Generation and Transmission Planning

Highlights

- At September 30, 2012, 75,869 MW of capacity were in generation request queues to be in service through 2018, compared to an average installed capacity of 185,000 MW in 2012 including the January 1, 2012, DEOK integration. Wind projects account for 26,495 MW, 34.9 percent of the capacity in the queues, and combined-cycle projects account for 38,806 MW, 51.1 percent of the capacity in the queues.
- A total of 6,722 MW of generation capacity retired between January and October 1, 2012, and it is expected that a total of 19,142.8 MW will have retired from 2011 through 2019, with most of this capacity retiring by the end of 2015. Units that have retired through October 1, 2012, make up 35 percent of all retirements currently expected to occur from 2012 through 2019.

Planned Generation and Retirements

Planned Generation Additions

Net revenues provide incentives to build new generation to serve PJM markets. While these incentives operate with a significant lag time and are based on expectations of future net revenue, the amount of planned new generation in PJM reflects investors' perception of the incentives provided by the combination of revenues from the PJM Energy, Capacity and Ancillary Service Markets. At September 30, 2012, 75,869 MW of capacity were in generation request queues for construction through 2018, compared to an average installed capacity of 185,000 MW in 2012 including the January 1, 2012, DEOK integration. Although it is clear that not all generation in the queues will be built, PJM has added capacity annually since 2000 (Table 11-1).[1] Overall, 1,898 MW of nameplate capacity were added in PJM between January and September 2012 (excluding the integration of the DEOK zone).

Table 11-1 Year-to-year capacity additions from PJM generation queue: Calendar years 2000 through September 30, 2012[2] (See 2011 SOM, Table 11-1)

	MW
2000	505
2001	872
2002	3,841
2003	3,524
2004	1,935
2005	819
2006	471
2007	1,265
2008	2,777
2009	2,516
2010	2,097
2011	5,008
January-September 2012	1,898

PJM Generation Queues

Generation request queues are groups of proposed projects. Queue A was open from February 1997 through January 1998; Queue B was open from February 1998 through January 1999; Queue C was open from February 1999 through July 1999 and Queue D opened in August 1999. After Queue D, a new queue was opened every six months until Queue T, when new queues began to open annually. Queue Y will be active through January 31, 2013.

Capacity in generation request queues for the seven year period beginning in 2012 and ending in 2018 decreased by 14,856 MW from 90,725 MW in 2011 to 75,869 MW in 2012, or 16.4 percent (Table 11-2).[3] Queued capacity scheduled for service in 2012 decreased from 27,184 MW to 14,924 MW, or 45.1 percent. Queued capacity scheduled for service in 2013 decreased from 13,051 MW to 9,144 MW, or 29.9 percent. The 75,869 MW includes generation with scheduled in-service dates in 2012 and units still active in the queue with in-service dates scheduled before 2012, listed at nameplate capacity, although these units are not yet in service.

1 The capacity additions are new MW by year, including full nameplate capacity of solar and wind facilities and are not net of retirements or deratings.

2 The capacity described in this table refers to all installed capacity in PJM, regardless of whether the capacity entered the RPM auction.

3 See the *2011 State of the Market Report for PJM*: Volume II, Section 11, pp. 286-288, for the queues in 2011.

Table 11-2 Queue comparison (MW): September 30, 2012 vs. December 31, 2011 (See 2011 SOM, Table 11-3)

	MW in the Queue 2011	MW in the Queue 2012	Year-to-Year Change (MW)	Year-to-Year Change
2012	27,184	14,924	(12,260)	(45.1%)
2013	13,051	9,144	(3,908)	(29.9%)
2014	17,036	11,212	(5,824)	(34.2%)
2015	19,251	24,198	4,947	25.7%
2016	9,288	8,858	(430)	(4.6%)
2017	1,720	5,939	4,219	245.3%
2018	3,194	1,594	(1,600)	(50.1%)
Total	90,725	75,869	(14,856)	(16.4%)

Table 11-3 shows the amount of capacity active, in-service, under construction or withdrawn for each queue since the beginning of the Regional Transmission Expansion Plan (RTEP) Process and the total amount of capacity that had been included in each queue.[4]

Table 11-3 Capacity in PJM queues (MW): At September 30, 2012[5, 6] (See 2011 SOM, Table 11-4)

Queue	Active	In-Service	Under Construction	Withdrawn	Total
A Expired 31-Jan-98	0	8,103	0	17,347	25,450
B Expired 31-Jan-99	0	4,646	0	14,957	19,602
C Expired 31-Jul-99	0	531	0	3,471	4,002
D Expired 31-Jan-00	0	851	0	7,182	8,033
E Expired 31-Jul-00	0	795	0	8,022	8,817
F Expired 31-Jan-01	0	52	0	3,093	3,145
G Expired 31-Jul-01	0	1,116	525	17,409	19,050
H Expired 31-Jan-02	0	703	0	8,422	9,124
I Expired 31-Jul-02	0	103	0	3,728	3,831
J Expired 31-Jan-03	0	40	0	846	886
K Expired 31-Jul-03	0	218	80	2,345	2,643
L Expired 31-Jan-04	0	257	0	4,034	4,290
M Expired 31-Jul-04	0	505	422	3,556	4,482
N Expired 31-Jan-05	0	2,279	38	8,090	10,407
O Expired 31-Jul-05	10	1,491	1,025	5,066	7,592
P Expired 31-Jan-06	413	2,915	455	4,908	8,690
Q Expired 31-Jul-06	120	2,038	2,914	9,462	14,534
R Expired 31-Jan-07	1,866	1,216	778	18,894	22,755
S Expired 31-Jul-07	1,778	3,243	652	11,469	17,142
T Expired 31-Jan-08	7,802	1,197	821	17,726	27,546
U Expired 31-Jan-09	4,684	256	541	27,876	33,357
V Expired 31-Jan-10	5,692	227	1,658	9,426	17,004
W Expired 31-Jan-11	9,338	245	1,111	13,565	24,259
X Expired 31-Jan-12	21,922	47	312	8,674	30,955
Y Expires 31-Jan-13	10,903	0	8	730	11,642
Total	64,528	33,073	11,341	230,297	339,239

Data presented in Table 11-4 show that through the first nine months of 2012, 38.5 percent of total in-service capacity from all the queues was from Queues A and B and an additional 6.5 percent was from Queues C, D and E.[7] As of September 30, 2012, 31.8 percent of the capacity in Queues A and B has been placed in service, and 9.7 percent of all queued capacity has been placed in service.

4 Projects listed as active have been entered in the queue and the next phase can be under construction, in-service or withdrawn. At any time, the total number of projects in the queues is the sum of active projects and under-construction projects.

5 The *2012 Quarterly State of the Market Report for PJM: January through September* contains all projects in the queue including reratings of existing generating units and energy only resources.

6 Projects listed as partially in-service are counted as in-service for the purposes of this analysis.

7 The data for Queue Y include projects through September 30, 2012.

The data presented in Table 11-4 show that for successful projects there is an average time of 812 days between entering a queue and the in-service date, an increase of 30 days since the third quarter of 2011. The data also show that for withdrawn projects, there is an average time of 529 days between entering a queue and completion or exiting. For each status, there is substantial variability around the average results.

Table 11-4 Average project queue times (days): At September 30, 2012 (See 2011 SOM, Table 11-5)

Status	Average (Days)	Standard Deviation	Minimum	Maximum
Active	886	629	0	2,801
In-Service	812	714	0	3,964
Suspended	2,198	818	704	3,849
Under Construction	1,344	804	0	5,083
Withdrawn	529	550	0	3,186

Table 11-5 shows queued capacity that was planned to be in service by September 30, 2012. This indicates there is a substantial amount of queued capacity that is not yet under construction that should already be in service based on the original queue date.

Table 11-5 Active capacity queued to be in service prior to October 1, 2012 (New table)

	MW
2007	87.0
2008	362.0
2009	344.4
2010	2,417.5
2011	4,325.4
2012	1,387.6
Total	8,923.9

Distribution of Units in the Queues

A more detailed examination of the queue data permits some additional conclusions. The geographic distribution of generation in the queues shows that new capacity is being added disproportionately in the west, and includes a substantial amount of wind capacity. At September 30, 2012, 75,869 MW of capacity were in generation request queues for construction through 2018, compared to an average installed capacity of 185,000 MW in 2012 including the January 1, 2012, DEOK integration. Wind projects account for 26,495 MW, 34.9 percent of the capacity in the queues, and combined-cycle projects account for 38,806 MW, 51.1 percent of the capacity in the queues. On September 30, 2012, there were 38,806 MW of capacity from combined cycle units in the queue, compared to 34,788 MW in 2011, an increase of 11.6 percent.

Table 11-6 shows the projects under construction or active as of September 30, 2012, by unit type and control zone. Most of the steam projects (92.5 percent of the MW) and most of the wind projects (93.3 percent of the MW) are outside the Eastern MAAC (EMAAC)[8] and Southwestern MAAC (SWMAAC)[9] locational deliverability areas (LDAs).[10] Of the total capacity additions, only 14,571 MW, or 19.2 percent, are projected to be in EMAAC, while 4,201 MW or 5.5 percent are projected to be constructed in SWMAAC. Of total capacity additions, 28,348 MW, or 37.4 percent of capacity, is being added inside MAAC zones. Overall, 75.3 percent of capacity is being added outside EMAAC and SWMAAC, and 62.6 percent of capacity is being added outside MAAC zones.

Wind projects account for 26,495 MW of capacity or 34.9 percent of the capacity in the queues and combined-cycle projects account for 38,806 MW of capacity or 51.1 percent of the capacity in the queues.[11] Wind projects account for 3,468 MW of capacity in MAAC LDAs, or 12.2 percent. While there are no wind projects in the SWMAAC LDA, in the EMAAC LDA wind projects account for 1,769 MW of capacity, or 12.1 percent.

8 EMAAC consists of the AECO, DPL, JCPL, PECO and PSEG Control Zones.
9 SWMAAC consists of the BGE and Pepco Control Zones.
10 See the *2011 State of the Market Report for PJM*, Volume II, Appendix A, "PJM Geography" for a map of PJM LDAs.
11 Since wind resources cannot be dispatched on demand, PJM rules previously required that the unforced capacity of wind resources be derated to 20 percent of installed capacity until actual generation data are available. Beginning with Queue U, PJM derates wind resources to 13 percent of installed capacity. PJM derates solar resources to 38 percent of installed capacity. Based on the derating of 26,495 MW of wind resources and 2,675 MW of solar resources, the 75,869 MW currently active in the queue would be reduced to 51,159 MW.

Table 11-6 Capacity additions in active or under-construction queues by control zone (MW): At September 30, 2012 (See 2011 SOM, Table 11-6)

	CC	CT	Diesel	Hydro	Nuclear	Solar	Steam	Storage	Wind	Total
AECO	2,737	63	9	0	0	519	138	0	1,419	4,885
AEP	4,370	0	70	70	0	118	183	8	10,878	15,697
AP	984	0	13	75	0	202	869	0	826	2,970
ATSI	4,692	40	10	0	30	65	135	0	849	5,820
BGE	678	256	0	0	0	2	0	0	0	936
ComEd	1,080	444	95	23	607	65	600	46	9,010	11,970
DAY	0	0	2	112	0	23	12	0	845	994
DEOK	20	0	0	0	0	0	0	0	0	20
DLCO	40	0	0	5	91	0	0	0	0	136
Dominion	6,676	535	0	0	1,594	120	370	0	619	9,914
DPL	1,221	1	4	0	0	276	22	27	330	1,881
JCPL	2,770	47	30	0	0	942	0	0	0	3,788
Met-Ed	1,818	0	18	0	58	3	0	0	0	1,897
PECO	48	7	8	0	470	10	0	5	0	547
PENELEC	879	43	224	0	0	32	106	0	1,215	2,499
Pepco	3,245	0	20	0	0	0	0	0	0	3,265
PPL	4,476	11	2	3	100	84	0	20	485	5,180
PSEG	3,073	77	9	0	50	215	24	2	20	3,469
Total	38,806	1,525	513	288	3,000	2,675	2,459	108	26,495	75,869

There are potentially significant implications for future congestion, the role of firm and interruptible gas supply and natural gas supply infrastructure, if older steam units are replaced by units burning natural gas. (Table 11-7)

Table 11-7 Capacity additions in active or under-construction queues by LDA (MW): At September 30, 2012[12] (See 2011 SOM, Table 11-7)

	CC	CT	Diesel	Hydro	Nuclear	Solar	Steam	Storage	Wind	Total
EMAAC	9,848	195	60	0	520	1,961	184	34	1,769	14,571
SWMAAC	3,923	256	20	0	0	2	0	0	0	4,201
WMAAC	7,173	55	244	3	158	119	106	20	1,699	9,576
Non-MAAC	17,862	1,019	190	285	2,322	593	2,169	54	23,027	47,521
Total	38,806	1,525	513	288	3,000	2,675	2,459	108	26,495	75,869

Table 11-8 shows existing generation by unit type and control zone. Existing steam (mainly coal and residual oil) and nuclear capacity is distributed across control zones.

A potentially significant change in the distribution of unit types within the PJM footprint is likely as a combined result of the location of generation resources in the queue (Table 11-6) and the location of units likely to retire. In both the EMAAC and SWMAAC LDAs, the capacity mix is likely to shift to more natural gas-fired combined cycle (CC) and combustion turbine (CT) capacity. The western part of the PJM footprint is also likely to see a shift to more natural gas-fired capacity due to changes in environmental regulations and natural gas costs, but likely will maintain a larger amount of coal steam capacity than eastern zones.

12 WMAAC consists of the Met-Ed, PENELEC, and PPL Control Zones.

Table 11-8 Existing PJM capacity: At September 30, 2012[13] (By zone and unit type (MW)) (See 2011 SOM, Table 11-8)

	CC	CT	Diesel	Hydroelectric	Nuclear	Solar	Steam	Storage	Wind	Total
AECO	164	701	21	0	0	40	1,087	0	8	2,020
AEP	4,900	3,682	60	1,072	2,071	0	21,677	0	1,553	35,015
AP	1,129	1,215	34	80	0	16	7,372	27	799	10,672
ATSI	685	1,661	71	0	2,134	0	6,540	0	0	11,091
BGE	0	835	11	0	1,714	0	3,007	0	0	5,567
ComEd	1,763	7,257	94	0	10,438	0	5,417	0	2,254	27,223
DAY	0	1,369	48	0	0	1	4,368	0	0	5,785
DEOK	0	842	0	0	0	0	2,671	0	0	3,513
DLCO	244	15	0	6	1,777	0	784	0	0	2,826
Dominion	4,030	3,762	174	3,589	3,581	3	8,320	0	0	23,457
DPL	1,125	1,822	96	0	0	0	1,800	3	0	4,847
External	974	990	0	66	439	0	5,728	0	185	8,382
JCPL	1,693	1,232	27	400	615	25	15	0	0	4,005
Met-Ed	2,051	408	41	20	805	0	844	0	0	4,168
PECO	3,209	836	6	1,642	4,541	3	1,145	1	0	11,383
PENELEC	0	344	46	513	0	0	6,831	0	750	8,483
Pepco	230	1,092	12	0	0	0	3,649	0	0	4,983
PPL	1,793	618	49	582	2,520	0	5,537	0	220	11,317
PSEG	3,091	2,838	12	5	3,493	98	2,040	0	0	11,577
Total	27,080	31,516	800	7,974	34,127	185	88,830	31	5,769	196,312

Table 11-9 shows the age of PJM generators by unit type.

Table 11-9 PJM capacity (MW) by age: at September 30, 2012 (See 2011 SOM Table 11-9)

Age (years)	Combined Cycle	Combustion Turbine	Diesel	Hydroelectric	Nuclear	Solar	Steam	Storage	Wind	Total
Less than 11	18,982	9,255	445	11	0	185	2,496	31	5,734	37,140
11 to 20	6,062	13,070	106	48	0	0	3,261	0	34	22,582
21 to 30	1,594	1,663	56	3,448	15,409	0	8,504	0	0	30,674
31 to 40	244	3,106	43	105	16,353	0	28,696	0	0	48,547
41 to 50	198	4,421	135	2,915	2,365	0	29,492	0	0	39,526
51 to 60	0	0	15	379	0	0	13,682	0	0	14,076
61 to 70	0	0	0	0	0	0	2,526	0	0	2,526
71 to 80	0	0	0	280	0	0	95	0	0	375
81 to 90	0	0	0	549	0	0	79	0	0	628
91 to 100	0	0	0	155	0	0	0	0	0	155
101 and over	0	0	0	84	0	0	0	0	0	84
Total	27,080	31,516	800	7,974	34,127	185	88,830	31	5,769	196,312

Table 11-10 shows the effect that the new generation in the queues would have on the existing generation mix, assuming that all non-hydroelectric generators in excess of 40 years of age retire by 2018. The expected role of gas-fired generation depends largely on projects in the queues and continued retirement of coal-fired generation.

Without the planned coal-fired capability in EMAAC, new gas-fired capability would represent 69.8 percent of all new capability in EMAAC and 86.3 percent when the derating of wind and solar capacity is reflected.

A planned addition of 1,640 MW of nuclear capacity to Calvert Cliffs in SWMAAC was withdrawn from the queue. Without the planned nuclear capability in SWMAAC, new gas-fired capability represents 99.4 percent of all new capability in the SWMAAC. In 2018, this would mean that CC and CT generators would comprise 55.1 percent of total capability in SWMAAC.

In Non-MAAC zones, if older units retire, a substantial amount of coal-fired generation would be replaced by wind generation if the units in the generation queues are constructed.[14] In these zones, 87.9 percent of all generation 40 years or older is steam (primarily coal). With the retirement of these units in 2018, wind farms would comprise 19.7 percent of total capacity in Non-MAAC zones, if all queued capacity is built.

13 The capacity described in this section refers to all installed capacity in PJM, regardless of whether the capacity entered the RPM auction.

14 Non-MAAC zones consist of the AEP, AP, ATSI, ComEd, DAY, DEOK, DLCO, and Dominion Control Zones.

Table 11-10 Comparison of generators 40 years and older with slated capacity additions (MW): Through 2018[15] (See 2011 SOM, Table 11-10)

Area	Unit Type	Capacity of Generators 40 Years or Older	Percent of Area Total	Capacity of Generators of All Ages	Percent of Area Total	Additional Capacity through 2018	Estimated Capacity 2018	Percent of Area Total
EMAAC	Combined Cycle	198	2.4%	9,282	27.4%	9,848	18,932	46.5%
	Combustion Turbine	2,229	27.0%	7,429	22.0%	195	5,395	13.2%
	Diesel	51	0.6%	162	0.5%	60	171	0.4%
	Hydroelectric	2,042	24.7%	2,047	6.1%	0	620	1.5%
	Nuclear	615	7.4%	8,648	25.6%	520	8,554	21.0%
	Solar	0	0.0%	165	0.5%	1,961	2,126	5.2%
	Steam	3,135	37.9%	6,087	18.0%	184	3,136	7.7%
	Storage	0	0.0%	4	0.0%	34	38	0.1%
	Wind	0	0.0%	8	0.0%	1,769	1,777	4.4%
	EMAAC Total	8,269	100.0%	33,831	100.0%	14,571	40,748	100.0%
SWMAAC	Combined Cycle	0	0.0%	230	2.2%	3,923	4,153	39.5%
	Combustion Turbine	542	12.8%	1,927	18.3%	256	1,640	15.6%
	Diesel	0	0.0%	23	0.2%	20	43	0.4%
	Nuclear	0	0.0%	1,714	16.2%	0	1,714	16.3%
	Solar	0	0.0%	0	0.0%	2	2	0.0%
	Steam	3,702	87.2%	6,656	63.1%	0	2,954	28.1%
	SWMAAC Total	4,244	100.0%	10,549	100.0%	4,201	10,506	100.0%
WMAAC	Combined Cycle	0	0.0%	3,843	16.0%	7,173	11,016	77.5%
	Combustion Turbine	559	6.1%	1,369	5.7%	55	865	6.1%
	Diesel	46	0.5%	136	0.6%	244	333	2.3%
	Hydroelectric	887	9.7%	1,114	4.6%	3	1,117	7.9%
	Nuclear	0	0.0%	3,325	13.9%	158	3,483	24.5%
	Solar	0	0.0%	0	0.0%	119	119	0.8%
	Steam	7,702	83.8%	13,211	55.1%	106	5,616	39.5%
	Storage	0	0.0%	0	0.0%	20	20	0.1%
	Wind	0	0.0%	970	4.0%	1,699	2,669	18.8%
	WMAAC Total	9,194	100.0%	23,968	100.0%	9,576	14,222	100.0%
Non-MAAC	Combined Cycle	0	0.0%	13,724	10.7%	17,862	31,587	22.4%
	Combustion Turbine	1,092	3.1%	20,792	16.2%	1,019	20,719	14.7%
	Diesel	53	0.1%	480	0.4%	190	617	0.4%
	Hydroelectric	1,433	4.0%	4,814	3.8%	285	5,098	3.6%
	Nuclear	1,751	4.9%	20,440	16.0%	2,322	21,011	14.9%
	Solar	0	0.0%	20	0.0%	593	613	0.4%
	Steam	31,336	87.9%	62,876	49.1%	2,169	33,710	23.9%
	Storage	0	0.0%	27	0.0%	54	82	0.1%
	Wind	0	0.0%	4,791	3.7%	23,027	27,818	19.7%
	Non-MAAC Total	35,663	100.0%	127,964	100.0%	47,521	141,254	100.0%
All Areas	Total	57,369		196,312		75,869	206,730	

15 Percentages shown in Table 11-10 are based on unrounded, underlying data and may differ from calculations based on the rounded values in the tables.

Planned Deactivations

As shown in Table 11-11, 11,098.5 MW are planning to deactivate by the end of calendar year 2019. Units planning to retire in 2012 make up 189.9 MW, or 2 percent of all planned retirements. Of deactivations in 2012, 1,458 MW, or 21.5 percent, are located in the ATSI zone. Overall, 3,951.1 MW, or 35.6 percent of all retirements, are expected in the AEP zone. Figure 11-1 shows plant retirements throughout the PJM footprint, with retirements in nearly every PJM state. A total of 1,322.3 MW retired in 2011, and a total of 6,722 MW retired between January and October 1, 2012. It is expected that a total of 19,142.8 MW will have retired by 2019, with most of this capacity retiring by the end of 2015.

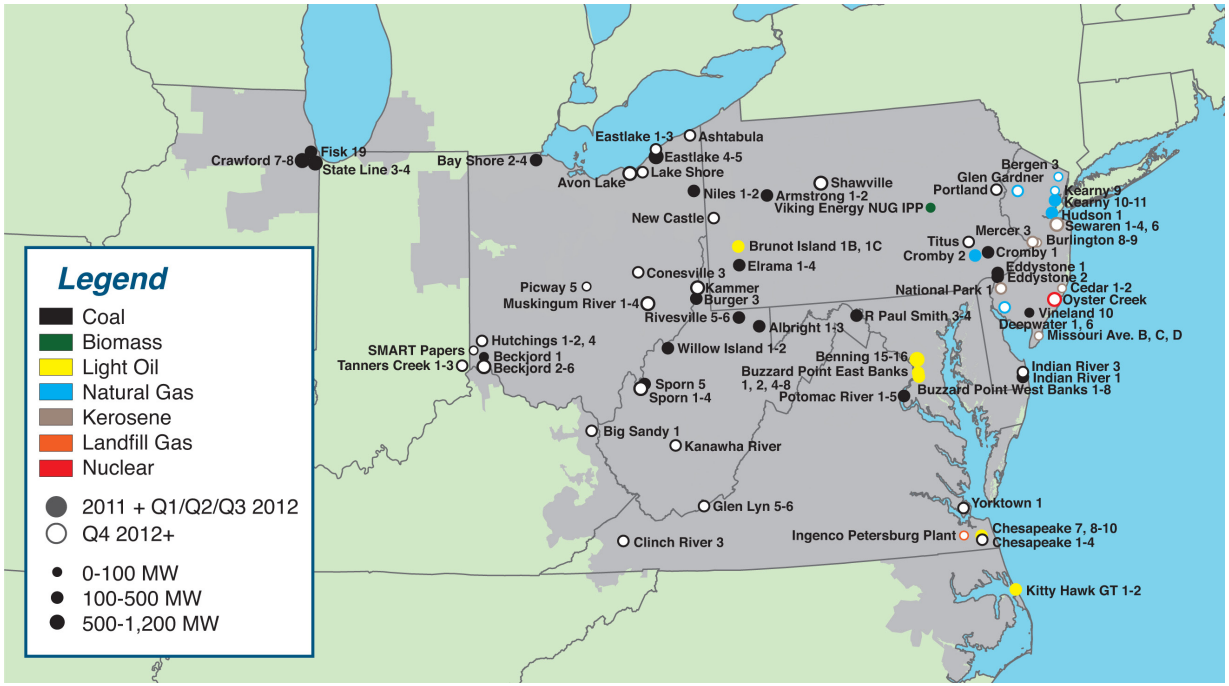
Table 11-11 Summary of PJM unit retirements (MW): Calendar year 2011 through 2019 (See 2011 SOM, Table 11-11)

	MW
Retirements 2011	1,322.3
Retirements 2012	6,722.0
Planned Retirements 2012	189.9
Planned Retirements Post-2012	10,908.6
Total	19,142.8

Table 11-12 Planned deactivations of PJM units in calendar year 2012 as of October 1, 2012[16] (See 2011 SOM, Table 11-12)

Unit	Zone	MW	Projected Deactivation Date
SMART Paper	DEOK	24.9	10-Aug-12
Conesville 3	AEP	165.0	31-Dec-12
Total		189.9	

Figure 11-1 Unit retirements in PJM Calendar year 2011 through 2019 (See 2011 SOM, Figure 11-1)



16 See "Pending Deactivation Requests," <http://pjm.com/planning/generation-retirements/~/media/planning/gen-retire/pending-deactivation-requests.ashx> (Accessed October 5, 2012).

Table 11-13 Planned deactivations of PJM units after calendar year 2012, as of October 1, 2012 (See 2011 SOM, Table 11-13)

Unit	Zone	MW	Projected Deactivation Date
Ingenco Petersburg Plant	Dominion	2.9	31-May-13
Hutchings 4	DAY	61.9	01-Jun-13
Burlington 9	PSEG	184.0	01-Jun-13
Indian River 3	DPL	169.7	31-Dec-13
Chesapeake 1-2	Dominion	222.0	31-Dec-14
Yorktown 1	Dominion	159.0	31-Dec-14
Portland	Met-Ed	401.0	07-Jan-15
Beckjord 2-6	DEOK	1,024.0	01-Apr-15
Avon Lake	ATSI	732.0	16-Apr-15
New Castle	ATSI	330.5	16-Apr-15
Titus	Met-Ed	243.0	16-Apr-15
Shawville	PENELEC	597.0	16-Apr-15
Glen Gardner	JCPL	160.0	01-May-15
Kearny 9	PSEG	21.0	01-May-15
Cedar 1-2	AECO	67.7	31-May-15
Deepwater 1, 6	AECO	158.0	31-May-15
Missouri Ave B, C, D	AECO	60.0	31-May-15
Big Sandy 2	AEP	278.0	01-Jun-15
Clinch River 3	AEP	230.0	01-Jun-15
Glen Lyn 5-6	AEP	325.0	01-Jun-15
Kammer	AEP	600.0	01-Jun-15
Kanawha River	AEP	400.0	01-Jun-15
Muskingum River 1-4	AEP	790.0	01-Jun-15
Picway 5	AEP	95.0	01-Jun-15
Sporn	AEP	580.0	01-Jun-15
Tanners Creek 1-3	AEP	488.1	01-Jun-15
Ashtabula	ATSI	210.0	01-Jun-15
Eastlake 1-3	ATSI	327.0	01-Jun-15
Lake Shore	ATSI	190.0	01-Jun-15
Hutchings 1-2	DAY	97.3	01-Jun-15
Bergen 3	PSEG	21.0	01-Jun-15
Burlington 8	PSEG	21.0	01-Jun-15
Mercer 3	PSEG	115.0	01-Jun-15
National Park 1	PSEG	21.0	01-Jun-15
Sewaren 1-4, 6	PSEG	558.0	01-Jun-15
Chesapeake 3-4	Dominion	354.0	31-Dec-15
Oyster Creek	JCPL	614.5	31-Dec-19
Total		10,908.6	

Table 11-14 HEDD Units in PJM as of October 1, 2012[17] (See 2011 SOM, Table 11-14)

Unit	Zone	MW
Carlls Corner 1-2	AECO	72.6
Cedar Station 1-3	AECO	66.0
Cumberland 1	AECO	92.0
Mickleton 1	AECO	72.0
Middle Street 1-3	AECO	75.3
Missouri Ave. B,C,D	AECO	60.0
Sherman Ave.	AECO	92.0
Vineland West CT	AECO	26.0
Forked River 1-2	JCPL	65.0
Gilbert 4-7, 9, C1-C4	JCPL	446.0
Glen Gardner A1-A4, B1-B4	JCPL	160.0
Lakewood 1-2	JCPL	316.1
Parlin NUG	JCPL	114.0
Sayreville C1-C4	JCPL	224.0
South River NUG	JCPL	299.0
Werner C1-C4	JCPL	212.0
Bayonne	PSEG	118.5
Bergen 3	PSEG	21.0
Burlington 111-114, 121-124, 91-94, 8	PSEG	557.0
Camden	PSEG	145.0
Eagle Point 1-2	PSEG	127.1
Edison 11-14, 21-24, 31-34	PSEG	504.0
Elmwood	PSEG	67.0
Essex 101-104, 111-114, 121,124	PSEG	536.0
Kearny 9-11, 121-124	PSEG	446.0
Linden 1-2	PSEG	1,230.0
Mercer 3	PSEG	115.0
National Park	PSEG	21.0
Newark Bay	PSEG	120.2
Pedricktown	PSEG	120.3
Salem 3	PSEG	38.4
Sewaren 6	PSEG	105.0
Total		6,663.5

Actual Generation Deactivations in 2012

Table 11-15 shows unit deactivations for 2012.[18] A total of 6,722 MW retired in January through October 1, 2012, including 2,320 MW from FirstEnergy Corp, or 34.5 percent of all retirements. The retirements included 5,718.0 MW

17 See "Current New Jersey Turbines that are HEDD Units," <http://www.state.nj.us/dep/workgroups/docs/apcrule_20110909turbinelist.pdf> (Accessed October 1, 2012).

18 "*PJM Generator Deactivations*," PJM.com <http://pjm.com/planning/generation-retirements/gr-summaries.aspx> (October 5, 2012).

of coal steam generation, 788.0 MW of light oil generation, 250.0 MW of natural gas generation, and 16.0 MW of wood waste generation. Of retirements in 2012, 1,458.0 MW, or 21.5 percent, were in the ATSI zone

Table 11-15 Unit deactivations: January through October 1, 2012 (See 2011 SOM, Table 11-15)

Company	Unit Name	ICAP	Primary Fuel	Zone Name	Age (Years)	Retirement Date
American Electric Power Company, Inc.	Sporn 5	440.0	Coal	AEP	51	Feb 13, 2012
Edison International	State Line 3	197.0	Coal	ComEd	56	Mar 25, 2012
Edison International	State Line 4	318.0	Coal	ComEd	51	Mar 25, 2012
GDF Suez	Viking Energy NUG	16.0	Wood Waste	PPL	24	Mar 31, 2012
Duke Energy Corporation	Walter C Beckjord 1	94.0	Coal	DEOK	59	May 01, 2012
Pepco Holdings, Inc.	Buzzard Point East Banks 1, 2, 4-8	112.0	Light Oil	Pepco	44	May 31, 2012
Pepco Holdings, Inc.	Buzzard Point West Banks 1-9	128.0	Light Oil	Pepco	44	May 31, 2012
Exelon Corporation	Eddystone 2	309.0	Coal	PECO	51	May 31, 2012
GenOn Energy, Inc.	Niles 2	108.0	Coal	ATSI	58	Jun 01, 2012
GenOn Energy, Inc.	Elrama 1	93.0	Coal	DLCO	60	Jun 01, 2012
GenOn Energy, Inc.	Elrama 2	93.0	Coal	DLCO	59	Jun 01, 2012
GenOn Energy, Inc.	Elrama 3	103.0	Coal	DLCO	57	Jun 01, 2012
Public Service Enterprise Group Incorporated	Kearny 10	122.0	Natural Gas	PSEG	42	Jun 01, 2012
Public Service Enterprise Group Incorporated	Kearny 11	128.0	Natural Gas	PSEG	42	Jun 01, 2012
Pepco Holdings, Inc.	Benning 15	275.0	Light Oil	Pepco	44	Jul 17, 2012
Pepco Holdings, Inc.	Benning 16	273.0	Light Oil	Pepco	40	Jul 17, 2012
Edison International	Crawford 8	319.0	Coal	ComEd	51	Aug 24, 2012
Edison International	Crawford 7	213.0	Coal	ComEd	54	Aug 28, 2012
Edison International	Fisk Street 19	326.0	Coal	ComEd	53	Aug 30, 2012
FirstEnergy Corp	Albright 1	73.0	Coal	APS	59	Sep 01, 2012
FirstEnergy Corp	Albright 2	73.0	Coal	APS	59	Sep 01, 2012
FirstEnergy Corp	Albright 3	137.0	Coal	APS	57	Sep 01, 2012
FirstEnergy Corp	Armstrong 1	172.0	Coal	APS	54	Sep 01, 2012
FirstEnergy Corp	Armstrong 2	171.0	Coal	APS	55	Sep 01, 2012
FirstEnergy Corp	R Paul Smith 3	28.0	Coal	APS	64	Sep 01, 2012
FirstEnergy Corp	R Paul Smith 4	87.0	Coal	APS	53	Sep 01, 2012
FirstEnergy Corp	Rivesville 5	35.0	Coal	APS	69	Sep 01, 2012
FirstEnergy Corp	Rivesville 6	86.0	Coal	APS	61	Sep 01, 2012
FirstEnergy Corp	Willow Island 1	53.0	Coal	APS	63	Sep 01, 2012
FirstEnergy Corp	Willow Island 2	164.0	Coal	APS	51	Sep 01, 2012
FirstEnergy Corp	Bay Shore 2	120.0	Coal	ATSI	53	Sep 01, 2012
FirstEnergy Corp	Bay Shore 3	119.0	Coal	ATSI	49	Sep 01, 2012
FirstEnergy Corp	Bay Shore 4	180.0	Coal	ATSI	44	Sep 01, 2012
FirstEnergy Corp	Eastlake 4	225.0	Coal	ATSI	56	Sep 01, 2012
FirstEnergy Corp	Eastlake 5	597.0	Coal	ATSI	40	Sep 01, 2012
City of Vineland	Howard Down 10	23.0	Coal	AECO	42	Sep 01, 2012
GenOn Energy, Inc.	Niles 1	109.0	Coal	ATSI	58	Oct 01, 2012
GenOn Energy, Inc.	Elrama 4	171.0	Coal	DLCO	51	Oct 01, 2012
GenOn Energy, Inc.	Potomac River 1	88.0	Coal	Pepco	63	Oct 01, 2012
GenOn Energy, Inc.	Potomac River 2	88.0	Coal	Pepco	62	Oct 01, 2012
GenOn Energy, Inc.	Potomac River 3	102.0	Coal	Pepco	58	Oct 01, 2012
GenOn Energy, Inc.	Potomac River 4	102.0	Coal	Pepco	56	Oct 01, 2012
GenOn Energy, Inc.	Potomac River 5	102.0	Coal	Pepco	55	Oct 01, 2012

Updates on Key Backbone Facilities

PJM continually implements baseline upgrade projects to eliminate violations of reliability criteria. The backbone projects are implemented to reinforce the Extra High Voltage (EHV) parts of the PJM transmission system. The reinforcement of the EHV subsystems helps to eliminate major reliability criteria violations and reduces congestion. The current backbone projects are: Mount Storm – Doubs; Jacks Mountain; Mid-Atlantic Power Pathway (MAPP); Potomac – Appalachian Transmission Highline (PATH); and Susquehanna – Roseland.

In August, 2012, the PJM Board of Managers cancelled the Potomac-Appalachian Transmission Highline (PATH) and Mid-Atlantic Power Pathway (MAPP) projects based on recommendations from Transmission Expansion Advisory Committee (TEAC). The decision to cancel the projects was also based on the reductions in load growth and increases in demand response.[19]

On October 1, 2012, the Susquehanna – Roseland project received final approval from the National Park Service (NPS) for the project to be constructed on the route selected by PSEG and PPL.[20]

19 See PJM.com. "Potomac – Appalachian Transmission Highline (PATH) <http://www.pjm.com/planning/rtep-upgrades-status/backbone-status/path.aspx>. (Accessed November 1, 2012)
20 See PSEG.com. "Susquehanna-Roseland line receives final federal approval" <http://www.pseg.com/info/media/newsreleases/2012/2012-10-02.jsp>. (Accessed November 1, 2012)