Piqua Power System

2018: A Year in Review
Piqua Power System
Staff Changes

Addition

Ken Wagner
Journeyman Lineworker

Departure

Marilyn Hemsworth
Associate Engineer
Piqua’s Power Supply

2017

- Clean Coal: 54%
- Natural Gas: 20%
- Renewable: 20%
- Market: 6%

$72.76/MWH

2018

- Clean Coal: 53%
- Natural Gas: 24%
- Renewable: 19%
- Market: 4%

$74.07/MWH
Prairie State Energy Campus

![Prairie State Energy Campus Image]

**PSGC**

Calendar Year 2018
(as of December 31, 2018)

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Net MWh</td>
<td>11,532,419</td>
</tr>
<tr>
<td>Equivalent Forced Outage Rate</td>
<td>7.31%</td>
</tr>
<tr>
<td>Coal Burned (Tons)</td>
<td>6,413,578</td>
</tr>
</tbody>
</table>
AMP Fremont Energy Center

![AFEC Total Capacity Factor (based on 675 MW)]

- **Forced**
- **Maintenance**
- **STG**
- **CT2**
- **CT1**
- **Budget**

![net MWh](chart)

- Jan
- Feb
- Mar
- Apr
- May
- Jun
- Jul
- Aug
- Sep
- Oct
- Nov
- Dec
Phase I Hydro

Cannelton

Smithland

Willow Island
Phase II Hydro

Meldahl

Greenup
AMP Solar Phase II

Staunton Solar Field

Manier Solar Field
Piqua Combustion Turbines
Customer Savings - $2,358,008

#8 Combustion Turbine

#9 Combustion Turbine
Sub #5 69kV Breaker Project

Old

New
Upgraded Relays, Controls, Doors

Before

After
Upgraded RTU to new NTX-220
Replace #9 GT Starting Diesel
Rebuild #9 GT Torque Converter
Replace Air Compressor #9 GT
Paint Sub #5
#9 GT Roof
Security Fence for Fuel Unloading
Gas Turbine Start Up Procedures
Replace Sub #3 Station Batteries
Recondition 13-3-4 Regulators
Replaced Security System
Re-seal Parking Areas
Building ATS Replacement
Power Plant Roof Repair
Complete Residential AMI Rollout
Replace Power System’s Radio System
Hartzell Hardwoods
Wood Chip Boiler
Hartzell Fan Addition
UVCC Vet Tech Building Service
Speedway – Covington Ave.
Scott Steel
CARSTAR Piqua
Indian Ridge Subdivision Addition
Garbry Ridge Expansion
Garbry/Looney Rd. Roundabout

February 2018

November 2018
E. Ash St. Bike Path
DP&L Relocation for Riverfront
Waste Water Plant Upgrade
Fox Drive Water Tower
NKTelco Expansion
LED Streetlights

Staunton St. Before

Staunton St. After
Purchase One Ton Material Truck
Purchase Drone
Eliminate Hazardous Services

2018 Services Repaired: 91

Program to Date: 460
Reliable Public Power Provider
Diamond Designation
2018 AMP Lineworkers Rodeo
Mutual Aid 2018
Mutual Aid

- March 8-15, 2018 – Con Ed, NY
- April 4, 2018 – DP&L
- April 18, 2018 – Pioneer
- October 10-18, 2018 – Tallahassee, FL
- October 20-22, 2018 – DP&L
- November 15-17, 2018 – Williamstown, KY
- November 17-20, 2018 – DP&L
- December 27, 2018 – DP&L
ASAI (Average Service Availability Index - %)

Ratio of the total customer minutes that service was available divided by total customer minutes demanded in a time period.

2014 2015 2016 2017 2018
The average duration of a customer outage, is calculated by dividing the sum of the customer minutes off by the number of customers who experienced long interruptions.
The average interruption duration for all customers served, and is calculated by dividing the sum of the customer minutes off by the average no. of customers served.

SAIDI (System Average Interruption Duration Index - Minutes)
SAIFI Long (System Average Interruption Frequency Index - Long Interruptions per Customer)

The number of times a customer is interrupted (>1 minute), averaged over all customers. Divide total customer interruptions by an average of total customers served.
SAIFI Short (System Average Interruption Frequency Index - Short Interruptions per Customer)

The number of times a customer is interrupted (<1 minute), averaged over all customers. Divide total short customer interruptions by the average number of all customers served.
### Outage By Cause

<table>
<thead>
<tr>
<th>Year</th>
<th>Supply to City</th>
<th>OH Equip Failure</th>
<th>URD Equip Failure</th>
<th>Weather</th>
<th>Animals</th>
<th>Trees</th>
<th>Foreign Interf.</th>
<th>Human</th>
<th>Scheduled</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0</td>
<td>23</td>
<td>7</td>
<td>11</td>
<td>31</td>
<td>11</td>
<td>10</td>
<td>1</td>
<td>60</td>
<td>14</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
<td>20</td>
<td>8</td>
<td>20</td>
<td>34</td>
<td>13</td>
<td>10</td>
<td>0</td>
<td>53</td>
<td>7</td>
</tr>
<tr>
<td>2016</td>
<td>0</td>
<td>20</td>
<td>4</td>
<td>8</td>
<td>18</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>72</td>
<td>8</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
<td>26</td>
<td>6</td>
<td>12</td>
<td>22</td>
<td>21</td>
<td>7</td>
<td>1</td>
<td>60</td>
<td>7</td>
</tr>
<tr>
<td>2018</td>
<td>0</td>
<td>29</td>
<td>4</td>
<td>23</td>
<td>30</td>
<td>19</td>
<td>6</td>
<td>4</td>
<td>27</td>
<td>23</td>
</tr>
</tbody>
</table>
City of Piqua
Total Number of Unscheduled Outages by Year

---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
# of Outages | 171 | 257 | 229 | 171 | 235 | 128 | 177 | 169 | 154 | 106 | 108 | 112 | 70 | 102 | 138
<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor-Owned</td>
<td>12.3</td>
<td>10.8</td>
<td>9.0</td>
<td>11.9</td>
</tr>
<tr>
<td>Cooperative</td>
<td>13.5</td>
<td>12.0</td>
<td>8.4</td>
<td>12.0</td>
</tr>
<tr>
<td>Publicly Owned</td>
<td>12.6</td>
<td>11.9</td>
<td>9.5</td>
<td>11.0</td>
</tr>
<tr>
<td>Piqua Power System</td>
<td>11.8</td>
<td>9.5</td>
<td>8.1</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Ohio - Local Utilities - Avg Revenue per kWh - 2017

<table>
<thead>
<tr>
<th></th>
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<th>Commercial</th>
<th>Industrial</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dayton Power &amp; Light Co</td>
<td>11.3</td>
<td>8.5</td>
<td>12.2</td>
<td>10.5</td>
</tr>
<tr>
<td>Pioneer Rural Elec Coop, Inc</td>
<td>14.4</td>
<td>13.2</td>
<td>7.4</td>
<td>10.4</td>
</tr>
<tr>
<td>City of Tipp City</td>
<td>11.9</td>
<td>12.1</td>
<td>9.6</td>
<td>10.6</td>
</tr>
<tr>
<td>Piqua Power System</td>
<td>11.8</td>
<td>9.5</td>
<td>8.1</td>
<td>9.6</td>
</tr>
</tbody>
</table>
# Top 10 Revenue Customers

<table>
<thead>
<tr>
<th>Rank</th>
<th>Customer</th>
<th>Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hobart Brothers Piqua FMO</td>
<td>$1,165,936.21</td>
</tr>
<tr>
<td>2</td>
<td>Jackson Tube</td>
<td>$1,106,201.53</td>
</tr>
<tr>
<td>3</td>
<td>Plastic Recycling Tech Inc</td>
<td>$1,035,571.43</td>
</tr>
<tr>
<td>4</td>
<td>Evenflo Company Inc</td>
<td>$946,102.48</td>
</tr>
<tr>
<td>5</td>
<td>Hartzell Propeller</td>
<td>782,218.92</td>
</tr>
<tr>
<td>6</td>
<td>Crayex Corp</td>
<td>$744,352.48</td>
</tr>
<tr>
<td>7</td>
<td>Piqua Materials</td>
<td>$739,614.99</td>
</tr>
<tr>
<td>8</td>
<td>Hartzell Industries</td>
<td>$629,659.55</td>
</tr>
<tr>
<td>9</td>
<td>Polysource</td>
<td>$614,854.28</td>
</tr>
<tr>
<td>10</td>
<td>City of Piqua</td>
<td>$551,685.85</td>
</tr>
</tbody>
</table>