Non-Wholesale Distributed Energy Resources Data Collection

Joseph Mulhern
Sr. Engineer, Generation

June 19, 2019
Categories of Behind the Meter Generation

Installed Capacity of BTM Generation in PJM by Category

- **Non-Retail**
  - Solar ≥ 1 MW
  - Non-Solar ≥ 1 MW
  - Solar < 1 MW
  - Non-Solar < 1 MW

- **Retail**
  - Solar ≥ 1 MW
  - Non-Solar ≥ 1 MW
  - Solar < 1 MW
  - Non-Solar < 1 MW

**Installed Capacity (MW)**

- 648 MW
- 1,219 MW
- 2,656 MW
- 2,373 MW

**Total**

- 1,867 MW Total
- 5,029 MW Total
Installed Capacity of BTM Generation in PJM by Category

Data collection for all BTM with nameplate capacity ≥ 1 MW

Non-Retail

- Solar ≥ 1 MW: 648 MW
- Non-Solar ≥ 1 MW: 1,219 MW
- Solar < 1 MW
- Non-Solar < 1 MW

Retail

- Solar ≥ 1 MW
- Non-Solar ≥ 1 MW: 2,656 MW
- Solar < 1 MW
- Non-Solar < 1 MW: 2,373 MW

Total

- 1,867 MW Total
- 5,029 MW Total

Installed Capacity (MW)
Vision for Enhancing Visibility of BTMG

≥ 1 MW
- Adding to Dispatch maps
- Including in PCLLRW reports

≥ 10 MW
- Modeling in EMS
- Obtaining real-time telemetry
In 2018, the Distributed Energy Resources Subcommittee discussed increasing visibility of Non-Wholesale DER units—Non-Wholesale DER is synonymous with BTMG.

Process for data collection and coordination was endorsed through stakeholder process:
- PJM will use publicly available data to identify relevant plants
- TOs will submit additional modeling data outlined in Manuals 14D
  - Modeling information: Substation, voltage, PJM equipment name
  - Telemetry links for plants with capacities $\geq 10$ MW
  - Other optional information, including contact information
### 2017 Form EIA-860 Data - Schedule 3, 'Generator Data' (Operable Units Only)

<table>
<thead>
<tr>
<th>Utility ID</th>
<th>Utility Name</th>
<th>Plant Co</th>
<th>Plant Name</th>
<th>State</th>
<th>County</th>
<th>Generator ID</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>2</td>
<td>Bankhead Dam</td>
<td>AL</td>
<td>Mobile</td>
<td>1</td>
<td>Conventional Hydroelectric</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>2</td>
<td>Natural Gas Steam Turbine</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>5</td>
<td>Conventional Steam Coal</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>A1CT</td>
<td>Natural Gas Fired Combined Cycle</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>A1ST</td>
<td>Natural Gas Fired Combined Cycle</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>A2C1</td>
<td>Natural Gas Fired Combined Cycle</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>3</td>
<td>Barry</td>
<td>AL</td>
<td>Mobile</td>
<td>A2ST</td>
<td>Natural Gas Fired Combined Cycle</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>4</td>
<td>Walter Bouldin Dam</td>
<td>AL</td>
<td>Elmore</td>
<td>1</td>
<td>Conventional Hydroelectric</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>4</td>
<td>Walter Bouldin Dam</td>
<td>AL</td>
<td>Elmore</td>
<td>2</td>
<td>Conventional Hydroelectric</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>4</td>
<td>Walter Bouldin Dam</td>
<td>AL</td>
<td>Elmore</td>
<td>3</td>
<td>Conventional Hydroelectric</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>7</td>
<td>Gadsden</td>
<td>AL</td>
<td>Etowah</td>
<td>1</td>
<td>Natural Gas Steam Turbine</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>7</td>
<td>Gadsden</td>
<td>AL</td>
<td>Etowah</td>
<td>2</td>
<td>Natural Gas Steam Turbine</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>8</td>
<td>Gorgas</td>
<td>AL</td>
<td>Walker</td>
<td>10</td>
<td>Conventional Steam Coal</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>8</td>
<td>Gorgas</td>
<td>AL</td>
<td>Walker</td>
<td>8</td>
<td>Conventional Steam Coal</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>8</td>
<td>Gorgas</td>
<td>AL</td>
<td>Walker</td>
<td>9</td>
<td>Conventional Steam Coal</td>
</tr>
<tr>
<td>5701</td>
<td>El Paso Electric Co</td>
<td>9</td>
<td>Copper</td>
<td>TX</td>
<td>El Paso</td>
<td>1</td>
<td>Natural Gas Fired Combustion Turbine</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>10</td>
<td>Greene County</td>
<td>AL</td>
<td>Greene</td>
<td>1</td>
<td>Natural Gas Steam Turbine</td>
</tr>
<tr>
<td>195</td>
<td>Alabama Power Co</td>
<td>10</td>
<td>Greene County</td>
<td>AL</td>
<td>Greene</td>
<td>2</td>
<td>Natural Gas Steam Turbine</td>
</tr>
</tbody>
</table>

**Remove PJM wholesale generators and generators outside of PJM Balancing Authority**
1,041 Units at Plants ≥ 1 MW

- Solar: 309
- Natural Gas: 228
- Diesel: 200
- Biomass: 51
- Coal: 26
- Wind: 22
- Other: 29
- Landfill: 94

4,603 MW at Plants ≥ 1 MW

- Solar: 1,056
- Natural Gas: 1,468
- Diesel: 408
- Biomass: 582
- Coal: 353
- Wind: 38
- Other: 333
- Landfill: 152
- Hydro: 214

Source: EIA 860
Timeline

• 2018 Efforts
  – Work with stakeholders to make manual changes
  – Collect contact information for resources from each TO
  – Create training materials
  – Upload data to DER Directory

• 2019 Efforts
  – Work with remaining TOs to identify resources and obtain access
  – Support TOs as needed throughout data entry process
  – Collect all required data