



***Net-Metering &  
Interconnection Report  
2016-18***

***Bureau of Technical Utility Services***

***Policy & Planning Section***

## ***I. Background and Observations***

The Alternative Energy Portfolio Standards (AEPS) Act of 2004 (Act) requires electric distribution companies (EDCs) and electric generation suppliers (EGSs) to supply 18 percent of electricity using alternative energy resources by 2021.<sup>1</sup> The percentage of Tier I, Tier II and solar alternative energy credits that must be included in sales to retail customers gradually increases over this period. To facilitate achievement of this standard, the AEPS required the PUC to develop technical and net metering interconnection rules for customer-generators.<sup>2</sup> The regulations subsequently established by the PUC require EDCs and EGSs to submit annual reports to the Commission.<sup>3</sup>

This report contains the number of customer-generators interconnected to the EDCs' distribution systems as well as the status of interconnection requests processed by the EDCs within the past year; it summarizes and provides access to the data submitted by each EDC for the previous three years. All reported data is by energy year, which runs from June 1 through May 31. Table 1 summarizes the cumulative number of interconnected customers to date, arranged by AEPS resource Tier. Section IV reflects the number of customer-generators in each EDC service territory. Section V shows the estimated generation capacity interconnected, by AEPS resource Tier, by year and by EDC. Section VI illustrates the number of annual interconnection requests received by year, by level of interconnection and by EDC. Section VII shows the number of approved interconnection requests by year, by level of interconnection and by EDC.

For the 2018 reporting year, 5,290 net-metered generators were interconnected, representing a marked reduction in the number of interconnection requests, 2,423 fewer than in 2017. Level I and Level II interconnection requests decreased by 33% and 21%, respectively, compared to 2017 that saw a spike in requests, as noted in Figure 3d. This directly results from fewer solar interconnection requests being submitted. Anecdotal information suggests that this trend was not unique to Pennsylvania. Despite the decrease in interconnection requests, a higher percentage of these requests were approved in 2018, 94% as compared to 68% in 2017, an annual increase of 33%. Associated generating capacity increased to a cumulative 346,957 kW, a 17% increase from 2017.

## ***II. Interconnection Levels***

EDCs are required to review interconnection requests using one or more of the following four review procedures.<sup>4</sup>

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<sup>1</sup> See generally 73 P.S. § 1648.1 *et seq.* and also [52 Pa Code §75](#)

<sup>2</sup> See [52 Pa Code §75.1](#)

<sup>3</sup> See [52 Pa Code §75.13\(g\)](#)

<sup>4</sup> See [52 Pa. Code § 75.34](#)

**Level 1** is used for inverter-based small generator facilities with a nameplate capacity of 10 kilowatts (kW) or less and the customer’s interconnection equipment is certified.<sup>5</sup>

**Level 2** is used for small generation facilities with a nameplate capacity of 5 megawatts (MW) or less when the following conditions exist:

- The small generator facility uses an inverter for interconnection and the interconnection equipment is certified.
- The proposed interconnection is to a radial distribution circuit, or a spot network limited to serving one customer.
- The small generator facility was reviewed under Level 1 review procedures but was not approved for interconnection at that level.

**Level 3** is used for evaluating interconnection requests to connect small generation facilities with an electric nameplate capacity of 5 MW or less which do not qualify under Level 1 or Level 2 or that were reviewed under Level 1 or Level 2, but were not approved for interconnection at those levels.

**Level 4** is used for interconnection customers that do not qualify for Level 1 or Level 2 and do not export power beyond the point of common coupling. Customers may request to be evaluated under Level 4 review procedures, which provide for a potentially expedited review.

### III. Summary of Customers Interconnected: 2016-18

TABLE 1: SUMMARY OF CUSTOMERS INTERCONNECTED 2016-18

	Data as of -May 31, 2016				Data as of May 31, 2017				Data as of May 31, 2018			
	Tier I		Tier II	Total	Tier I		Tier II	Total	Tier I		Tier II	Total
	Total	Solar PV			Total	Solar PV			Total	Solar PV		
Number of Customer Generators	10,632	10,371	16	10,648	16,137	15,846	16	16,153	21,430	21,133	13	21,443
Estimated Generation Nameplate Capacity in kW	230,244	199,641	7,144	237,388	290,473	254,424	7,144	297,617	343,463	302,190	3,494	346,957

\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I.

<sup>5</sup> See [52 Pa Code §75.22](#)

## Number of Customer-Generators by EDC Service Territory: 2016-18

TABLE 2A: NUMBER OF CUSTOMER-GENERATORS BY EDC SERVICE TERRITORY 2018

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	807	32	2,228	89	3,136	623	116	7,763	5	6,622	9	21,430
Solar PV	767	32	2,209	83	3,106	597	106	7,751	5	6,473	4	21,133
Tier II	0	0	0	0	2	4	0	7	0	0	0	13
<b>Total</b>	807	32	2,228	89	3,138	627	116	7,770	5	6,622	9	21,443

\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I.

TABLE 2B: NUMBER OF CUSTOMER-GENERATORS BY EDC SERVICE TERRITORY 2017

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	690	29	1,045	89	2,292	551	92	6,049	5	5,286	9	16,137
Solar PV	650	29	1,026	83	2,263	527	82	6,038	5	5,140	3	15,846
Tier II	0	0	0	0	2	4	0	10	0	0	0	16
<b>Total</b>	690	29	1,045	89	2,294	555	92	6,059	5	5,286	9	16,153

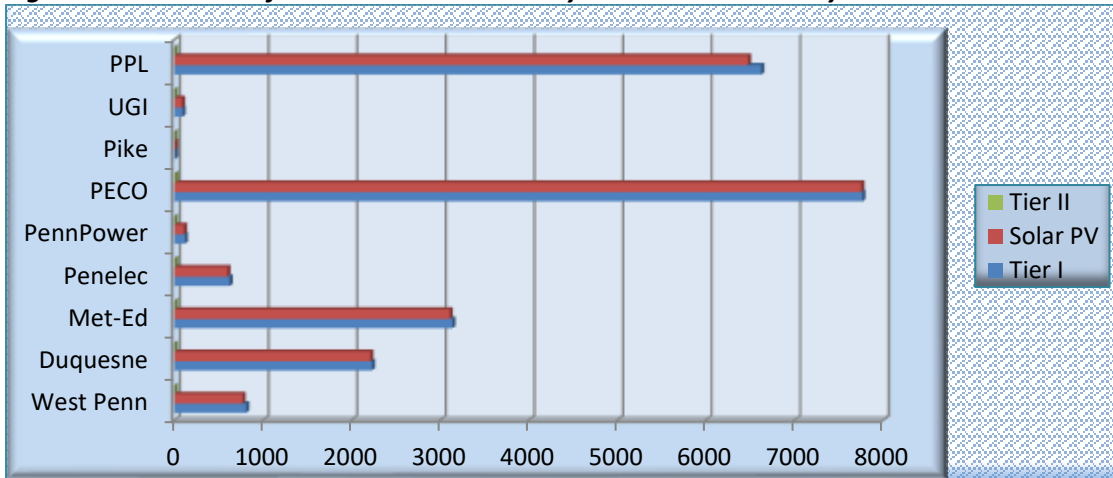
\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I.

TABLE 2C: NUMBER OF CUSTOMER-GENERATORS BY EDC SERVICE TERRITORY 2016

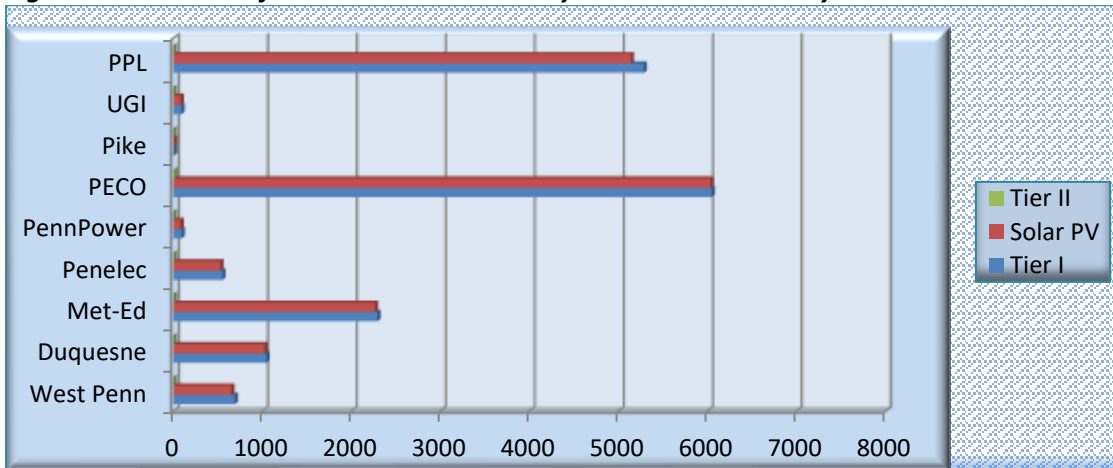
Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	600	26	370	85	1,681	466	82	3,383	5	3,925	9	10,632
Solar PV	560	26	355	79	1,678	442	72	3,372	5	3,779	3	10,371
Tier II	0	0	0	0	2	4	0	10	0	0	0	16
<b>Total</b>	600	26	370	85	1,683	470	82	3,393	5	3,925	9	10,648

\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I.

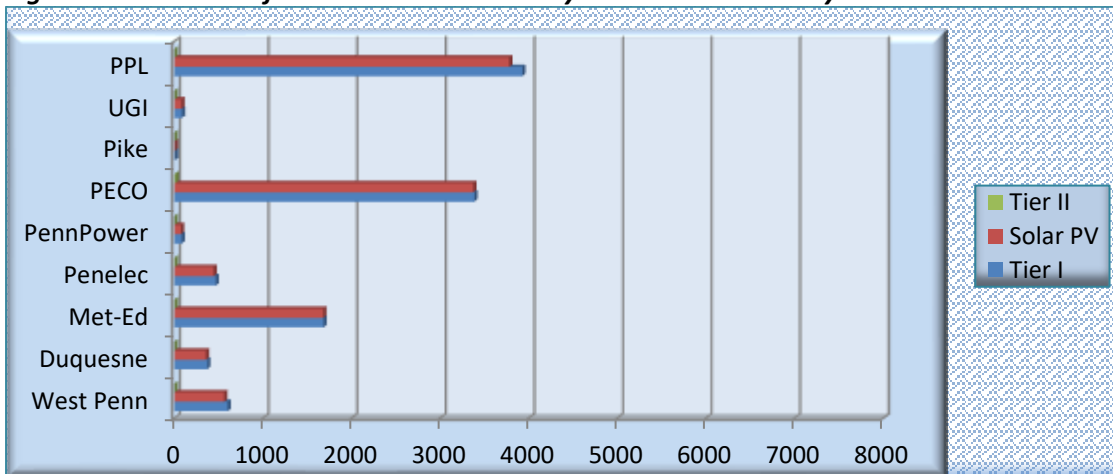
**Figure 1a: Number of Customer-Generators by EDC Service Territory: 2018**



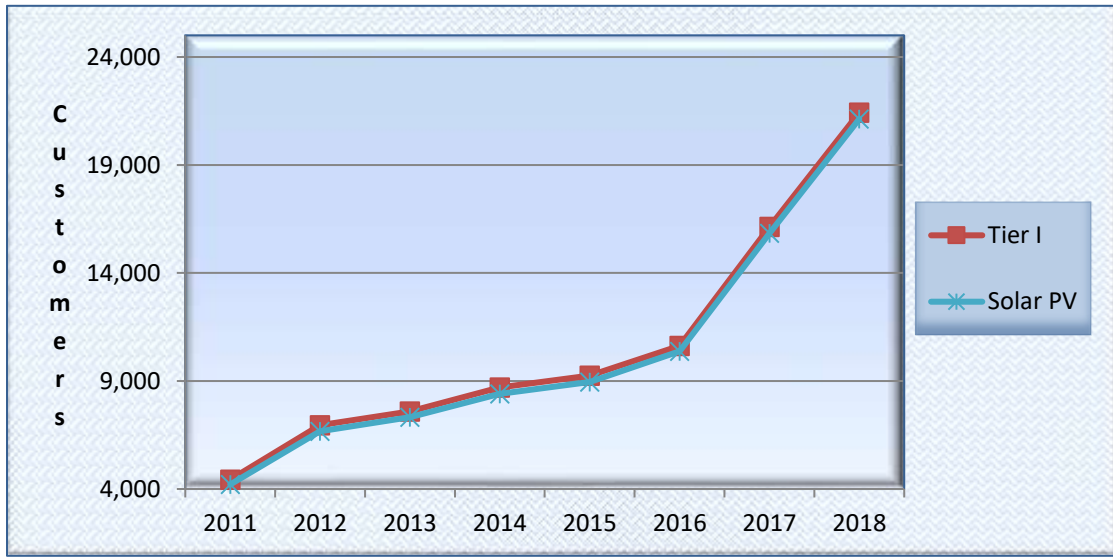
**Figure 1b: Number of Customer-Generators by EDC Service Territory: 2017**



**Figure 1c: Number of Customer-Generators by EDC Service Territory: 2016**



**Figure 1d: Trends-- Number of Net Metered Solar & Tier I Customers 2011-2018**



#### IV. Estimated Generation Capacity by EDC Service Territory (kW): 2016-18

TABLE 3A: ESTIMATED GENERATION NAMEPLATE CAPACITY BY EDC SERVICE TERRITORY (KW) 2018

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	9,908	870	19,469	1,012	60,933	7,952	3,166	93,693	50	146,368	42	343,463
Solar PV	9,700	870	19,183	997	55,315	7,083	1,828	92,833	50	114,308	23	302,190
Tier II	0	0	0	0	3	2,990	0	501	0	0	0	3,494
<b>Total</b>	<b>9,908</b>	<b>870</b>	<b>19,469</b>	<b>1,012</b>	<b>60,936</b>	<b>10,942</b>	<b>3,166</b>	<b>94,194</b>	<b>50</b>	<b>146,368</b>	<b>42</b>	<b>346,957</b>

\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier

TABLE 3B: ESTIMATED GENERATION NAMEPLATE CAPACITY BY EDC SERVICE TERRITORY (KW) 2017

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	7,682	850	11,049	1,011	52,468	7,145	2,929	79,397	50	127,854	38	290,473
Solar PV	7,474	850	10,882	991	46,881	6,445	1,991	78,669	50	100,174	17	254,424
Tier II	0	0	0	0	3	2,990	0	4,151	0	0	0	7,144
<b>Total</b>	<b>7,682</b>	<b>850</b>	<b>11,049</b>	<b>1,011</b>	<b>52,471</b>	<b>10,135</b>	<b>2,929</b>	<b>83,548</b>	<b>50</b>	<b>127,854</b>	<b>38</b>	<b>297,617</b>

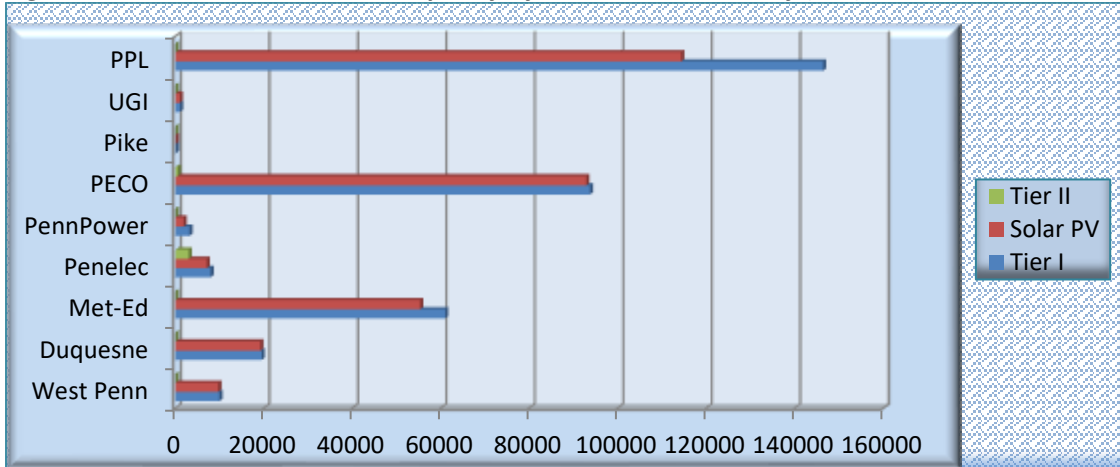
\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I

TABLE 3C: ESTIMATED GENERATION NAMEPLATE CAPACITY BY EDC SERVICE TERRITORY (KW) 2016

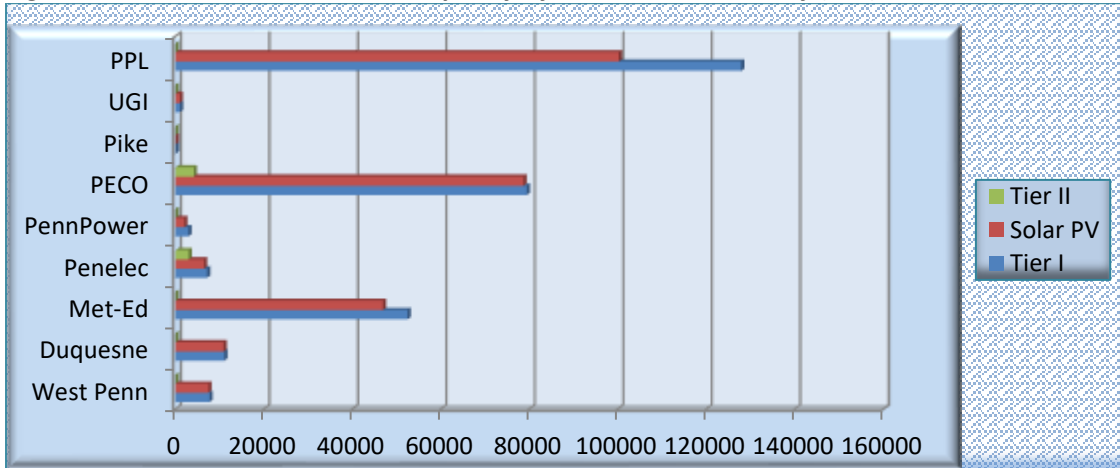
Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Tier I	6,750	684	5,612	936	42,078	6,381	2,042	59,828	51	105,844	38	230,244
Solar PV	6,542	667	5,455	916	36,906	5,681	704	59,100	51	83,602	17	199,641
Tier II	0	0	0	0	3	2,990	0	4,151	0	0	0	7,144
<b>Total</b>	<b>6,750</b>	<b>684</b>	<b>5,612</b>	<b>936</b>	<b>42,081</b>	<b>9,371</b>	<b>2,042</b>	<b>63,979</b>	<b>51</b>	<b>105,844</b>	<b>38</b>	<b>237,388</b>

\*Solar PV is a Tier I resource. The Solar PV column separately identifies the Solar PV component of Tier I.

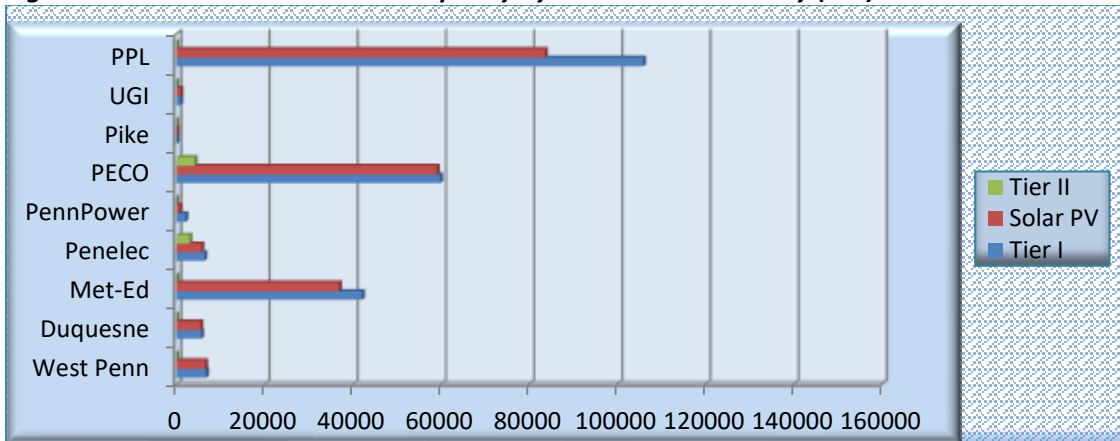
**Figure 2a Estimated Generation Capacity by EDC Service Territory (kW) 2018**



**Figure 2b: Estimated Generation Capacity by EDC Service Territory (kW) 2017**

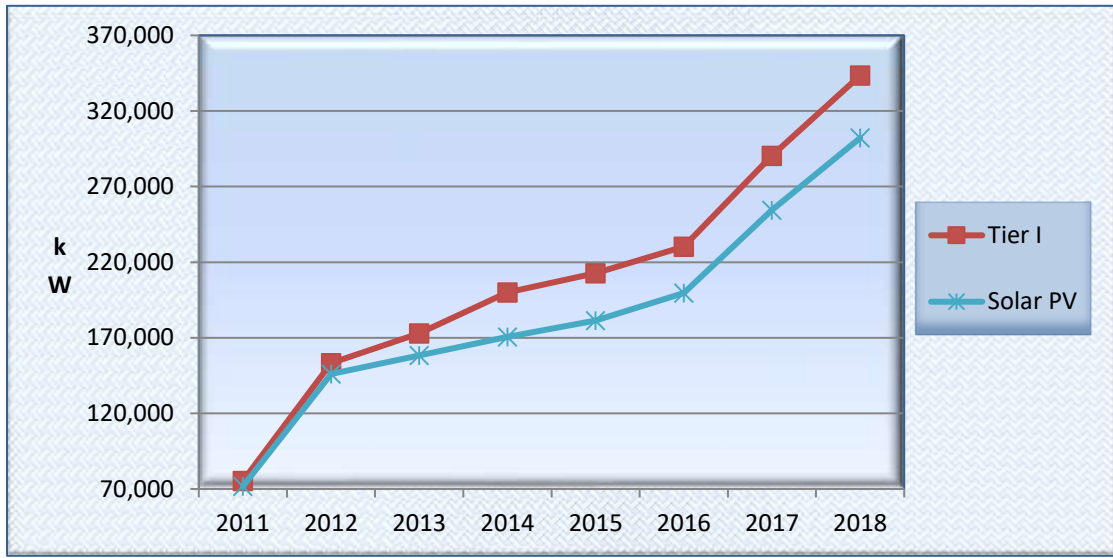


**Figure 2c: Estimated Generation Capacity by EDC Service Territory (kW) 2016**





**Figure 2d Trends—Net Metered Capacity (kW) Solar & Tier I 2011-2018**



## V. Interconnection Requests by EDC Service Territory: 2016-2018

TABLE 4A: NUMBER OF INTERCONNECTION REQUESTS BY EDC SERVICE TERRITORY 2018

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Level I	81	3	929	0	462	54	19	1,736	0	838	1	4,123
Level II	36	0	217	0	305	17	11	403	0	495	0	1,484
Level III	0	0	0	0	2	1	0	3	0	3	0	9
Level IV	0	0	0	0	0	0	0	3	0	0	0	3
<b>Total</b>	<b>117</b>	<b>3</b>	<b>1,146</b>	<b>0</b>	<b>769</b>	<b>72</b>	<b>30</b>	<b>2,145</b>	<b>0</b>	<b>1,336</b>	<b>1</b>	<b>5,619</b>

TABLE 4B: NUMBER OF INTERCONNECTION REQUESTS BY EDC SERVICE TERRITORY 2017

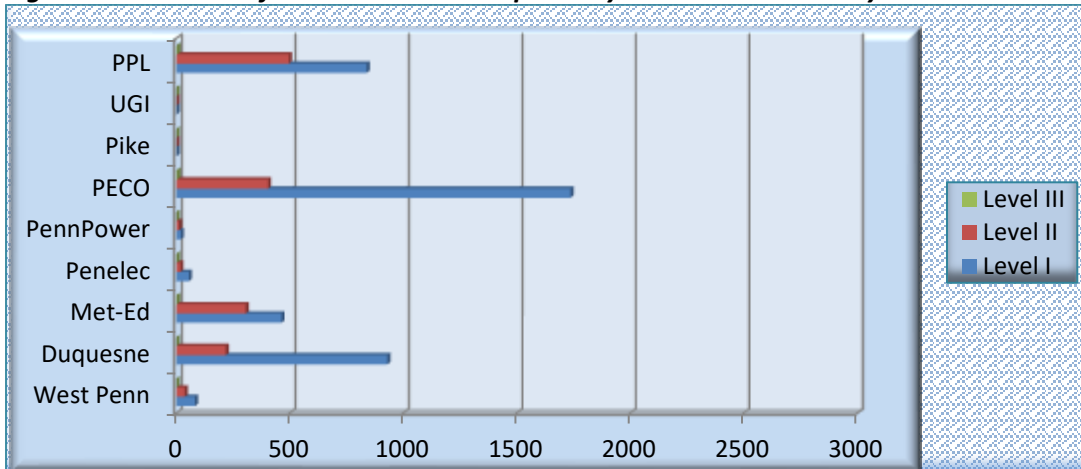
Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Level I	62	3	1,318	2	700	68	7	3,005	0	969	0	6,134
Level II	28	1	218	1	364	17	7	860	0	387	0	1,883
Level III	0	1	0	0	3	0	0	16	0	5	0	25
Level IV	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>90</b>	<b>5</b>	<b>1,536</b>	<b>3</b>	<b>1,067</b>	<b>85</b>	<b>14</b>	<b>3,881</b>	<b>0</b>	<b>1,361</b>	<b>0</b>	<b>8,042</b>

\*Value reflects sharp increase in solar applications.

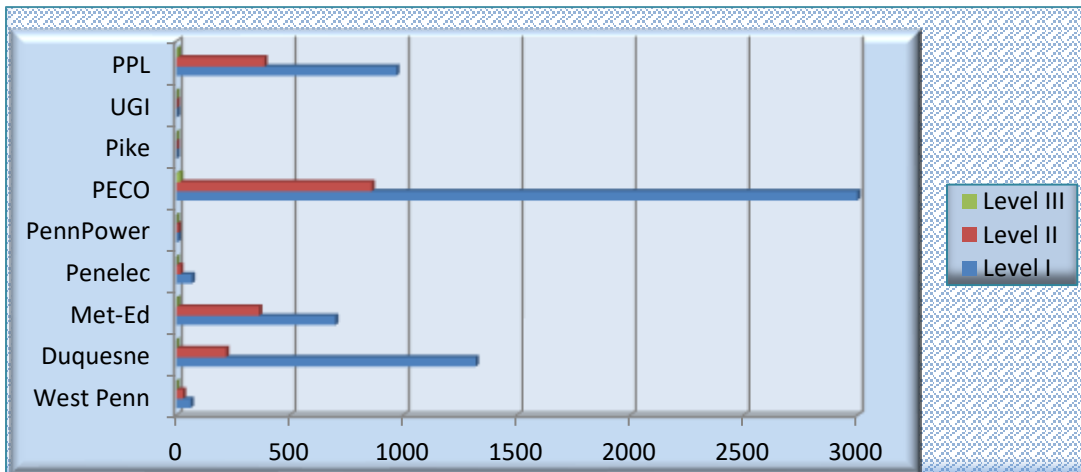
TABLE 4C: NUMBER OF INTERCONNECTION REQUESTS BY EDC SERVICE TERRITORY 2016

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Total
Level I	51	2	76	1	73	33	7	1,924*	0	252	0	2,419
Level II	31	0	23	0	40	17	8	420	0	123	0	662
Level III	0	0	0	0	3	1	0	2	0	1	0	7
Level IV	0	0	0	0	0	0	0	4	0	0	0	4
<b>Total</b>	<b>82</b>	<b>2</b>	<b>99</b>	<b>1</b>	<b>116</b>	<b>51</b>	<b>15</b>	<b>2,350</b>	<b>0</b>	<b>376</b>	<b>0</b>	<b>3,092</b>

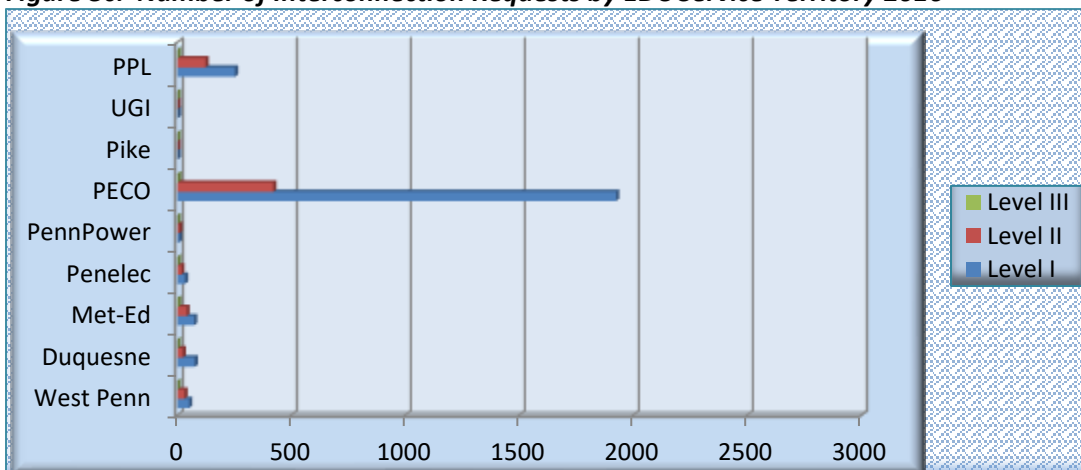
**Figure 3a: Number of Interconnection Requests by EDC Service Territory 2018**



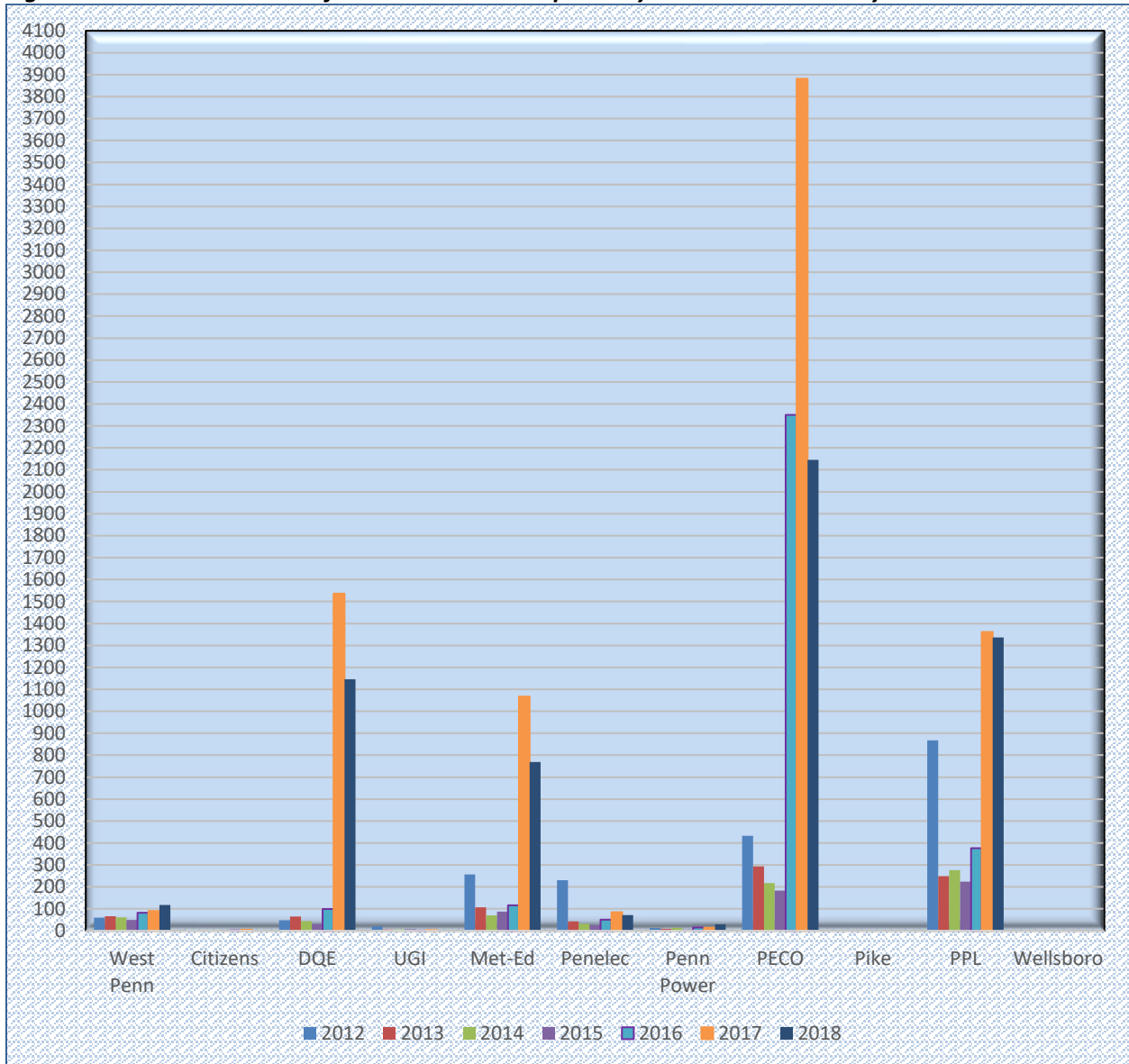
**Figure 3b: Number of Interconnection Requests by EDC Service Territory 2017**



**Figure 3c: Number of Interconnection Requests by EDC Service Territory 2016**



**Figure 3d: Trends-- Number of Interconnection Requests by EDC Service Territory 2012-2018**



**VI. Mean Number of Days to Complete Interconnection Request Approvals:  
2016-18**

TABLE 5A: MEAN NUMBER OF DAYS TO COMPLETE INTERCONNECTION REQUEST APPROVALS BY EDC SERVICE TERRITORY 2018

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Mean
Level I	5	2	20	0	13	10	1	9	0	7	23	8
Level II	5	0	21	0	17	10	2	10	0	7	0	7
Level III	0	0	0	0	13	0	0	10	0	7	0	3
Level IV	0	0	0	0	0	0	0	9	0	0	0	1

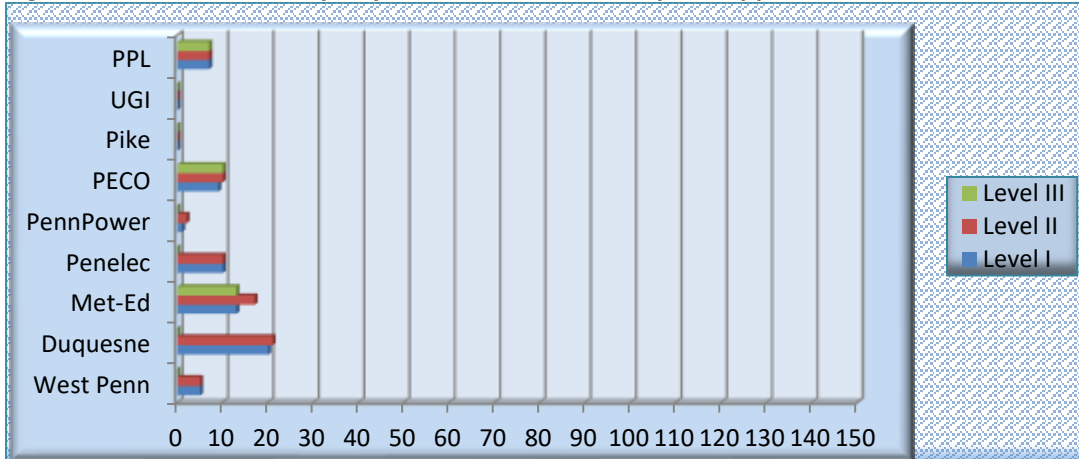
TABLE 5B: MEAN NUMBER OF DAYS TO COMPLETE INTERCONNECTION REQUEST APPROVALS BY EDC SERVICE TERRITORY 2017

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Mean
Level I	4	3	21	1	19	7	1	10	0	7	0	7
Level II	5	0	22	4	28	7	4	11	0	7	0	8
Level III	0	90	0	0	133	0	0	87	0	7	0	29
Level IV	0	0	0	0	0	0	0	0	0	0	0	0

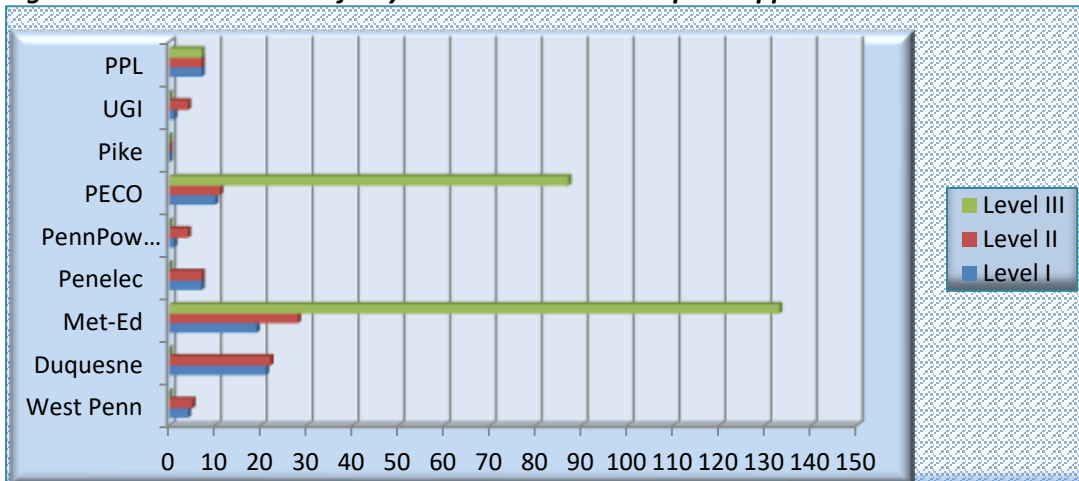
TABLE 5C: MEAN NUMBER OF DAYS TO COMPLETE INTERCONNECTION REQUEST APPROVALS BY EDC SERVICE TERRITORY 2016

Resource	West Penn	Citizens	DQE	UGI	Met-Ed	Penelec	Penn Power	PECO	Pike	PPL	Wellsboro	Mean
Level I	4	0	4	1	6	4	3	10	0	7	0	4
Level II	5	0	4	0	15	5	3	11	0	7	0	5
Level III	0	0	0	0	0	1	0	0	0	7	0	1
Level IV	0	0	0	0	0	0	0	2	0	0	0	0

**Figure 4a Mean Number of Days - Interconnection Request Approvals 2018**



**Figure 4b: Mean Number of Days - Interconnection Request Approvals 2017**



**Figure 4c: Mean Number of Days - Interconnection Request Approvals 2016**

