PJM Interconnection Queue Status Update

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Interconnection Projects
November 14, 2019
• Queue Trends: Z2 (Nov 2013) – AF1 (Oct 2019)
• AF1 Queue Statistics
Recent Queue Trends: Z2 – AF1

Total New Service Requests by Application Type

New Service Requests steadily increased over the last 5 years, with a record 346 submitted in Queue AE2.
Recent Queue Trends: Z2 – AF1

Generation Interconnection Requests – Total Number

Trend shows shift from mostly Natural Gas Interconnection Requests to Renewables (Solar and Wind). Uptick in Energy Storage.
Recent Queue Trends: Z2 – AF1
Generation Interconnection Requests – Requested Energy

<table>
<thead>
<tr>
<th></th>
<th>MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z2</td>
<td>6,101</td>
</tr>
<tr>
<td>AA1</td>
<td>12,075</td>
</tr>
<tr>
<td>AA2</td>
<td>16,066</td>
</tr>
<tr>
<td>AB1</td>
<td>20,453</td>
</tr>
<tr>
<td>AB2</td>
<td>15,217</td>
</tr>
<tr>
<td>AC1</td>
<td>20,072</td>
</tr>
<tr>
<td>AC2</td>
<td>12,702</td>
</tr>
<tr>
<td>AD1</td>
<td>11,306</td>
</tr>
<tr>
<td>AD2</td>
<td>20,402</td>
</tr>
<tr>
<td>AE1</td>
<td>34,212</td>
</tr>
<tr>
<td>AE2</td>
<td>34,164</td>
</tr>
<tr>
<td>AF1</td>
<td>29,717</td>
</tr>
</tbody>
</table>

- Natural Gas
- Solar
- Storage
- Wind
- Other
- Biomass
- Coal
- Diesel
- Hydro
- Methane
- Nuclear
- Oil
- Wood
Recent Queue Trends: Z2 – AF1
Generation Interconnection Requests – Requested CIRs

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Z2</th>
<th>AA1</th>
<th>AA2</th>
<th>AB1</th>
<th>AB2</th>
<th>AC1</th>
<th>AC2</th>
<th>AD1</th>
<th>AD2</th>
<th>AE1</th>
<th>AE2</th>
<th>AF1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>4,948</td>
<td>9,911</td>
<td>14,096</td>
<td>17,375</td>
<td>11,957</td>
<td>14,884</td>
<td>7,179</td>
<td>6,281</td>
<td>11,191</td>
<td>17,848</td>
<td>19,939</td>
<td>16,780</td>
</tr>
<tr>
<td>Solar</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Storage</td>
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</tr>
<tr>
<td>Wind</td>
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<tr>
<td>Other</td>
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</tr>
</tbody>
</table>

Fuel Types:
- Biomass
- Coal
- Diesel
- Hydro
- Methane
- Nuclear
- Oil
- Wood

MW
AF1 Queue Statistics
(Generation Interconnection Requests)
AF1 Queue Statistics

Generation Interconnection Requests by Fuel Type

Majority of the requests were Solar, in terms of numbers and MW requested.
Although PA had the highest number of requests, most were smaller solar projects.
All Fuel Types Requests by State (MW Energy)

The bulk of the MW requested were in VA
Appendix
Generation Phase Progression: A – AF1
All Generation Requests

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Completion Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>39%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>32%</td>
</tr>
<tr>
<td>Wind</td>
<td>16%</td>
</tr>
<tr>
<td>Storage</td>
<td>13%</td>
</tr>
<tr>
<td>Solar</td>
<td>12%</td>
</tr>
<tr>
<td>All</td>
<td>22%</td>
</tr>
</tbody>
</table>

*Completion Rate = In Service / Application Received by PJM
Generation Phase Progression: A – AF1

All Generation Requests

Fuel Type | Completion Rate
---|---
Natural Gas | 16%
Other | 15%
Wind | 11%
Storage | 10%
Solar | 10%
All | 14%

*Completion Rate = In Service / Application Received by PJM
Generation Phase Progression: A – AF1

All Generation Requests

<table>
<thead>
<tr>
<th>Fuel Type</th>
<th>Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>16%</td>
</tr>
<tr>
<td>Other</td>
<td>15%</td>
</tr>
<tr>
<td>Wind</td>
<td>11%</td>
</tr>
<tr>
<td>Solar</td>
<td>4%</td>
</tr>
<tr>
<td>Storage</td>
<td>0%</td>
</tr>
<tr>
<td>All</td>
<td>15%</td>
</tr>
</tbody>
</table>

*Completion Rate = In Service / Application Received by PJM
Active Projects in the Queue

Project Size Distribution

- 0-5 MW: 106 projects
- 6-10 MW: 110 projects
- 11-20 MW: 201 projects
- 21-50 MW: 263 projects
- 51-100 MW: 214 projects
- 101-500 MW: 114 projects
- 501-1000 MW: 14 projects
- 1000+ MW: 3 projects
### Active Projects in the Queue

**Distribution of Study Phases**

<table>
<thead>
<tr>
<th>Study Type</th>
<th>Number of Projects</th>
<th>MWC</th>
<th>MWE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Study</td>
<td>359</td>
<td>19,111</td>
<td>35,253</td>
</tr>
<tr>
<td>System Impact Study Agreement</td>
<td>40</td>
<td>4,121</td>
<td>9,041</td>
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<tr>
<td>System Impact Study</td>
<td>329</td>
<td>20,436</td>
<td>38,783</td>
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<tr>
<td>Facilities Study Agreement</td>
<td>13</td>
<td>447</td>
<td>1,312</td>
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<tr>
<td>Facilities Study</td>
<td>265</td>
<td>18,387</td>
<td>29,514</td>
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<tr>
<td>Final Agreement</td>
<td>36</td>
<td>2,913</td>
<td>3,248</td>
</tr>
</tbody>
</table>
Active Projects in the Queue
Distribution by Transmission Owner Zone

Number of Projects

MW Energy

AEP: 6,139
APLS: 27,351
BGE: 4,989
DECK: 1,988
DL: 8
Dominion: 24,722
DRP: 118
DUKE: 24
ITC: 41
LTF: 37
ME: 11,778
NADA: 8
PENNC: 5,210
PEPCO: 32
PPL: 4,375
PSEG: 1,311
RE: 2
RECO: 2
SUN: 60
SMD: 47
UGI: 5

Legend:
- Natural Gas
- Other
- Solar
- Storage
- Wind