019 5:30 PM	7781.0000	0.0330	0.00	327.00
2/19/2019 8:45 AM	7781.0000	0.0330		
2/19/2019 12:00 AM	7781.0000	0.0330		
2/18/2019 5:30 PM	7781.0000	0.0280	1.00	
2/18/2019 8:45 AM	7780.0000	0.0280		
2/18/2019 12:00 AM	7780.0000	0.0280		
2/17/2019 10:30 PM	7780.0000		0.00	
2/17/2019 11:15 AM	7780.0000	0.0090		
2/17/2019 12:00 AM	7780.0000	0.0260		
2/16/2019 5:30 PM	7780.0000	0.0260	0.00	
2/16/2019 8:45 AM	7780.0000	0.0260		
2/16/2019 12:00 AM	7780.0000	0.0140		
2/15/2019 5:30 PM	7780.0000	0.0140	0.00	
2/15/2019 8:45 AM	7780.0000	0.0140		
2/15/2019 12:00 AM	7780.0000	0.0190		
2/14/2019 5:30 PM	7780.0000	0.0190	1.00	
2/14/2019 8:45 AM	7779.0000	0.0190		
2/14/2019 12:00 AM	7779.0000	0.0040		
2/13/2019 5:30 PM	7779.0000	0.0040	0.00	
2/13/2019 8:45 AM	7779.0000	0.0040		
2/13/2019 12:00 AM	7779.0000	0.0070		
2/12/2019 5:30 PM	7779.0000	0.0070	0.00	
2/12/2019 8:45 AM	7779.0000	0.0070		
2/12/2019 12:00 AM	7779.0000	0.0070		
2/11/2019 5:30 PM	7779.0000	0.0090	0.00	
2/11/2019 8:45 AM	7779.0000	0.0090		
2/11/2019 12:00 AM	7779.0000	0.0090		
2/10/2019 10:30 PM	7779.0000		1.00	
2/10/2019 11:15 AM	7778.0000	0.0090		
2/10/2019 12:00 AM	7778.0000	0.0090		
2/9/2019 5:30 PM	7778.0000	0.0310	0.00	
2/9/2019 8:45 AM	7778.0000	0.0310		
2/9/2019 12:00 AM	7778.0000	0.0310		
2/8/2019 5:30 PM	7778.0000	0.0040	0.00	
2/8/2019 8:45 AM	7778.0000	0.0040		
2/8/2019 12:00 AM	7778.0000	0.0120		
2/7/2019 5:30 PM	7778.0000	0.0120	0.00	

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
2/7/2019 8:45 AM	7778.0000	0.0120		
2/7/2019 12:00 AM	7778.0000	0.0120		
2/6/2019 5:30 PM	7778.0000	0.0120	1.00	
2/6/2019 8:45 AM	7777.0000	0.0120		
2/6/2019 12:00 AM	7777.0000	0.0120		
2/5/2019 5:30 PM	7777.0000	0.0960	0.00	
2/5/2019 8:45 AM	7777.0000	0.0960		
2/5/2019 12:00 AM	7777.0000	0.0960		
2/4/2019 5:30 PM	7777.0000	0.9860	0.00	
2/4/2019 8:45 AM	7777.0000	0.9860		
2/4/2019 12:00 AM	7777.0000	0.9860		
2/3/2019 10:30 PM	7777.0000		4.00	
2/3/2019 11:15 AM	7774.0000	2.7960		
2/3/2019 12:00 AM	7773.0000	2.7960		
2/2/2019 5:30 PM	7773.0000	0.3310	12.00	
2/2/2019 8:45 AM	7761.0000	0.3310		
2/2/2019 12:00 AM	7761.0000	0.3310		
2/1/2019 5:30 PM	7761.0000	1.1060	1.00	
2/1/2019 8:45 AM	7760.0000	1.1060		
2/1/2019 12:00 AM	7760.0000	1.1060		
1/31/2019 5:30 PM	7760.0000	0.8230	5.00	
1/31/2019 8:45 AM	7755.0000	0.8230		
1/31/2019 12:00 AM	7755.0000	0.4580		
1/30/2019 5:30 PM	7755.0000	0.4580	4.00	
1/30/2019 8:45 AM	7751.0000	0.4580		
1/30/2019 12:00 AM	7751.0000	0.4580		
1/29/2019 5:30 PM	7751.0000	0.2110	2.00	
1/29/2019 8:45 AM	7749.0000	0.2110		
1/29/2019 12:00 AM	7749.0000	0.2110		
1/28/2019 5:30 PM	7749.0000	2.2240	1.00	
1/28/2019 8:45 AM	7748.0000	2.2240		
1/28/2019 12:00 AM	7748.0000	2.2240		
1/27/2019 10:30 PM	7935.0000		191.00	
1/27/2019 11:15 AM	7745.0000	2.8170		
1/27/2019 12:00 AM	7744.0000	2.8170		
1/26/2019 5:30 PM	7744.0000	2.9200	13.00	
1/26/2019 8:45 AM	7731.0000	2.9200		
1/26/2019 12:00 AM	7731.0000	2.9200		
1/25/2019 5:30 PM	7731.0000	1.5720	15.00	
1/25/2019 8:45 AM	7716.0000	1.5720		
1/25/2019 12:00 AM	7716.0000	1.3960		
1/24/2019 5:30 PM	7716.0000	1.3960	7.00	
1/24/2019 8:45 AM	7709.0000	1.3960		
1/24/2019 12:00 AM	7709.0000	0.0400		
1/23/2019 5:30 PM	7709.0000	0.0400	3.00	
1/23/2019 8:45 AM	7706.0000	0.0400		
1/23/2019 12:00 AM	7706.0000	2.3590		
1/22/2019 5:30 PM	7706.0000	2.3590	1.00	
1/22/2019 8:45 AM	7705.0000	2.3590		
1/22/2019 12:00 AM	7705.0000	2.3590		
1/21/2019 5:30 PM	7705.0000	10.6390	8.00	
1/21/2019 8:45 AM	7697.0000	10.6390		
1/21/2019 12:00 AM	7697.0000	10.6390		
1/20/2019 10:30 PM	7697.0000		56.00	
1/20/2019 11:15 AM	7658.0000	10.4080		
1/20/2019 12:00 AM	7641.0000	10.4080		
1/19/2019 5:30 PM	7641.0000	7.8600	53.00	354.00
1/19/2019 8:45 AM	7588.0000	7.8600		
1/19/2019 12:00 AM	7588.0000	7.8600		
1/18/2019 5:30 PM	7588.0000	4.4130	27.00	
1/18/2019 8:45 AM	7561.0000	4.4130		
1/18/2019 12:00 AM	7561.0000	4.4130		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
1/17/2019 5:30 PM	7561.0000	8.0900		14.00
1/17/2019 8:45 AM	7547.0000	8.0900		
1/17/2019 12:00 AM	7547.0000	8.0900		
1/16/2019 5:30 PM	7547.0000	5.2720	23.00	
1/16/2019 8:45 AM	7524.0000	5.2720		
1/16/2019 12:00 AM	7524.0000	5.2720		
1/15/2019 5:30 PM	7524.0000	3.6810	8.00	
1/15/2019 8:45 AM	7516.0000	3.6810		
1/15/2019 12:00 AM	7516.0000	3.6810		
1/14/2019 5:30 PM	7516.0000	0.8040	9.00	
1/14/2019 8:45 AM	7507.0000	0.8040		
1/14/2019 12:00 AM	7507.0000	0.8040		
1/13/2019 10:30 PM	7507.0000		4.00	
1/13/2019 11:15 AM	7504.0000	1.1730		
1/13/2019 12:00 AM	7503.0000	1.1730		
1/12/2019 5:30 PM	7503.0000	8.4040	4.00	
1/12/2019 8:45 AM	7499.0000	8.4040		
1/12/2019 12:00 AM	7499.0000	8.4040		
1/11/2019 5:30 PM	7499.0000	9.2760	39.00	
1/11/2019 8:45 AM	7461.0000	9.2760		
1/11/2019 12:00 AM	7460.0000	9.3860		
1/10/2019 5:30 PM	7460.0000	9.3860	19.00	
1/10/2019 8:45 AM	7441.0000	9.3860		
1/10/2019 12:00 AM	48400.0000	9.3860		
1/9/2019 5:30 PM	7440.0000	3.0790	38.00	
1/9/2019 8:45 AM	7402.0000	3.0790		
1/9/2019 12:00 AM	7402.0000	3.0790		
1/8/2019 5:30 PM	7402.0000	8.3060	13.00	
1/8/2019 8:45 AM	7389.0000	8.3060		
1/8/2019 12:00 AM	7389.0000	1.7180		
1/7/2019 5:30 PM	7389.0000	1.7180	15.00	
1/7/2019 8:45 AM	7374.0000	1.7180		
1/7/2019 12:00 AM	7374.0000	1.7180		
1/6/2019 10:30 PM	7374.0000		6.00	
1/6/2019 11:15 AM	7370.0000	8.1640		
1/6/2019 12:00 AM	7368.0000	8.1640		
1/5/2019 5:30 PM	7368.0000	7.2980	15.00	
1/5/2019 8:45 AM	7353.0000	7.2980		
1/5/2019 12:00 AM	7353.0000	7.2980		
1/4/2019 5:30 PM	7353.0000	3.6810	23.00	
1/4/2019 8:45 AM	7330.0000	3.6810		
1/4/2019 12:00 AM	7330.0000	0.0000		
1/3/2019 5:30 PM	7330.0000	0.0000	11.00	
1/3/2019 8:45 AM	7319.0000	0.0000		
1/3/2019 12:00 AM	7319.0000	0.0690		
1/2/2019 5:30 PM	7319.0000	0.0690	0.00	
1/2/2019 8:45 AM	7319.0000	0.0690		
1/2/2019 12:00 AM	7319.0000	0.0740		
1/1/2019 5:30 PM	7319.0000	0.0740	1.00	
1/1/2019 8:45 AM	7318.0000	0.0740		
1/1/2019 12:00 AM	7318.0000	0.0070		
12/31/2018 5:30 PM	7318.0000	0.0070	0.00	
12/31/2018 8:45 AM	7318.0000	0.0070		
12/31/2018 12:00 AM	7318.0000	0.0810		
12/30/2018 10:30 PM	7318.0000		0.00	
12/30/2018 11:15 AM	7318.0000	0.0810		
12/30/2018 12:00 AM	7318.0000	0.0760		
12/29/2018 5:30 PM	7318.0000	0.0760	0.00	
12/29/2018 8:45 AM	7318.0000	0.0760		
12/29/2018 12:00 AM	7318.0000	0.0040		
12/28/2018 5:30 PM	7318.0000	0.0040	1.00	
12/28/2018 8:45 AM	7317.0000	0.0040		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
12/28/2018 12:00 AM	7317.0000	2.7210		
12/27/2018 5:30 PM	7317.0000	2.7210	0.00	
12/27/2018 8:45 AM	7317.0000	2.7210		
12/27/2018 12:00 AM	7317.0000	0.4410		
12/26/2018 5:30 PM	7317.0000	0.4410	6.00	
12/26/2018 8:45 AM	7311.0000	0.4410		
12/26/2018 12:00 AM	7311.0000	1.7060		
12/25/2018 5:30 PM	7311.0000	1.7060	2.00	
12/25/2018 8:45 AM	7309.0000	1.7060		
12/25/2018 12:00 AM	7309.0000	0.4170		
12/24/2018 5:30 PM	7309.0000	0.4170	5.00	
12/24/2018 8:45 AM	7304.0000	0.4170		
12/24/2018 12:00 AM	7304.0000	0.0620		
12/23/2018 10:30 PM	7304.0000		1.00	
12/23/2018 11:15 AM	7303.0000	0.0620		
12/23/2018 12:00 AM	7302.0000	4.7470		
12/22/2018 5:30 PM	7302.0000	4.7470	0.00	
12/22/2018 8:45 AM	7302.0000	4.7470		
12/22/2018 12:00 AM	7302.0000	1.5640		
12/21/2018 5:30 PM	7302.0000	1.5640	13.00	
12/21/2018 8:45 AM	7289.0000	1.5640		
12/21/2018 12:00 AM	7289.0000	2.7600		
12/20/2018 5:30 PM	7289.0000	2.7600	4.00	
12/20/2018 8:45 AM	7285.0000	2.7600		
12/20/2018 12:00 AM	7285.0000	2.7600		
12/19/2018 5:30 PM	7285.0000	8.5700	10.00	506.00
12/19/2018 8:45 AM	7275.0000	8.5700		
12/19/2018 12:00 AM	7275.0000	8.5700		
12/18/2018 5:30 PM	7275.0000	8.9300	27.00	
12/18/2018 8:45 AM	7248.0000	8.9300		
12/18/2018 12:00 AM	7248.0000	8.9300		
12/17/2018 5:30 PM	7248.0000	9.3360	40.00	
12/17/2018 8:45 AM	7208.0000	9.3360		
12/17/2018 12:00 AM	7208.0000	9.3360		
12/16/2018 10:30 PM	7208.0000		43.00	
12/16/2018 11:15 AM	7179.0000	9.4990		
12/16/2018 12:00 AM	7165.0000	9.4990		
12/15/2018 5:30 PM	7165.0000	8.0920	41.00	
12/15/2018 8:45 AM	7125.0000	8.0920		
12/15/2018 12:00 AM	7124.0000	9.0360		
12/14/2018 5:30 PM	7124.0000	9.0360	33.00	
12/14/2018 8:45 AM	7092.0000	9.0360		
12/14/2018 12:00 AM	7091.0000	7.8140		
12/13/2018 5:30 PM	7091.0000	7.8140	21.00	
12/13/2018 8:45 AM	7070.0000	7.8140		
12/13/2018 12:00 AM	7070.0000	1.6990		
12/12/2018 5:30 PM	7070.0000	1.6990	21.00	
12/12/2018 8:45 AM	7049.0000	1.6990		
12/12/2018 12:00 AM	7049.0000	9.1510		
12/11/2018 5:30 PM	7049.0000	9.1510	8.00	
12/11/2018 8:45 AM	7042.0000	9.1510		
12/11/2018 12:00 AM	7041.0000	8.8320		
12/10/2018 5:30 PM	7041.0000	8.8320	41.00	
12/10/2018 8:45 AM	7000.0000	8.8320		
12/10/2018 12:00 AM	7000.0000	8.4160		
12/9/2018 10:30 PM	7000.0000		39.00	
12/9/2018 11:15 AM	6973.0000	8.4160		
12/9/2018 12:00 AM	6961.0000	2.3300		
12/8/2018 5:30 PM	6961.0000	2.3300	35.00	
12/8/2018 8:45 AM	6927.0000	2.3300		
12/8/2018 12:00 AM	6926.0000	2.2650		
12/7/2018 5:30 PM	6926.0000	2.2650	6.00	

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
12/7/2018 8:45 AM	6920.0000	2.2650		
12/7/2018 12:00 AM	6920.0000	2.2650		
12/6/2018 5:30 PM	6920.0000	0.2080	10.00	
12/6/2018 8:45 AM	6910.0000	0.2080		
12/6/2018 12:00 AM	6910.0000	0.2080		
12/5/2018 5:30 PM	6910.0000	0.5060	1.00	
12/5/2018 8:45 AM	6909.0000	0.5060		
12/5/2018 12:00 AM	6909.0000	0.5060		
12/4/2018 5:30 PM	6909.0000	0.3070	1.00	
12/4/2018 8:45 AM	6908.0000	0.3070		
12/4/2018 12:00 AM	6908.0000	0.3070		
12/3/2018 5:30 PM	6908.0000	0.1940	2.00	
12/3/2018 8:45 AM	6906.0000	0.1940		
12/3/2018 12:00 AM	6906.0000	0.1940		
12/2/2018 10:30 PM	6906.0000		0.00	
12/2/2018 11:15 AM	6906.0000	0.4320		
12/2/2018 12:00 AM	6906.0000	0.4320		
12/1/2018 5:30 PM	6906.0000	0.1240	2.00	
12/1/2018 8:45 AM	6904.0000	0.1240		
12/1/2018 12:00 AM	6904.0000	0.1240		
11/30/2018 5:30 PM	6904.0000	0.0740	1.00	
11/30/2018 8:45 AM	6903.0000	0.0740		
11/30/2018 12:00 AM	6903.0000	0.0740		
11/29/2018 5:30 PM	6903.0000	2.5340	0.00	
11/29/2018 8:45 AM	6903.0000	2.5340		
11/29/2018 12:00 AM	6903.0000	2.5340		
11/28/2018 5:30 PM	6903.0000	9.8180	9.00	
11/28/2018 8:45 AM	6894.0000	9.8180		
11/28/2018 12:00 AM	6894.0000	9.8180		
11/27/2018 5:30 PM	6894.0000	9.4270	46.00	
11/27/2018 8:45 AM	6849.0000	9.4270		
11/27/2018 12:00 AM	6848.0000	9.4270		
11/26/2018 5:30 PM	6848.0000	9.6140	26.00	
11/26/2018 8:45 AM	6822.0000	9.6140		
11/26/2018 12:00 AM	6822.0000	9.6140		
11/25/2018 10:30 PM	6822.0000		29.00	
11/25/2018 11:15 AM	6801.0000	0.9600		
11/25/2018 12:00 AM	6793.0000	0.9600		
11/24/2018 5:30 PM	6793.0000	1.5910	4.00	
11/24/2018 8:45 AM	6789.0000	1.5910		
11/24/2018 12:00 AM	6789.0000	1.5910		
11/23/2018 5:30 PM	6789.0000	0.7390	5.00	
11/23/2018 8:45 AM	6784.0000	0.7390		
11/23/2018 12:00 AM	6784.0000	0.7390		
11/22/2018 5:30 PM	6784.0000	0.5180	2.00	
11/22/2018 8:45 AM	6782.0000	0.5180		
11/22/2018 12:00 AM	6782.0000	0.5180		
11/21/2018 5:30 PM	6782.0000	0.2300	3.00	
11/21/2018 8:45 AM	6780.0000	0.2300		
11/21/2018 12:00 AM	6779.0000	0.2300		
11/20/2018 5:30 PM	6779.0000	0.8520	0.00	
11/20/2018 8:45 AM	6779.0000	0.8520		
11/20/2018 12:00 AM	6779.0000	0.8520		
11/19/2018 5:30 PM	6779.0000	0.4940	3.00	646.00
11/19/2018 8:45 AM	6776.0000	0.4940		
11/19/2018 12:00 AM	6776.0000	0.4940		
11/18/2018 10:30 PM	6776.0000		1.00	
11/18/2018 11:15 AM	6775.0000	1.4950		
11/18/2018 12:00 AM	6775.0000	0.7560		
11/17/2018 5:30 PM	6775.0000	0.7560	8.00	
11/17/2018 8:45 AM	6767.0000	0.7560		
11/17/2018 12:00 AM	6767.0000	10.3080		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
11/16/2018 5:30 PM	6767.0000	10.3080	1.00	
11/16/2018 8:45 AM	6766.0000	10.3080		
11/16/2018 12:00 AM	6766.0000	6.8730		
11/15/2018 5:30 PM	6766.0000	6.8730	12.00	
11/15/2018 8:45 AM	6754.0000	6.8730		
11/15/2018 12:00 AM	6754.0000	0.5970		
11/14/2018 5:30 PM	6754.0000	0.5970	19.00	
11/14/2018 8:45 AM	6735.0000	0.5970		
11/14/2018 12:00 AM	6735.0000	1.1200		
11/13/2018 5:30 PM	6735.0000	1.1200	2.00	
11/13/2018 8:45 AM	6733.0000	1.1200		
11/13/2018 12:00 AM	6733.0000	0.1360		
11/12/2018 5:30 PM	6733.0000	0.1360	4.00	
11/12/2018 8:45 AM	6729.0000	0.1360		
11/12/2018 12:00 AM	6729.0000	0.1360		
11/11/2018 10:30 PM	6729.0000		1.00	
11/11/2018 11:15 AM	6728.0000	0.2440		
11/11/2018 12:00 AM	6728.0000	0.2440		
11/10/2018 5:30 PM	6728.0000	0.2130	1.00	
11/10/2018 8:45 AM	6727.0000	0.2130		
11/10/2018 12:00 AM	6727.0000	0.2130		
11/9/2018 5:30 PM	6727.0000	0.3640	1.00	
11/9/2018 8:45 AM	6726.0000	0.3640		
11/9/2018 12:00 AM	6726.0000	0.3640		
11/8/2018 5:30 PM	6726.0000	0.5320	1.00	
11/8/2018 8:45 AM	6725.0000	0.5320		
11/8/2018 12:00 AM	6725.0000	0.5320		
11/7/2018 5:30 PM	6725.0000	0.2970	2.00	
11/7/2018 8:45 AM	6723.0000	0.2970		
11/7/2018 12:00 AM	6723.0000	0.2970		
11/6/2018 5:30 PM	6723.0000	1.3200	2.00	
11/6/2018 8:45 AM	6722.0000	1.3200		
11/6/2018 12:00 AM	6721.0000	1.3200		
11/5/2018 5:30 PM	6721.0000	9.6430	5.00	
11/5/2018 8:45 AM	6716.0000	9.6430		
11/5/2018 12:00 AM	6716.0000	7.5720		
11/4/2018 10:30 PM	6716.0000		54.00	
11/4/2018 11:15 AM	6682.0000	7.5720		
11/4/2018 1:00 AM	6662.0000	7.5720		
11/3/2018 6:30 PM	6662.0000	9.6790	35.00	
11/3/2018 9:45 AM	6628.0000	9.6790		
11/3/2018 1:00 AM	6627.0000	9.6790		
11/2/2018 6:30 PM	6627.0000	8.4480	58.00	
11/2/2018 9:45 AM	6572.0000	8.4480		
11/2/2018 1:00 AM	6569.0000	8.4480		
11/1/2018 6:30 PM	6569.0000	4.5210	30.00	
11/1/2018 9:45 AM	6540.0000	4.5210		
11/1/2018 1:00 AM	6539.0000	4.5210		
10/31/2018 6:30 PM	6539.0000	9.8520	14.00	
10/31/2018 9:45 AM	6525.0000	9.8520		
10/31/2018 1:00 AM	6525.0000	9.8520		
10/30/2018 6:30 PM	6525.0000	6.7990	44.00	
10/30/2018 9:45 AM	6482.0000	6.7990		
10/30/2018 1:00 AM	6481.0000	6.7990		
10/29/2018 6:30 PM	6481.0000	3.7990	16.00	
10/29/2018 9:45 AM	6465.0000	3.7990		
10/29/2018 1:00 AM	6465.0000	3.7990		
10/28/2018 11:30 PM	6465.0000		10.00	
10/28/2018 12:15 PM	6462.0000	7.7180		
10/28/2018 1:00 AM	6455.0000	7.7180		
10/27/2018 6:30 PM	6455.0000	0.7220	29.00	
10/27/2018 9:45 AM	6429.0000	0.7220		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
10/27/2018 1:00 AM	6426.0000	0.7220		
10/26/2018 6:30 PM	6426.0000	1.4230	2.00	
10/26/2018 9:45 AM	6424.0000	1.4230		
10/26/2018 1:00 AM	6424.0000	1.4230		
10/25/2018 6:30 PM	6424.0000	8.0200	5.00	
10/25/2018 9:45 AM	6420.0000	8.0200		
10/25/2018 1:00 AM	6419.0000	8.0200		
10/24/2018 6:30 PM	6419.0000	10.1970	32.00	
10/24/2018 9:45 AM	6391.0000	10.1970		
10/24/2018 1:00 AM	6387.0000	10.1970		
10/23/2018 6:30 PM	6387.0000	10.4900	61.00	
10/23/2018 9:45 AM	6327.0000	10.4900		
10/23/2018 1:00 AM	6326.0000	10.4900		
10/22/2018 6:30 PM	6326.0000	10.4470	65.00	
10/22/2018 9:45 AM	6265.0000	10.4470		
10/22/2018 1:00 AM	6261.0000	10.4470		
10/21/2018 11:30 PM	6261.0000		66.00	
10/21/2018 12:15 PM	6220.0000	10.6530		
10/21/2018 1:00 AM	6195.0000	10.6530		
10/20/2018 6:30 PM	6195.0000	10.2000	62.00	
10/20/2018 9:45 AM	6136.0000	10.2000		
10/20/2018 1:00 AM	6133.0000	10.2000		
10/19/2018 6:30 PM	6133.0000	9.9240	57.00	781.00
10/19/2018 9:45 AM	6077.0000	9.9240		
10/19/2018 1:00 AM	6076.0000	9.9240		
10/18/2018 6:30 PM	6076.0000	10.7710	65.00	
10/18/2018 9:45 AM	6015.0000	10.7710		
10/18/2018 1:00 AM	6011.0000	10.7710		
10/17/2018 6:30 PM	6011.0000	2.4910	70.00	
10/17/2018 9:45 AM	5945.0000	2.4910		
10/17/2018 1:00 AM	5941.0000	2.4910		
10/16/2018 6:30 PM	5941.0000	11.1160	11.00	
10/16/2018 9:45 AM	5931.0000	11.1160		
10/16/2018 1:00 AM	5930.0000	11.1160		
10/15/2018 6:30 PM	5930.0000	2.1020	47.00	
10/15/2018 9:45 AM	5883.0000	2.1020		
10/15/2018 1:00 AM	5883.0000	2.1020		
10/14/2018 11:30 PM	5883.0000		5.00	
10/14/2018 12:15 PM	5878.0000	3.0190		
10/14/2018 1:00 AM	5874.0000	3.0190		
10/13/2018 6:30 PM	5874.0000	11.0760	9.00	
10/13/2018 9:45 AM	5867.0000	11.0760		
10/13/2018 1:00 AM	5865.0000	11.0760		
10/12/2018 6:30 PM	5865.0000	0.5010	66.00	
10/12/2018 9:45 AM	5801.0000	0.5010		
10/12/2018 1:00 AM	5799.0000	0.5010		
10/11/2018 6:30 PM	5799.0000	1.4520	2.00	
10/11/2018 9:45 AM	5797.0000	1.4520		
10/11/2018 1:00 AM	5797.0000	1.4520		
10/10/2018 6:30 PM	5797.0000	2.5100	6.00	
10/10/2018 9:45 AM	5791.0000	2.5100		
10/10/2018 1:00 AM	5791.0000	2.5100		
10/9/2018 6:30 PM	5791.0000	1.6650	11.00	
10/9/2018 9:45 AM	5781.0000	1.6650		
10/9/2018 1:00 AM	5780.0000	1.6650		
10/8/2018 6:30 PM	5780.0000	2.3200	8.00	
10/8/2018 9:45 AM	5773.0000	2.3200		
10/8/2018 1:00 AM	5772.0000	2.3200		
10/7/2018 11:30 PM	5772.0000		8.00	
10/7/2018 12:15 PM	5768.0000	2.1040		
10/7/2018 1:00 AM	5764.0000	2.1040		
10/6/2018 6:30 PM	5764.0000	0.0000	11.00	

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
10/6/2018 9:45 AM	5754.0000	0.0000		
10/6/2018 1:00 AM	5753.0000	0.0000		
10/5/2018 6:30 PM	5738.0000	10.3410	-15.00	
10/5/2018 9:45 AM	35398.0000	91.5720		
10/5/2018 1:00 AM	5753.0000	27.9730		
10/4/2018 6:30 PM	5753.0000	2.3970	52.00	
10/4/2018 9:45 AM	5707.0000	2.3970		
10/4/2018 1:00 AM	5701.0000	2.3970		
10/3/2018 6:30 PM	5701.0000	8.7480	4.00	
10/3/2018 9:45 AM	5697.0000	8.7480		
10/3/2018 1:00 AM	5697.0000	8.7480		
10/2/2018 6:30 PM	5697.0000	7.3240	35.00	
10/2/2018 9:45 AM	5663.0000	7.3240		
10/2/2018 1:00 AM	5662.0000	7.3240		
10/1/2018 6:30 PM	5662.0000	8.8270	22.00	
10/1/2018 9:45 AM	5641.0000	8.8270		
10/1/2018 1:00 AM	5640.0000	8.8270		
9/30/2018 11:30 PM	5640.0000		40.00	
9/30/2018 12:15 PM	5619.0000	4.1900		
9/30/2018 1:00 AM	5600.0000	4.1900		
9/29/2018 6:30 PM	5600.0000	8.9440	20.00	
9/29/2018 9:45 AM	5583.0000	8.9440		
9/29/2018 1:00 AM	5580.0000	8.9440		
9/28/2018 6:30 PM	5580.0000	8.6760	31.00	
9/28/2018 9:45 AM	5551.0000	8.6760		
9/28/2018 1:00 AM	5549.0000	8.6760		
9/27/2018 6:30 PM	5549.0000	10.0340	22.00	
9/27/2018 9:45 AM	5528.0000	10.0340		
9/27/2018 1:00 AM	5527.0000	10.0340		
9/26/2018 6:30 PM	5527.0000	3.9640	42.00	
9/26/2018 9:45 AM	5489.0000	3.9640		
9/26/2018 1:00 AM	5485.0000	3.9640		
9/25/2018 6:30 PM	5485.0000	1.0530	18.00	
9/25/2018 9:45 AM	5469.0000	1.0530		
9/25/2018 1:00 AM	5467.0000	1.0530		
9/24/2018 6:30 PM	5467.0000	2.2820	3.00	
9/24/2018 9:45 AM	5464.0000	2.2820		
9/24/2018 1:00 AM	5464.0000	2.2820		
9/23/2018 11:30 PM	5464.0000		11.00	
9/23/2018 12:15 PM	5457.0000	10.6240		
9/23/2018 1:00 AM	5453.0000	10.6240		
9/22/2018 6:30 PM	5453.0000	10.1400	54.00	
9/22/2018 9:45 AM	5403.0000	10.1400		
9/22/2018 1:00 AM	5399.0000	10.1400		
9/21/2018 6:30 PM	5399.0000	1.6150	61.00	
9/21/2018 9:45 AM	5340.0000	1.6150		
9/21/2018 1:00 AM	5338.0000	1.6150		
9/20/2018 6:30 PM	5338.0000	9.4290	5.00	
9/20/2018 9:45 AM	5333.0000	9.4290		
9/20/2018 1:00 AM	5332.0000	9.4290		
9/19/2018 6:30 PM	5331.0000	7.9920	27.00	1546.00
9/19/2018 9:45 AM	5306.0000	7.9920		
9/19/2018 1:00 AM	5304.0000	7.9920		
9/18/2018 6:30 PM	5304.0000	7.9840	40.00	
9/18/2018 9:45 AM	5267.0000	7.9840		
9/18/2018 1:00 AM	5264.0000	7.9840		
9/17/2018 6:30 PM	5263.0000	10.1540	41.00	
9/17/2018 9:45 AM	5225.0000	10.1540		
9/17/2018 1:00 AM	5222.0000	10.1540		
9/16/2018 11:30 PM	5222.0000		70.00	
9/16/2018 12:15 PM	5179.0000	5.3060		
9/16/2018 1:00 AM	5152.0000	5.3060		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
9/15/2018 6:30 PM	5152.0000	9.7580	20.00	
9/15/2018 9:45 AM	5135.0000	9.7580		
9/15/2018 1:00 AM	5132.0000	9.7580		
9/14/2018 6:30 PM	5132.0000	6.0450	63.00	
9/14/2018 9:45 AM	5071.0000	6.0450		
9/14/2018 1:00 AM	5069.0000	6.0450		
9/13/2018 6:30 PM	5069.0000	10.4880	16.00	
9/13/2018 9:45 AM	5058.0000	10.4880		
9/13/2018 1:00 AM	5053.0000	10.4880		
9/12/2018 6:30 PM	5053.0000	10.2190	36.00	
9/12/2018 9:45 AM	5019.0000	10.2190		
9/12/2018 1:00 AM	5017.0000	10.2190		
9/11/2018 6:30 PM	5017.0000	10.7110	64.00	
9/11/2018 9:45 AM	4959.0000	10.7110		
9/11/2018 1:00 AM	4953.0000	10.7110		
9/10/2018 6:30 PM	4953.0000	11.1240	50.00	
9/10/2018 9:45 AM	4904.0000	11.1240		
9/10/2018 1:00 AM	4903.0000	11.1240		
9/9/2018 11:30 PM	4903.0000		71.00	
9/9/2018 12:15 PM	4858.0000	10.5880		
9/9/2018 1:00 AM	4832.0000	10.5880		
9/8/2018 6:30 PM	4831.0000	10.8570	70.00	
9/8/2018 9:45 AM	4768.0000	10.8570		
9/8/2018 1:00 AM	4761.0000	10.8570		
9/7/2018 6:30 PM	4761.0000	10.1710	40.00	
9/7/2018 9:45 AM	4723.0000	10.1710		
9/7/2018 1:00 AM	4721.0000	10.1710		
9/6/2018 6:30 PM	4721.0000	11.0440	65.00	
9/6/2018 9:45 AM	4662.0000	11.0440		
9/6/2018 1:00 AM	4656.0000	11.0440		
9/5/2018 6:30 PM	4655.0000	6.5350	82.00	
9/5/2018 9:45 AM	4580.0000	6.5350		
9/5/2018 1:00 AM	4573.0000	6.5350		
9/4/2018 6:30 PM	4573.0000	10.6750	28.00	
9/4/2018 9:45 AM	4548.0000	10.6750		
9/4/2018 1:00 AM	4545.0000	10.6750		
9/3/2018 6:30 PM	4545.0000	10.3870	64.00	
9/3/2018 9:45 AM	4488.0000	10.3870		
9/3/2018 1:00 AM	4481.0000	10.3870		
9/2/2018 11:30 PM	4481.0000		60.00	
9/2/2018 12:15 PM	4432.0000	10.4850		
9/2/2018 1:00 AM	4421.0000	10.4850		
9/1/2018 6:30 PM	4420.0000	6.0480	79.00	
9/1/2018 9:45 AM	4348.0000	6.0480		
9/1/2018 1:00 AM	4341.0000	6.0480		
8/31/2018 6:30 PM	4340.0000	10.7160	23.00	
8/31/2018 9:45 AM	4318.0000	10.7160		
8/31/2018 1:00 AM	4317.0000	10.7160		
8/30/2018 6:30 PM	4317.0000	10.8930	73.00	
8/30/2018 9:45 AM	4250.0000	10.8930		
8/30/2018 1:00 AM	4244.0000	10.8930		
8/29/2018 6:30 PM	4243.0000	3.4750	61.00	
8/29/2018 9:45 AM	4188.0000	3.4750		
8/29/2018 1:00 AM	4182.0000	3.4750		
8/28/2018 6:30 PM	4182.0000	6.2970	20.00	
8/28/2018 9:45 AM	4166.0000	6.2970		
8/28/2018 1:00 AM	4162.0000	6.2970		
8/27/2018 6:30 PM	4162.0000	4.1730	23.00	
8/27/2018 9:45 AM	4139.0000	4.1730		
8/27/2018 1:00 AM	4138.0000	4.1730		
8/26/2018 11:30 PM	4138.0000		11.00	
8/26/2018 12:15 PM	4132.0000	9.8250		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
8/26/2018 1:00 AM	4127.0000	9.8250		
8/25/2018 6:30 PM	4127.0000	7.6050	55.00	
8/25/2018 9:45 AM	4075.0000	7.6050		
8/25/2018 1:00 AM	4072.0000	7.6050		
8/24/2018 6:30 PM	4072.0000	9.6960	26.00	
8/24/2018 9:45 AM	4048.0000	9.6960		
8/24/2018 1:00 AM	4046.0000	9.6960		
8/23/2018 6:30 PM	4046.0000	10.2520	58.00	
8/23/2018 9:45 AM	3995.0000	10.2520		
8/23/2018 1:00 AM	3988.0000	10.2520		
8/22/2018 6:30 PM	3987.0000	10.8400	77.00	
8/22/2018 9:45 AM	3917.0000	10.8400		
8/22/2018 1:00 AM	3910.0000	10.8400		
8/21/2018 6:30 PM	3909.0000	10.0960	74.00	
8/21/2018 9:45 AM	3838.0000	10.0960		
8/21/2018 1:00 AM	3835.0000	10.0960		
8/20/2018 6:30 PM	3833.0000	4.3480	59.00	
8/20/2018 9:45 AM	3778.0000	4.3480		
8/20/2018 1:00 AM	3774.0000	4.3480		
8/19/2018 11:30 PM	3774.0000		13.00	1857.00
8/19/2018 12:15 PM	3765.0000	7.0220		
8/19/2018 1:00 AM	3761.0000	7.0220		
8/18/2018 6:30 PM	3759.0000	7.4520	47.00	
8/18/2018 9:45 AM	3716.0000	7.4520		
8/18/2018 1:00 AM	3712.0000	7.4520		
8/17/2018 6:30 PM	3711.0000	10.0870	53.00	
8/17/2018 9:45 AM	3663.0000	10.0870		
8/17/2018 1:00 AM	3658.0000	10.0870		
8/16/2018 6:30 PM	3657.0000	10.5620	76.00	
8/16/2018 9:45 AM	3588.0000	10.5620		
8/16/2018 1:00 AM	3581.0000	10.5620		
8/15/2018 6:30 PM	3579.0000	10.1850	80.00	
8/15/2018 9:45 AM	3506.0000	10.1850		
8/15/2018 1:00 AM	3499.0000	10.1850		
8/14/2018 6:30 PM	3497.0000	9.3140	62.00	
8/14/2018 9:45 AM	3437.0000	9.3140		
8/14/2018 1:00 AM	3435.0000	9.3140		
8/13/2018 6:30 PM	3434.0000	9.8710	65.00	
8/13/2018 9:45 AM	3374.0000	9.8710		
8/13/2018 1:00 AM	3369.0000	9.8710		
8/12/2018 11:30 PM	3369.0000		72.00	
8/12/2018 12:15 PM	3322.0000	7.3290		
8/12/2018 1:00 AM	3297.0000	7.3290		
8/11/2018 6:30 PM	3296.0000	8.4190	55.00	
8/11/2018 9:45 AM	3247.0000	8.4190		
8/11/2018 1:00 AM	3241.0000	8.4190		
8/10/2018 6:30 PM	3240.0000	10.6480	60.00	
8/10/2018 9:45 AM	3186.0000	10.6480		
8/10/2018 1:00 AM	3180.0000	10.6480		
8/9/2018 6:30 PM	3178.0000	9.2760	74.00	
8/9/2018 9:45 AM	3110.0000	9.2760		
8/9/2018 1:00 AM	3104.0000	9.2760		
8/8/2018 6:30 PM	3103.0000	10.6000	70.00	
8/8/2018 9:45 AM	3040.0000	10.6000		
8/8/2018 1:00 AM	3033.0000	10.6000		
8/7/2018 6:30 PM	3031.0000	10.8070	79.00	
8/7/2018 9:45 AM	2960.0000	10.8070		
8/7/2018 1:00 AM	2952.0000	10.8070		
8/6/2018 6:30 PM	2949.0000	10.5500	78.00	
8/6/2018 9:45 AM	2877.0000	10.5500		
8/6/2018 1:00 AM	2871.0000	10.5500		
8/5/2018 11:30 PM	2871.0000		46.00	

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
8/5/2018 12:15 PM	2825.0000	7.6440		
8/5/2018 1:00 AM	2798.0000	7.6440		
8/4/2018 6:30 PM	2796.0000	7.8620	48.00	
8/4/2018 9:45 AM	2756.0000	7.8620		
8/4/2018 1:00 AM	2748.0000	7.8620		
8/3/2018 6:30 PM	2746.0000	10.8860	39.00	
8/3/2018 9:45 AM	2715.0000	10.8860		
8/3/2018 1:00 AM	2707.0000	10.8860		
8/2/2018 6:30 PM	2705.0000	6.3550	75.00	
8/2/2018 9:45 AM	2638.0000	6.3550		
8/2/2018 1:00 AM	2630.0000	6.3550		
8/1/2018 6:30 PM	2629.0000	10.2570	36.00	
8/1/2018 9:45 AM	2598.0000	10.2570		
8/1/2018 1:00 AM	2593.0000	10.2570		
7/31/2018 6:30 PM	2592.0000	10.5670	79.00	
7/31/2018 9:45 AM	2521.0000	10.5670		
7/31/2018 1:00 AM	2513.0000	10.5670		
7/30/2018 6:30 PM	2511.0000	10.8380	75.00	
7/30/2018 9:45 AM	2444.0000	10.8380		
7/30/2018 1:00 AM	2436.0000	10.8380		
7/29/2018 11:30 PM	2436.0000		61.00	
7/29/2018 12:15 PM	2403.0000	10.3870		
7/29/2018 1:00 AM	2375.0000	10.3870		
7/28/2018 6:30 PM	2373.0000	10.3290	52.00	
7/28/2018 9:45 AM	2329.0000	10.3290		
7/28/2018 1:00 AM	2321.0000	10.3290		
7/27/2018 6:30 PM	2319.0000	7.0100	76.00	
7/27/2018 9:45 AM	2251.0000	7.0100		
7/27/2018 1:00 AM	2243.0000	7.0100		
7/26/2018 6:30 PM	2241.0000	9.6090	32.00	
7/26/2018 9:45 AM	2210.0000	9.6090		
7/26/2018 1:00 AM	2209.0000	9.6090		
7/25/2018 6:30 PM	2207.0000	10.8240	63.00	
7/25/2018 9:45 AM	2147.0000	10.8240		
7/25/2018 1:00 AM	2144.0000	10.8240		
7/24/2018 6:30 PM	2142.0000	11.2390	82.00	
7/24/2018 9:45 AM	2068.0000	11.2390		
7/24/2018 1:00 AM	2060.0000	11.2390		
7/23/2018 6:30 PM	2058.0000	10.4640	78.00	
7/23/2018 9:45 AM	1988.0000	10.4640		
7/23/2018 1:00 AM	1980.0000	10.4640		
7/22/2018 11:30 PM	1980.0000		71.00	
7/22/2018 12:15 PM	1936.0000	5.1240		
7/22/2018 1:00 AM	1909.0000	5.1240		
7/21/2018 6:30 PM	1907.0000	10.3100	28.00	
7/21/2018 9:45 AM	1882.0000	10.3100		
7/21/2018 1:00 AM	1879.0000	10.3100		
7/20/2018 6:30 PM	1877.0000	4.2310	32.00	
7/20/2018 9:45 AM	1848.0000	4.2310		
7/20/2018 1:00 AM	1845.0000	4.2310		
7/19/2018 6:30 PM	1845.0000	9.6500	23.00	1375.00
7/19/2018 9:45 AM	1829.0000	9.6500		
7/19/2018 1:00 AM	1822.0000	9.6500		
7/18/2018 6:30 PM	1820.0000	11.0730	60.00	
7/18/2018 9:45 AM	1769.0000	11.0730		
7/18/2018 1:00 AM	1760.0000	11.0730		
7/17/2018 6:30 PM	1758.0000	10.7800	75.00	
7/17/2018 9:45 AM	1691.0000	10.7800		
7/17/2018 1:00 AM	1683.0000	10.7800		
7/16/2018 6:30 PM	1681.0000	10.5670	85.00	
7/16/2018 9:45 AM	1605.0000	10.5670		
7/16/2018 1:00 AM	1596.0000	10.5670		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
7/15/2018 11:30 PM	1596.0000		63.00	
7/15/2018 12:15 PM	1550.0000	10.3870		
7/15/2018 1:00 AM	1533.0000	10.3870		
7/14/2018 6:30 PM	1531.0000	10.4400	80.00	
7/14/2018 9:45 AM	1459.0000	10.4400		
7/14/2018 1:00 AM	1451.0000	10.4400		
7/13/2018 6:30 PM	1448.0000	10.4490	77.00	
7/13/2018 9:45 AM	1380.0000	10.4490		
7/13/2018 1:00 AM	1371.0000	10.4490		
7/12/2018 6:30 PM	1369.0000	9.0880	46.00	
7/12/2018 9:45 AM	1323.0000	9.0880		
7/12/2018 1:00 AM	1316.0000	9.0880		
7/11/2018 6:30 PM	1314.0000	10.4230	42.00	
7/11/2018 9:45 AM	1278.0000	10.4230		
7/11/2018 1:00 AM	1272.0000	10.4230		
7/10/2018 6:30 PM	1270.0000	10.8690	73.00	
7/10/2018 9:45 AM	1201.0000	10.8690		
7/10/2018 1:00 AM	1197.0000	10.8690		
7/9/2018 6:30 PM	1195.0000	7.5500	79.00	
7/9/2018 9:45 AM	1125.0000	7.5500		
7/9/2018 1:00 AM	1116.0000	7.5500		
7/8/2018 11:30 PM	1116.0000		28.00	
7/8/2018 12:15 PM	1104.0000	10.4370		
7/8/2018 1:00 AM	1088.0000	10.4370		
7/7/2018 6:30 PM	1086.0000	10.6750	81.00	
7/7/2018 9:45 AM	1013.0000	10.6750		
7/7/2018 1:00 AM	1005.0000	10.6750		
7/6/2018 6:30 PM	1003.0000	11.0350	80.00	
7/6/2018 9:45 AM	932.0000	11.0350		
7/6/2018 1:00 AM	923.0000	11.0350		
7/5/2018 6:30 PM	921.0000	10.1110	85.00	
7/5/2018 9:45 AM	845.0000	10.1110		
7/5/2018 1:00 AM	836.0000	10.1110		
7/4/2018 6:30 PM	833.0000	9.5680	69.00	
7/4/2018 9:45 AM	768.0000	9.5680		
7/4/2018 1:00 AM	764.0000	9.5680		
7/3/2018 6:30 PM	763.0000	10.4250	52.00	
7/3/2018 9:45 AM	714.0000	10.4250		
7/3/2018 1:00 AM	711.0000	10.4250		
7/2/2018 6:30 PM	709.0000	9.5280	58.00	
7/2/2018 9:45 AM	660.0000	9.5280		
7/2/2018 1:00 AM	651.0000	9.5280		
7/1/2018 11:30 PM	651.0000		49.00	
7/1/2018 12:15 PM	608.0000	8.5990		
7/1/2018 1:00 AM	602.0000	8.5990		
6/30/2018 6:30 PM	599.0000	6.0720	50.00	
6/30/2018 9:45 AM	553.0000	6.0720		
6/30/2018 1:00 AM	549.0000	6.0720		
6/29/2018 6:30 PM	160.0000	9.3090	-379.00	
6/29/2018 9:45 AM	92705.0000	13.9640		
6/29/2018 1:00 AM	539.0000	9.3090		
6/28/2018 6:30 PM	537.0000	9.9640	53.00	
6/28/2018 9:45 AM	492.0000	9.9640		
6/28/2018 1:00 AM	484.0000	9.9640		
6/27/2018 6:30 PM	482.0000	10.8520	71.00	
6/27/2018 9:45 AM	419.0000	10.8520		
6/27/2018 1:00 AM	411.0000	10.8520		
6/26/2018 6:30 PM	409.0000	8.9610	75.00	
6/26/2018 9:45 AM	343.0000	8.9610		
6/26/2018 1:00 AM	334.0000	8.9610		
6/25/2018 6:30 PM	332.0000	10.7780	43.00	
6/25/2018 9:45 AM	293.0000	10.7780		

Rice Lake Day Care Actual Production Meter Readings 6/21/18 to 3/19/19
Source: Clearwater Polk Electric

Meter Read Date	kWh1	PKW	Daily kWh	Monthly kWh
6/25/2018 1:00 AM	289.0000	10.7780		
6/24/2018 11:30 PM	289.0000		84.00	
6/24/2018 12:15 PM	235.0000	10.7950		
6/24/2018 1:00 AM	205.0000	10.7950		
6/23/2018 6:30 PM	205.0000	9.7320	63.00	
6/23/2018 9:45 AM	151.0000	9.7320		
6/23/2018 1:00 AM	142.0000	9.7320		
6/22/2018 6:30 PM	139.0000	10.2020	67.00	
6/22/2018 9:45 AM	81.0000	10.2020		
6/22/2018 1:00 AM	72.0000	10.2020		
6/21/2018 6:30 PM		0.0000	43.00	
6/21/2018 1:00 PM	29.0000			

Attachment H

PVWatts: Monthly PV Performance Data

Requested Location: 26209 water tower loop, bagley, MN 56621

Location: Lat, Lon: 47.37, -95.5

Lat (deg N): 47.37

Long (deg W): 95.5

Elev (m): 460.7

DC System Size (kW): 12.35

Module Type: Standard

Array Type: Fixed (open rack)

Array Tilt (deg): 30

Array Azimuth (deg): 180

System Losses: 14.08

Invert Efficiency: 96

DC to AC Size Ratio: 1.2

Average Cost of

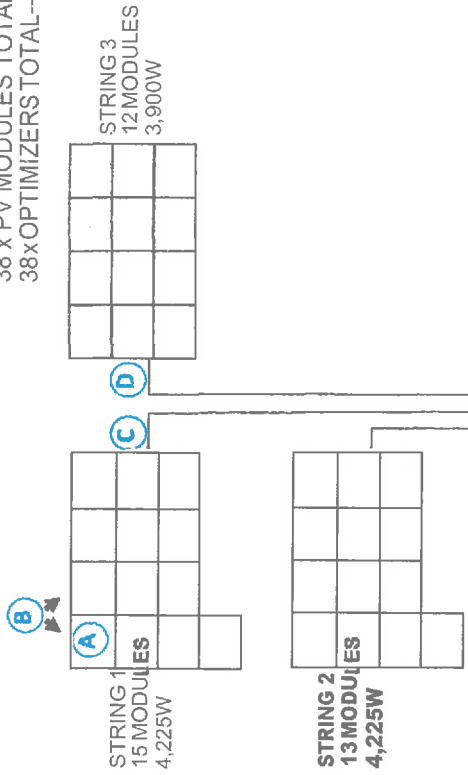
Electricity Purchased

from Utility (\$/kWh): 0.151

Capacity Factor (%) 15.4

Month	Solar		Plane of		Value (\$)
	AC System Output(kWh)	Radiation (kWh/m ² /day)	Array Irradiance (W/m ²)	DC array Output (kWh)	
1	944.6608	2.786346	86.3767395	988.6807	142.64
2	1229.082	3.970036	111.1610107	1289.061	185.59
3	1508.385	4.793572	148.6007385	1578.667	227.77
4	1690.974	5.76616	172.9848175	1768.959	255.34
5	1753.434	5.885607	182.4538117	1833.782	264.77
6	1714.503	5.98288	179.4864044	1791.763	258.89
7	1880.137	6.587738	204.2198639	1963.957	283.9
8	1710.98	6.004796	186.1486816	1787.712	258.36
9	1470.089	5.138407	154.1522217	1535.999	221.98
10	1100.937	3.529427	109.4122315	1152.416	166.24
11	863.7225	2.76709	83.01270294	904.4694	130.42
12	772.4463	2.268598	70.32654572	809.5623	116.64
Total	16639.35	55.48066	1688.33577	17405.03	2512.54

38 x PV MODULES TOTAL - JINKOSOLAR 325W
 38 x OPTIMIZERS TOTAL ---- SOLAREEDGE P400



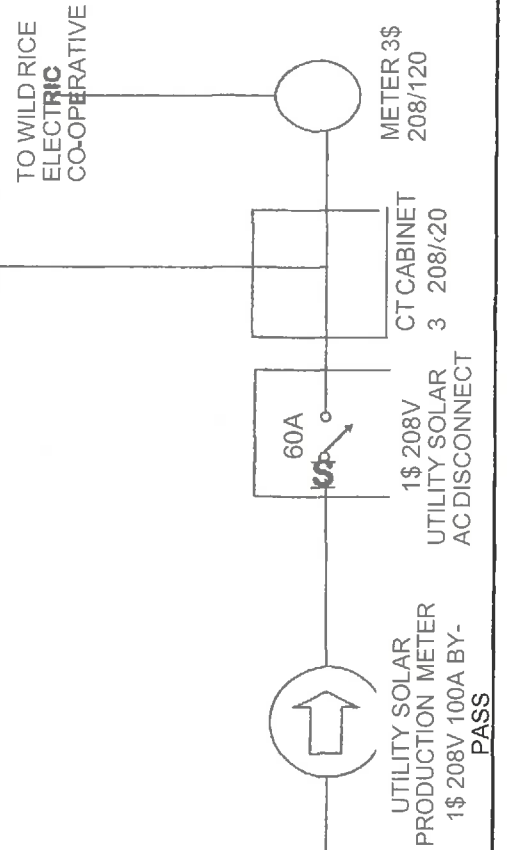
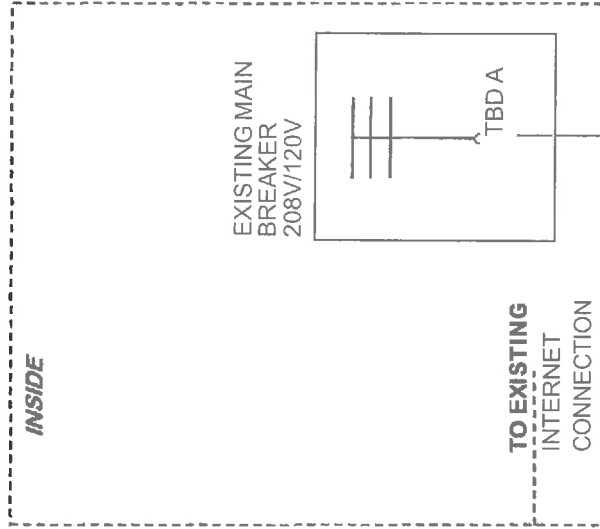
SOLAREEDGE
SE10000A-US
QTY. 1

- *Integrated arc fault protection located at the array
- *UL 1741 listed
- *Integrated DC disconnect



SOLAREEDGE
MONITORING
SYSTEM

OUTSIDE
INSIDE



**Appendix I
 Elbow Lake Community
 Center One-Line**

PROJECT FOR:
PV INSTALL
ELBOW LAKE
COMMUNITY CENTER

REVISION HISTORY:
02-17-19 rev. for information
revisions submission BJA

REAL SOLAR
 Solar Design-Build
 www.real.org 218-947-3779 info@real.org

DRAWING BY: BJA
 DATE: 05-SEP-17
 SCALE: NTS

SHEET TITLE: ONE-LINE DIAGRAM
 THE DESIGN AND INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF AND PROPRIETARY TO REAL AND MAY NOT BE SOLD, USED, REPRODUCED, OR COPIED BY ANY MEANS WITHOUT THE EXPRESS WRITTEN PERMISSION OF REAL. © REAL. ALL RIGHTS RESERVED.

PROJECT NUMBER: WEN01
 SHEET NUMBER: E-1

ELBOW LAKE COMMUNITY CNTR

Account 690073

39988 N ELBOW LAKE DR

ELECTRICITY

	<u>Usage</u>	<u>Charge</u>	
Apr-19	572	118.68	General usage
May-19	498	110.10	
Jun-19	648	128.73	
Jul-19	1,022	173.17	
Aug-19	778	144.51	
Sep-19	685	131.44	
Total	4,203	806.63	
Maximum:	1,022	\$ 173.17	
Minimum:	498	\$ 110.10	
Monthly Average:	701	\$ 134.44	
Avg Cost/Usage:		\$ 0.1919	

39988 N ELBOW LAKE DR

ELECTRICITY

	<u>Usage</u>	<u>Charge</u>	
Apr-19	1,548	0.00	Solar usage
May-19	1,622	0.00	
Jun-19	1,752	0.00	
Jul-19	1,618	0.00	
Aug-19	1,782	0.00	
Sep-19	1,355	0.00	
Total	9,677	0.00	
Maximum:	1,782	\$ 0.00	
Minimum:	1,355	\$ 0.00	
Monthly Average:	1,613	\$ 0.00	
Avg Cost/Usage:		\$ 0.0000	

ELBOW LAKE COMMUNITY CNTR

Account 690073

39988 N ELBOW LAKE DR

ELECTRICITY

General Use

	<u>Usage</u>	<u>Charge</u>
Jul-15	2,542	322.67
Aug-15	3,043	378.49
Sep-15	2,646	334.26
Oct-15	2,272	292.60
Nov-15	2,662	336.04
Dec-15	3,563	436.42
Jan-16	4,937	589.48
Feb-16	4,573	548.93
Mar-16	3,326	410.01
Apr-16	2,182	288.94
May-16	2,013	269.78
Jun-16	1,857	252.08
Jul-16	2,205	291.55
Aug-16	2,771	355.73
Sep-16	2,235	294.95
Oct-16	1,575	220.11
Nov-16	1,750	239.95
Dec-16	1,732	237.91
Jan-17	1,830	249.02
Feb-17	2,110	280.77
Mar-17	1,790	244.49
Apr-17	1,717	244.29
May-17	1,790	252.94
Jun-17	2,122	292.25
Jul-17	2,106	290.35
Aug-17	2,466	332.97
Sep-17	2,035	281.94
Oct-17	1,679	239.80
Nov-17	1,692	241.33
Dec-17	1,854	260.52
Jan-18	2,330	316.87
Feb-18	2,306	314.03
Mar-18	1,893	265.13
Apr-18	2,146	301.38
May-18	1,796	259.24
Jun-18	2,519	346.28
Jul-18	1,284	201.44
Aug-18	1,378	218.34
Sep-18	2,640	360.86

Oct-18	489		108.17
Nov-18	790		144.14
Dec-18	1,803		261.30
Total	92,449		12,407.75
Maximum:	4,937	\$	589.48
Minimum:	489	\$	108.17
Monthly Average:	2,201	\$	295.42
Avg Cost/Usage:		\$	0.1342

39988 N ELBOW LAKE DR

	ELECTRICITY		Solar Use
	<u>Usage</u>		<u>Charge</u>
Jul-18	1,278		0.00
Aug-18	2,142		0.00
Sep-18	1,431		0.00
Oct-18	663		0.00
Nov-18	707		0.00
Dec-18	277		0.00
Total	6,498		0.00
Maximum:	2,142	\$	0.00
Minimum:	277	\$	0.00
Monthly Average:	1,083	\$	0.00
Avg Cost/Usage:		\$	0.0000

Appendix K

PVWatts: Monthly PV Performance Data

Requested Location:	39988 N Elbow Lake Drive, Waubun MN
Location:	Lat, Lon: 47.13, -95.54
Lat (deg N):	47.13
Long (deg W):	95.54
Elev (m):	473.049988
DC System Size (kW):	12.35
Module Type:	Standard
Array Type:	Fixed (open rack)
Array Tilt (deg):	30
Array Azimuth (deg):	180
System Losses:	14.08
Invert Efficiency:	96
DC to AC Size Ratio:	1.2
Average Cost of Electricity	
Purchased from Utility (\$/kWh):	0.151
Capacity Factor (%)	15.6

Month	AC System		Plane of Array		DC array Output (kWh)	Value (\$)
	Output(kWh)	Solar Radiation (kWh/m ² /day)	Irradiance (W/m ²)			
1	989.866211	2.90111327	89.93450928	1035.352905	149.47	
2	1284.9679	4.14251614	115.990448	1345.24231	194.03	
3	1561.45789	4.93004799	152.8314819	1635.651733	235.78	
4	1714.53223	5.72071838	171.6215515	1790.700439	258.89	
5	1705.37378	5.70425844	176.832016	1783.726074	257.51	
6	1713.51343	6.06182718	181.8548126	1791.180054	258.74	
7	1855.97717	6.48591089	201.0632324	1938.846069	280.25	
8	1712.06421	5.96872139	185.030365	1788.402954	258.52	
9	1472.10559	5.128057	153.8417053	1538.251465	222.29	
10	1192.92505	3.78659058	117.3843079	1246.622925	180.13	
11	891.005005	2.7772851	83.31855011	932.756897	134.54	
12	801.195618	2.31523418	71.77226257	838.6841431	120.98	
Total	16894.9841	55.92228054	1701.475243	17665.41797	2551.13	

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Calculates a table of changes in the solar elevation and azimuth angles for a day and draws the chart.

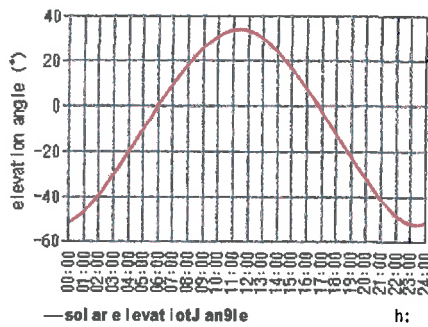
Input negative degree for west longitude and south latitude.
 If your local time is on Daylight saving time, select 'ON' from DST mode.

Longitude 95.55 Latitude 47.17 [Google Map](#)

Date / , 2019 (1900=2099)

Time zone 6 h, DST OFF 4 ON

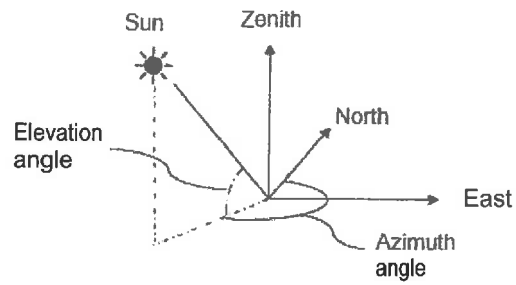
 Store/Read P



hh:mm	Elevation angle	Azimuth angle
00:00	-51.37	14.57
00:15	-50.61	20.42
00:30	-49.61	25.98
00:45	-48.39	31.30
01:00	-46.9	36.58
01:15	-45.38	41.21
01:30	-43.63	45.78
01:45	-41.74	50.1
02:00	-39.73	54.20
02:15	-37.62	58.0*
02:30	-35.42	61.79
02:45	-33.14	65.32
03:00	-30.80	69.7
03:15	-28.40	71.5
03:30	-25.97	75.06
03:45	-23.4*	78.0
04:00	-20.99	81.03
04:15	-18.47	83.9
04:30	-15.94	86.72
04:45	-13.41	89.5
05:00	-10.87	92.24
05:15	-8.34	94.97
05:30	-5.8	97.68
05:45	-2.97	100.31

06:00	-0.12	1031
05:15	205	105.41
06:30	4.37	108.70
06:45	6.70	111.53
07:00	5.02	114.42
07:15	11.29	117.37
07:30	13.50	120.40
07:45	15.66	123.50
08:00	17.73	126.69
08:15	19.72	129.98
08:30	21.62	133.37
08:45	23.41	136.87
09:00	25.09	140.48
09:15	26.64	144.21
09:30	28.06	148.06
09:45	29.32	152.02
10:00	30.44	156.07
10:15	31.38	160.26
10:30	32.15	164.51
10:45	32.73	168.84
11:00	33.12	173.22
11:15	33.32	177.63
11:30	33.33	182.06
11:45	33.13	186.48
12:00	32.74	190.96
12:15	32.17	195.13
12:30	31.40	199.44
12:45	30.47	203.61
13:00	29.36	207.68
13:15	28.10	211.65
13:30	26.68	215.49
13:45	25.14	219.23
14:00	23.48	222.84
14:15	21.67	225.35
14:30	19.78	225.74
14:45	17.79	233.03
15:00	15.71	236.22
15:15	13.56	239.32
15:30	11.34	242.3
15:45	9.07	245.2
16:00	6.76	246.18
16:15	4.42	251.01
16:30	2.10	253.80
16:45	-0.08	256.55
17:00	-2.91	259.29
17:15	-5.75	262.00
17:30	-8.30	264.71
17:45	-10.84	267.43
18:00	-13.38	270.1
18:15	-15.82	272.9
18:30	-18.16	275.7
18:45	-20.46	278.61
19:00	-23.49	281.54
19:15	-25.97	284.5
19:30	-28.42	287.66
19:45	-30.83	290.87
20:00	-33.16	294.23

20:15	-35.48	297.76
20:30	-37.69	301.44
20:45	-39.82	305.31
21:00	-41.85	309.40
21:15	-43.70	313.71
21:30	-45.54	318.27
21:45	-47.16	323.09
22:00	-46.50	326.16
22:15	-49.84	333.4g
22:30	-50.8T	339.06
22:45	-51.67	344.63
23:00	-52.21	350.76
23:15	-52.49	356.79
23:30	-52.50	2.87
23:45	-52.24	6.91
24:00	-51.72	14.8?



azimuth angle: north=0, east=90, south=180, west=270 degree

Home / Science / Astronomy

Calculates a table of changes in the solar elevation and azimuth angles for a day and draws the chart.

Input negative deegree for west longitude and south latitude.
 If your local time is on Daylight Saving time, select 'ON' from DST mode.

W

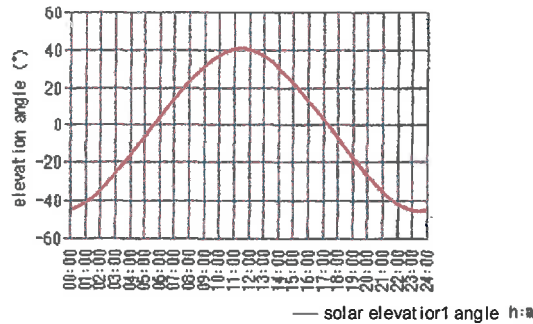
24h

Longitude 95.55 Latitude 47.13 [Google Map](#)

Date / 3, 2019 (1900-2099)

Time zone 6 h, DST OFF ON

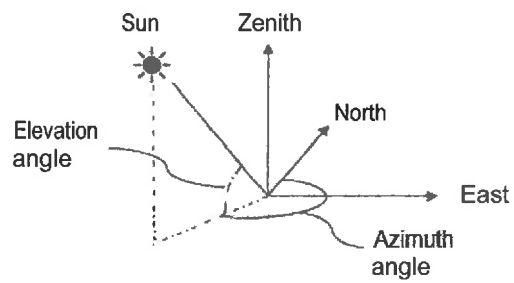
C C Store/Read P



hh:mm	Elevation angle	Azimuth angle
00:00	-44.85	11.28
00:15	-44.25	16.47
00:30	-43.42	21.53
00:45	-42.39	26.45
01:00	-41.16	31.20
01:15	-39.76	35.76
01:30	-38.19	40.14
01:45	-36.48	44.33
02:00	-34.64	48.34
02:15	-32.68	52.18
02:30	-30.62	55.66
02:45	-28.48	59.38
03:00	-26.25	62.77
03:15	-23.95	66.04
03:30	-21.60	69.20
03:45	-19.20	72.26
04:00	-16.76	75.2
04:15	-14.29	78.16
04:30	-11.79	81.02
04:45	-9.28	83.8
05:00	-6.75	86.62
05:15	-4.07	89.3
05:30	-0.91	92.13
05:45	1.35	94.88

06:00	3.73	37.64
06:15	6.17	100.43
06:30	8.63	132.55
06:45	11.08	166.11
07:00	13.49	199.03
07:15	15.87	231.01
07:30	18.20	262.08
07:45	20.47	292.23
08:00	22.67	321.48
08:15	24.80	350.85
08:30	26.64	379.33
08:45	28.79	407.95
09:00	30.62	435.74
09:15	32.34	463.62
09:30	33.92	491.57
09:45	35.35	519.66
10:00	36.62	547.89
10:15	37.73	576.23
10:30	38.62	604.66
10:45	39.33	633.19
11:00	39.83	661.80
11:15	40.13	690.48
11:30	40.20	719.33
11:45	40.06	748.34
12:00	39.70	777.51
12:15	39.13	806.84
12:30	38.35	836.33
12:45	37.39	866.06
13:00	36.23	896.04
13:15	34.91	926.27
13:30	33.43	956.74
13:45	31.81	987.45
14:00	30.06	1018.40
14:15	28.19	1049.59
14:30	26.24	1081.02
14:45	24.1	1112.69
15:00	21.98	1144.60
15:15	19.75	1176.75
15:30	17.46	1209.14
15:45	15.11	1241.77
16:00	12.72	1274.64
16:15	10.29	1307.85
16:30	7.83	1341.40
16:45	5.37	1375.29
17:00	2.93	1409.52
17:15	0.61	1444.09
17:30	-1.90	1479.00
17:45	-5.01	1514.25
18:00	-7.60	1549.84
18:15	-10.4	1585.77
18:30	-12.65	1622.04
18:45	-15.15	1658.75
19:00	-17.62	1695.90
19:15	-20.06	1733.49
19:30	-22.46	1771.52
19:45	-24.80	1810.09
20:00	-27.09	1849.20

20:15	-29.31	301.39
20:30	-31.45	304.95
20:45	-33.49	308.67
21:00	-35.43	312.56
21:15	-37.25	316.62
21:30	-38.93	320.87
21:45	-40.47	325.31
22:00	-41.84	329.94
22:15	-43.03	334.76
22:30	-44.02	339.74
22:45	-44.80	344.87
23:00	-45.35	350.11
23:15	-45.58	355.44
23:30	-45.76	0.80
23:45	-45.61	6.16
24:00	-45.23	11.47



azimuth angle: north=0, east=90, south=180, west=270 degree

Home / Science / Astronomy

Calculates a table of changes in the solar elevation and azimuth angles for a day and draws the chart.

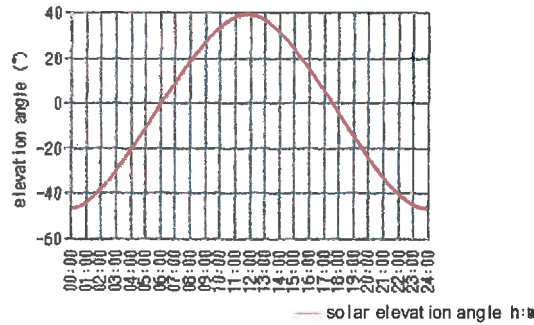
input negative degree for west longitude and south latitude.
 If your local time is on Daylight Saving time, select 'ON' from DST mode.



Longitude: , Latitude: [Google Map](#)

Date: / , 2019 (1900-2059)

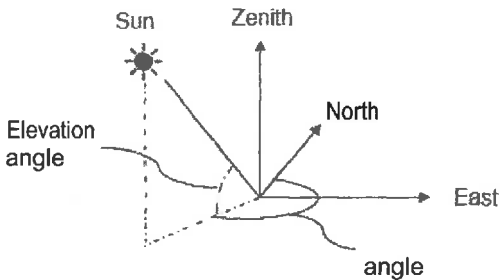
Time zone: h, DST? OFF ON



h:mm	Elevation angle	Azimuth angle
00:00	-47.21	4.28
00:15	-46.70	9.75
00:30	-46.34	15.14
00:45	-45.56	20.40
01:00	-44.56	25.50
01:15	-43.36	30.42
01:30	-41.98	35.14
01:45	-40.43	39.66
02:00	-38.72	43.98
02:15	-36.86	48.06
02:30	-34.92	52.03
02:45	-32.86	55.7
03:00	-30.71	59.3
03:15	-28.47	62.8
03:30	-26.17	66.14
03:45	-23.81	69.34
04:00	-21.40	72.43
04:15	-18.95	75.44
04:30	-16.47	76.37
04:45	-13.95	81.24
05:00	-11.44	84.0
05:15	-8.91	86.84
05:30	-6.35	89.5
05:45	-3.60	92.34

06:00	-0.52	95.08
06:15	1.7*	97.82
06:30	4.09	100.59
06:45	6.53	103.38
07:00	8.97	106.22
07:15	11.38	109.10
07:30	13.75	112.05
07:45	16.09	115.06
08:00	18.37	118.16
08:15	20.58	121.36
08:30	22.72	124.56
08:45	24.77	127.87
09:00	26.73	131.29
09:15	28.59	134.83
09:30	30.33	138.47
09:45	31.93	143.0*
10:00	33.40	147.10*
10:15	34.70	151.33
10:30	35.85	155.69
10:45	36.81	160.18
11:00	37.59	164.77
11:15	38.15	169.45
11:30	38.62	174.25
11:45	38.98	178.98
12:00	38.52	183.77
12:15	38.35	188.53
12:30	37.67	193.25
12:45	37.19	197.88
13:00	36.32	202.42
13:15	35.26	206.84
13:30	34.03	211.1
13:45	32.63	215.29
14:00	31.09	219.30
14:15	29.42	223.17
14:30	27.62	226.9
14:45	25.71	230.55
15:00	23.70	233.97
15:15	21.60	237.32
15:30	19.42	240.56
15:45	17.17	243.71
16:00	14.87	245.7
16:15	12.51	249.74
16:30	10.12	252.66
16:45	7.6	255.52
17:00	5.25	258.34
17:15	2.84	261.12
17:30	0.54	263.87
17:45	-2.00	266.63
18:00	-5.08	269.37
18:15	-7.67	272.19
18:30	-10.20	274.90
18:45	-12.72	277.71
19:00	-15.23	280.51
19:15	-17.71	283.47
19:30	-20.17	286.45
19:45	-22.59	289.51
20:00	-24.96	292.67

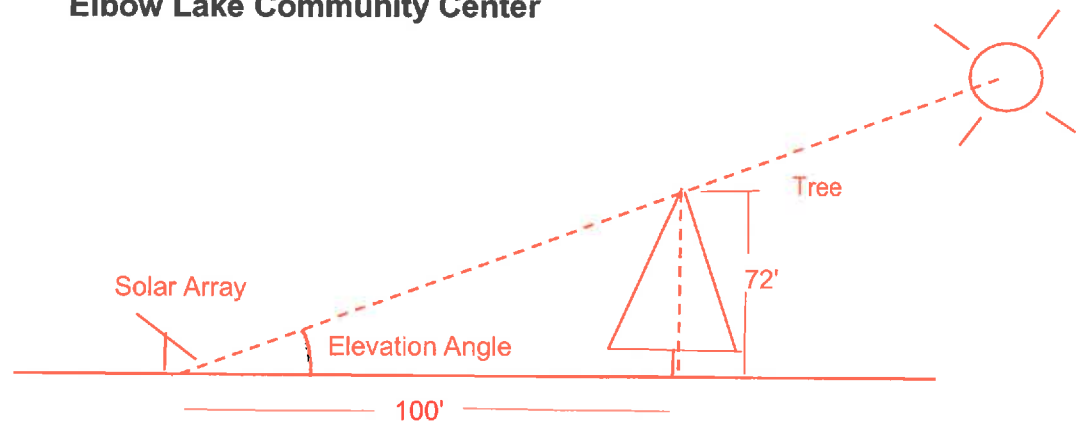
20:15	-27.28	295.93
20:30	-29.53	299.33
20:45	-31.71	302.86
21:00	-33.80	305.54
21:15	-35.80	310.00
21:20	37.69	314.43
21:45	-39.43	318.60
22:00	-41.07	323.08
22:15	-42.48	327.71
22:30	-43.74	332.53
22:45	-44.82	337.54
23:00	-45.68	342.71
23:15	-46.32	348.01
23:30	-46.73	353.42
23:45	-46.90	358.86
24:00	-46.82	4.31



azimuth angle: north=0, east=90. south=180. west=270 degree

Appendix O

Shading Documentation Elbow Lake Community Center



Height of Tree;

Based on photo of the tree taken on Oct 18, 2019 at 10:30 AM, the ground shadow was measured at 115 feet from the base of the tree.

The Elevation Angle of sun at that date and time is 32.15 degrees. (Attachment L) Height of tree is determined by:

Tangent of Elevation Angle (32.15 degrees) = opposite side / adjacent side

opposite side = Tangent Elevation Angle (32.15 degrees) x adjacent side.

Height of Tree = .629 x 115' = 72'

Solar Array Shading

The distance between the solar array and the base of the tree was measured to be 100'. and is tree is due south from the solar array.

When the tree shade profile becomes 100' or more, the solar array starts to become shaded and performance is reduced.

The sun elevation angle that this occurs at can be determined by:

Tangent of Elevation Angle = opposite side / adjacent side
= 72' / 100'

Tangent of Elevation Angle = .72

The Elevation Angle in which this value occurs is 36 degrees.

When the Elevation Angle is less the shadow will reach the array. When it is more the shadow will fall short of the array.

The dates where this Elevation Angle is 36 degrees or less occurs between 1:00 PM through sunset are September 30 through March 10. (Attachment M and N). The shadow path rotates through the array starting at approximately 1:00 PM.

This corresponds with the periods when solar array has experienced reduced power.