

2014 Demand Response Operations Markets Activity Report: March 2015

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PJM Demand Side Response Operations

March 10, 2015



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Figure 1: Delivery Year 14/15 Active Participants in PJM Economic and Load Management DR Programs

State	Zone	EDC	Economic Program		Emergency Energy Only		Load Management DR		Emergency Energy and Load Management DR Total	Unique	
			Locations	MW	Locations	MW	Locations	MW	MW	Locations	MW
DC	PEPCO	PEPCO	16	20.4			216	83.0	83.0	221	84.0
DE	DPL	DEMEC	12	7.1			25	11.3	11.3	25	11.3
DE	DPL	DOVDE					7	3.1	3.1	7	3.1
DE	DPL	DPL	9	106.8			254	144.3	144.3	257	173.6
DE	DPL	ODEC					10	1.6	1.6	10	1.6
IL	COMED	COMED	2,100	481.0			2,008	1,081.5	1,081.5	4,061	1,429.6
IL	COMED	IMEAA1					2	49.6	49.6	2	49.6
IN	AEP	AEPSCT	7	283.5			100	322.5	322.5	100	322.5
IN	AEP	HEREC					1	20.8	20.8	1	20.8
IN	AEP	WVSDI					1	47.0	47.0	1	47.0
KY	DEOK	DEK					72	30.8	30.8	72	30.8
KY	EKPC	EKPC					11	123.2	123.2	11	123.2
MD	APS	AETSAP	49	16.6			179	94.4	94.4	180	94.5
MD	APS	AETSHG					3	0.5	0.5	3	0.5
MD	APS	AETSTH					2	0.1	0.1	2	0.1
MD	APS	AETSWP					1	0.1	0.1	1	0.1
MD	BGE	BC	62	592.1			894	767.2	767.2	903	855.9
MD	DPL	BRLNMD					2	0.1	0.1	2	0.1
MD	DPL	DPL	1	28.0			226	76.0	76.0	226	76.0
MD	DPL	EASTON					8	2.8	2.8	8	2.8
MD	DPL	ODEC	1	1.5			35	11.5	11.5	35	11.5
MD	PEPCO	PEPCO	9	265.0			403	406.5	406.5	403	406.5
MD	PEPCO	SMECO	5	0.4			120	58.7	58.7	120	58.7
NC	DOM	DOMEDC	1	37.0						1	37.0
NJ	AECO	AE	8	43.0			244	94.4	94.4	245	94.5
NJ	AECO	VMEU	1	0.2			23	5.6	5.6	24	5.8
NJ	JCPL	AECI					1	0.2	0.2	1	0.2
NJ	JCPL	BSHNJ	1	6.0						1	6.0
NJ	JCPL	JCBGS	24	61.7			432	146.8	146.8	434	196.4
NJ	PSEG	PSEG	38	64.6			1,079	352.2	352.2	1,083	375.2
NJ	RECO	RECO					14	4.6	4.6	14	4.6
NY	PENELEC	PaElec					2	1.3	1.3	2	1.3
OH	AEP	AEPCCCL					12	12.6	12.6	12	12.6



State	Zone	EDC	Economic Program		Emergency Energy Only		Load Management DR		Emergency Energy and Load Management DR Total	Unique	
			Locations	MW	Locations	MW	Locations	MW	MW	Locations	MW
OH	AEP	AEPSCT	14	70.0			921	626.2	626.2	924	633.0
OH	AEP	AMPO					28	72.5	72.5	28	72.5
OH	AEP	BUCK					2	19.9	19.9	2	19.9
OH	ATSI	AMPO					25	84.0	84.0	25	84.0
OH	ATSI	BUCK					2	5.5	5.5	2	5.5
OH	ATSI	CPP					16	48.7	48.7	16	48.7
OH	ATSI	OEEDC	20	118.0			879	570.4	570.4	885	643.1
OH	DAY	AMPO					9	34.5	34.5	9	34.5
OH	DAY	BUCK					2	4.1	4.1	2	4.1
OH	DAY	DAYEDC	6	6.0			162	108.7	108.7	162	108.7
OH	DEOK	AMPO					1	11.6	11.6	1	11.6
OH	DEOK	BUCK					2	2.1	2.1	2	2.1
OH	DEOK	DEOHIO	2	51.0			361	234.3	234.3	363	285.3
PA	APS	AECI					7	1.3	1.3	7	1.3
PA	APS	AETSAP	12	32.0			644	370.7	370.7	647	383.1
PA	APS	CHBDTE					1	0.4	0.4	1	0.4
PA	ATSI	PAPWR	2	0.6			78	68.2	68.2	78	68.2
PA	DUQ	DLCO	9	19.1			345	97.6	97.6	347	114.4
PA	METED	AECI					1	1.7	1.7	1	1.7
PA	METED	MetEd	35	36.0			536	235.7	235.7	537	238.7
PA	PECO	PE	129	87.9			1,444	404.7	404.7	1,453	423.4
PA	PENELEC	AECI					30	13.6	13.6	30	13.6
PA	PENELEC	PaElec	4	10.8			649	282.2	282.2	650	289.2
PA	PENELEC	WELLSB					1	1.2	1.2	1	1.2
PA	PPL	AMPO					11	1.3	1.3	11	1.3
PA	PPL	CTZECL					6	2.4	2.4	6	2.4
PA	PPL	PPL	261	181.8			1,509	611.0	611.0	1,529	737.1
PA	PPL	UGI-UI					18	6.3	6.3	18	6.3
TN	AEP	AEPSCT	1	30.0			10	5.8	5.8	11	35.8
VA	AEP	AEPSCT	2	3.1			205	218.3	218.3	205	218.3
VA	AEP	AMPO					9	12.1	12.1	9	12.1
VA	APS	ODEC					49	23.7	23.7	49	23.7
VA	DOM	CVEC					5	4.4	4.4	5	4.4
VA	DOM	DOMEDC	39	67.2			861	663.3	663.3	868	692.5
VA	DOM	DOMVME					25	80.7	80.7	25	80.7



State	Zone	EDC	Economic Program		Emergency Energy Only		Load Management DR		Emergency Energy and Load Management DR Total	Unique	
			Locations	MW	Locations	MW	Locations	MW	MW	Locations	MW
VA	DOM	NVEC	2	14.6			33	21.0	21.0	35	35.6
VA	DOM	ODEC	2	73.9			46	93.3	93.3	47	164.8
VA	DPL	ODEC					18	1.8	1.8	18	1.8
WV	AEP	AEPSCT	5	72.4			297	212.0	212.0	298	216.0
WV	AEP	APWVP					4	0.5	0.5	4	0.5
WV	APS	AETSAP	93	49.7			285	147.9	147.9	287	172.9
Total			2,982	2,939			15,924	9,360	9,360	18,066	10,432

Note:

- 1) Data as of 3/5/2015.
- 2) Load Management MW are in ICAP.
- 3) Economic MW are CSP reported Load Reduction values.
- 4) Residential Direct Load Control (DLC) reported as one location not a total number of end use customers in that program.
- 5) Unique MW: represents total estimated demand reduction assuming full DR compliance and economic reductions

Figure 2: Delivery Year 14/15 MWs in PJM Load Management DR by Resource, Product, and Lead Times

Zone	Resource	DR Product			Lead Times (Minutes)			Total DR
		Limited	Extended	Annual	30	60	120	MW
AECO								
	Pre-Emergency	49.6	49.4	0.0	0.0	0.1	98.8	99.0
	Emergency	1.0	0.0	0.0	0.0	0.0	1.0	1.0
	Total	50.6	49.4	0.0	0.0	0.1	99.9	100.0
AEP								
	Pre-Emergency	1347.3	47.7	0.0	41.7	347.7	1005.5	1394.9
	Emergency	166.8	8.4	0.0	0.0	0.0	175.2	175.2
	Total	1514.1	56.1	0.0	41.7	347.7	1180.7	1570.1
APS								
	Pre-Emergency	445.2	104.0	0.4	0.4	0.5	548.7	549.6
	Emergency	83.4	6.0	0.0	0.0	0.0	89.5	89.5
	Total	528.7	110.1	0.4	0.4	0.5	638.2	639.1
ATSI								
	Pre-Emergency	486.1	39.3	0.0	0.0	5.5	519.9	525.4
	Emergency	246.3	5.0	0.0	0.0	0.0	251.3	251.3
	Total	732.5	44.3	0.0	0.0	5.5	771.3	776.8
BGE								
	Pre-Emergency	655.9	26.4	5.1	509.9	0.0	177.5	687.4
	Emergency	69.8	10.0	0.0	0.0	0.0	79.8	79.8
	Total	725.7	36.4	5.1	509.9	0.0	257.3	767.2
COMED								
	Pre-Emergency	686.8	121.0	0.0	0.0	43.1	764.6	807.8
	Emergency	293.6	29.8	0.0	0.0	0.0	323.4	323.4
	Total	980.4	150.8	0.0	0.0	43.1	1088.0	1131.2
DAY								
	Pre-Emergency	118.7	2.3	0.0	0.0	28.8	92.2	121.0
	Emergency	26.1	0.1	0.0	0.0	0.0	26.2	26.2
	Total	144.8	2.4	0.0	0.0	28.8	118.4	147.2
DEOK								
	Pre-Emergency	242.2	2.8	0.0	0.0	13.7	231.4	245.0
	Emergency	33.6	0.0	0.0	0.0	0.0	33.6	33.6
	Total	275.9	2.8	0.0	0.0	13.7	265.0	278.7
DOM								
	Pre-Emergency	476.0	24.9	27.5	0.0	14.2	514.1	528.3
	Emergency	334.4	0.0	0.0	0.0	0.0	334.4	334.4
	Total	810.4	24.9	27.5	0.0	14.2	848.5	862.7



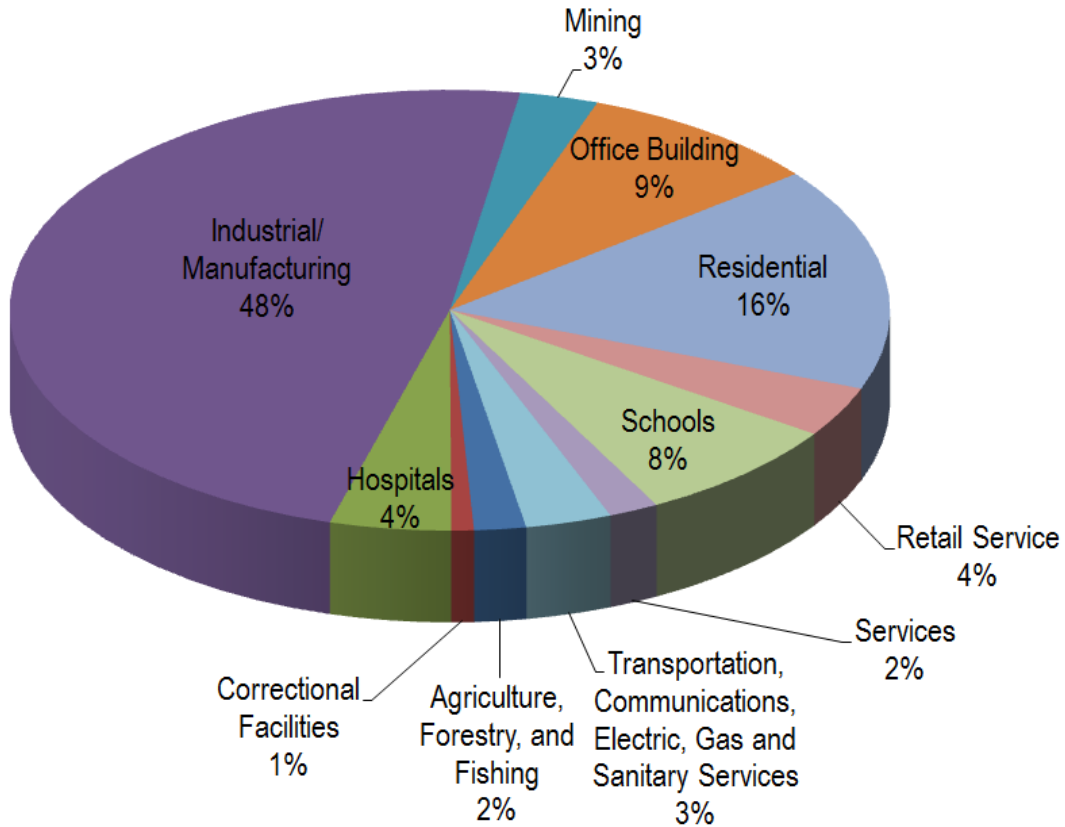
Zone	Resource	DR Product			Lead Times (Minutes)			Total DR
		Limited	Extended	Annual	30	60	120	MW
DPL								
	Pre-Emergency	117.2	116.8	0.0	0.0	0.0	234.0	234.0
	Emergency	17.6	0.9	0.0	0.0	0.0	18.5	18.5
	Total	134.8	117.7	0.0	0.0	0.0	252.5	252.5
DUQ								
	Pre-Emergency	81.4	5.5	0.0	0.0	0.0	86.9	86.9
	Emergency	10.6	0.1	0.0	0.0	0.0	10.7	10.7
	Total	92.0	5.6	0.0	0.0	0.0	97.6	97.6
EKPC								
	Pre-Emergency	123.2	0.0	0.0	0.0	0.0	123.2	123.2
	Emergency	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	123.2	0.0	0.0	0.0	0.0	123.2	123.2
JCPL								
	Pre-Emergency	120.5	13.0	0.0	0.0	21.4	112.0	133.5
	Emergency	13.6	0.0	0.0	0.0	0.0	13.6	13.6
	Total	134.1	13.0	0.0	0.0	21.4	125.6	147.1
METED								
	Pre-Emergency	177.9	10.6	0.0	0.0	2.3	186.2	188.5
	Emergency	39.2	9.7	0.0	0.0	0.0	48.9	48.9
	Total	217.1	20.3	0.0	0.0	2.3	235.1	237.4
PECO								
	Pre-Emergency	270.0	12.5	0.0	0.0	0.3	282.1	282.4
	Emergency	108.2	14.0	0.0	0.0	0.1	122.1	122.2
	Total	378.1	26.5	0.0	0.0	0.5	404.2	404.7
PENELEC								
	Pre-Emergency	222.3	24.8	0.0	0.0	6.8	240.3	247.1
	Emergency	47.8	3.4	0.0	0.0	0.0	51.2	51.2
	Total	270.1	28.2	0.0	0.0	6.8	291.5	298.3
PEPCO								
	Pre-Emergency	154.0	333.6	0.0	0.0	0.0	487.7	487.7
	Emergency	52.0	8.5	0.0	0.0	0.0	60.6	60.6
	Total	206.0	342.2	0.0	0.0	0.0	548.2	548.2
PPL								
	Pre-Emergency	494.8	39.1	0.0	56.1	0.4	477.4	533.9
	Emergency	81.8	5.2	0.0	0.0	0.0	86.9	86.9
	Total	576.6	44.3	0.0	56.1	0.4	564.3	620.9
PSEG								
	Pre-Emergency	298.0	27.2	0.6	86.3	0.6	239.0	325.8
	Emergency	16.9	0.0	9.5	9.5	0.0	16.9	26.4
	Total	314.9	27.2	10.1	95.8	0.6	255.9	352.2



Zone	Resource	DR Product			Lead Times (Minutes)			Total DR
		Limited	Extended	Annual	30	60	120	MW
RECO								
	Pre-Emergency	2.2	1.8	0.0	0.0	0.0	4.0	4.0
	Emergency	0.6	0.0	0.0	0.0	0.0	0.6	0.6
	Total	2.8	1.8	0.0	0.0	0.0	4.6	4.6
TOTAL								
	Pre-Emergency	6569.2	1002.8	33.4	694.5	485.5	6425.5	7605.5
	Emergency	1643.5	101.2	9.5	9.5	0.1	1744.5	1754.1
	Total	8212.7	1104.0	42.9	704.0	485.7	8169.9	9359.6

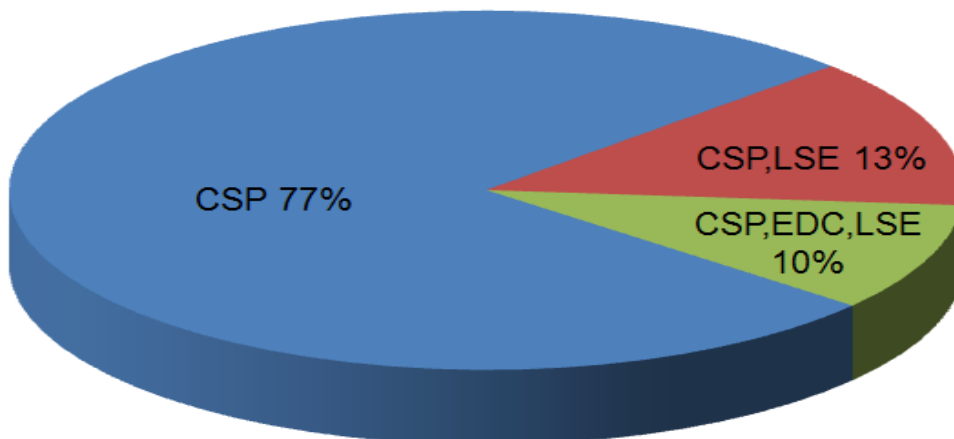
Note: MWs are Nominated Capacity (MWs)

Figure 3: DY 14/15 Confirmed Load Management DR Registrations Business Segments



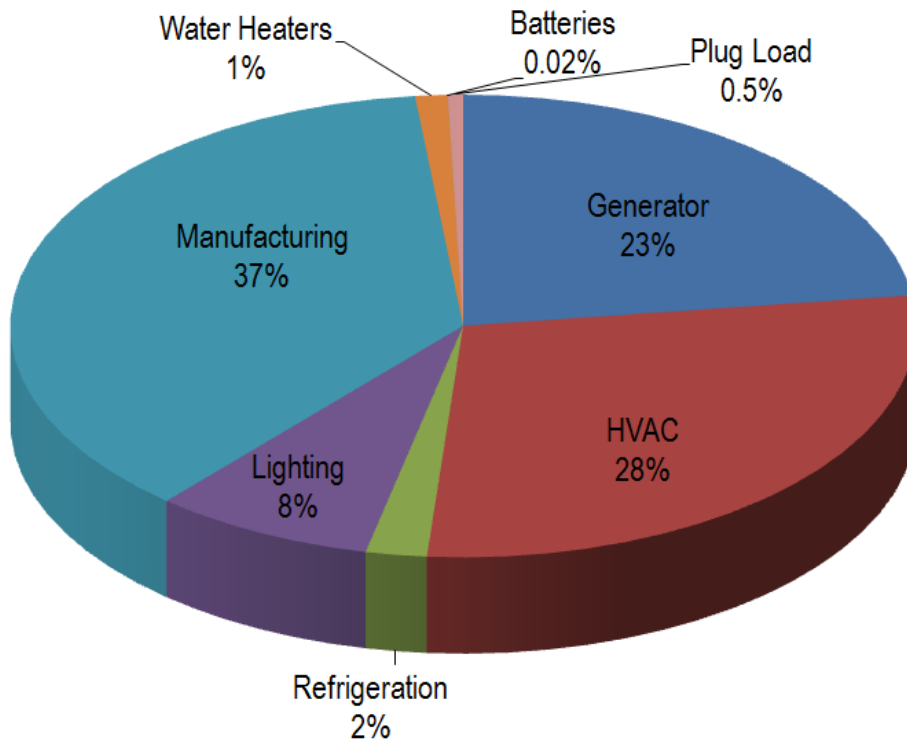
Note: Percent of Nominated Capacity (MWs)

Figure 4: DY 14/15 Confirmed Load Management DR Registrations Owner/Company Type



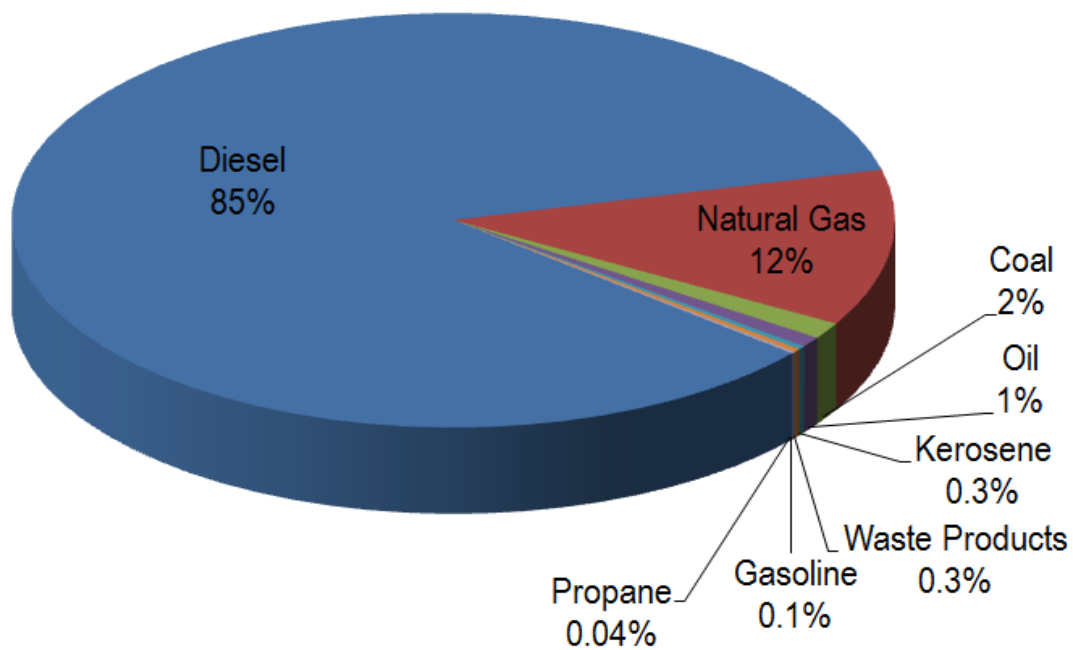
Note: Percent of Nominated Capacity (MWs)

Figure 5: DY 14/15 Confirmed Load Management DR Registrations Customer Load Reduction Methods



Note: Percent of Nominated Capacity (MWs)

Figure 6: DY 14/15 Confirmed Load Management DR Registrations Fuel Mix with Behind the Meter Generation



Note: Percent of Nominated Capacity (MWs)

Figure 7: DY 14/15 Confirmed Load Management DR Registrations Generator and Permit Type

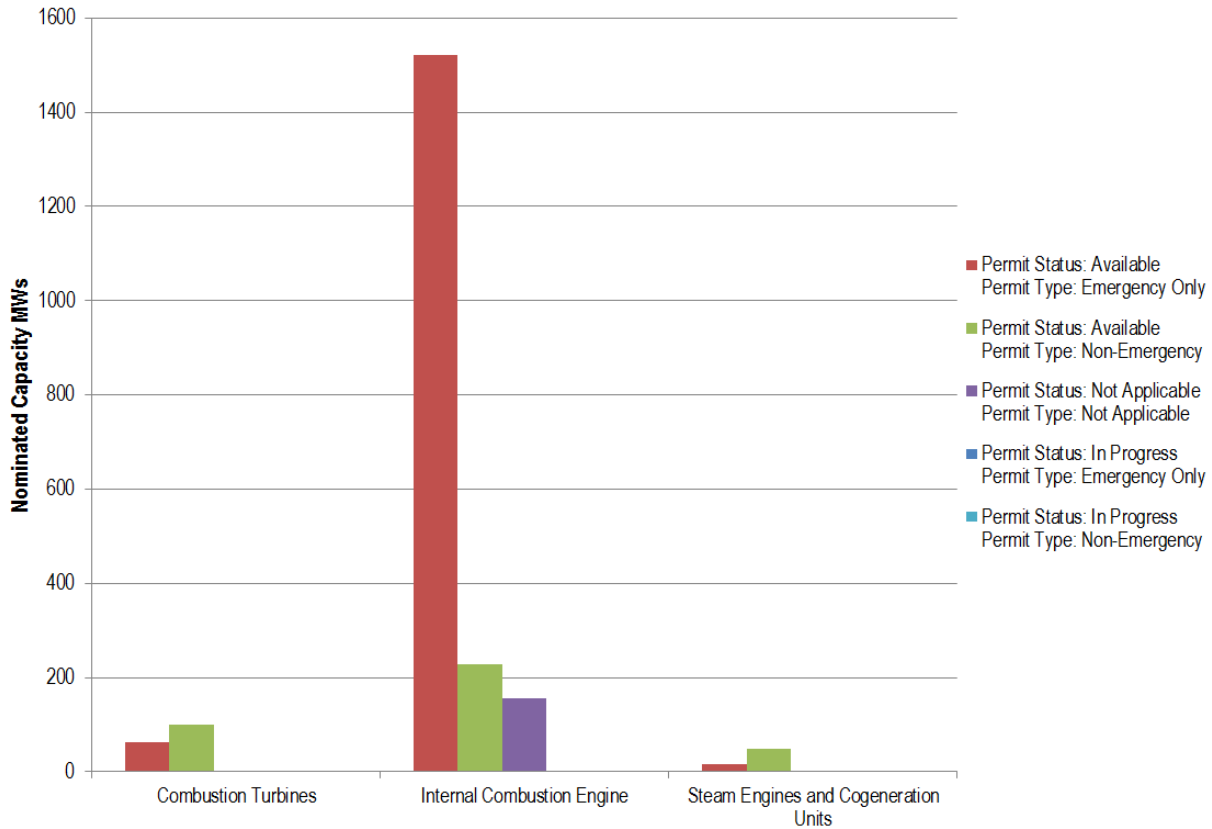


Figure 8: DY 14/15 Confirmed Load Management DR Registrations Fuel Mix with Behind the Meter Generation

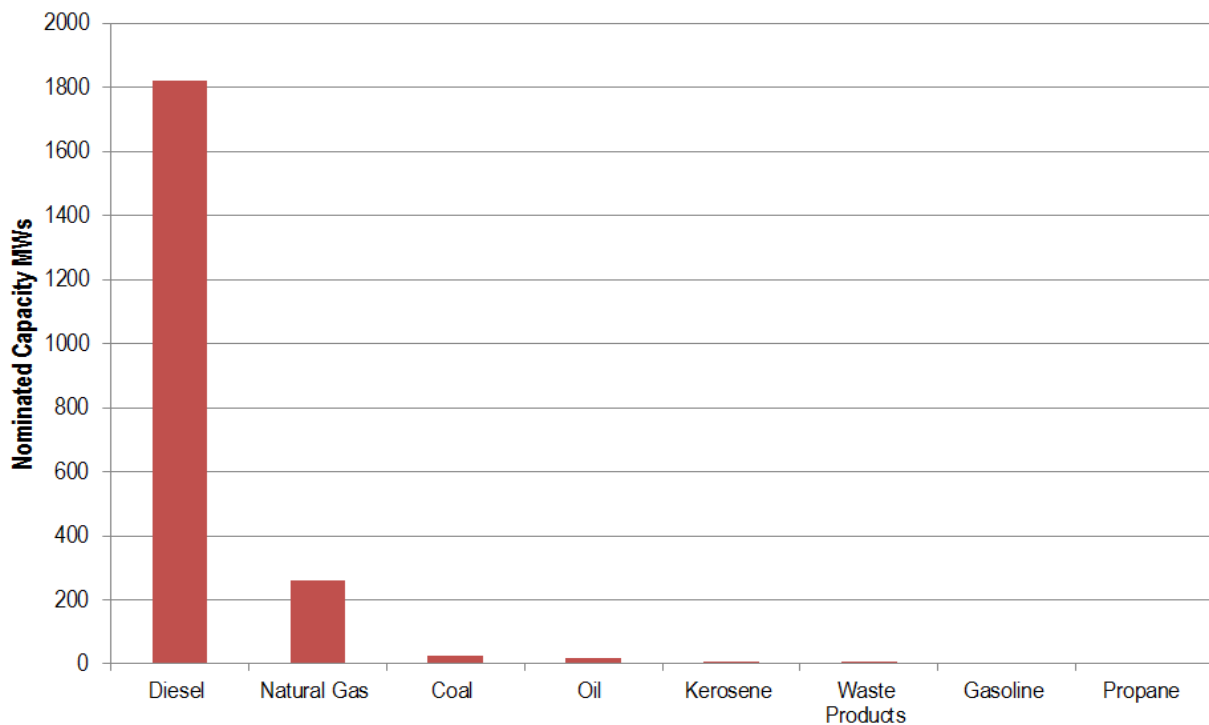


Figure 9: DY 14/15 Confirmed Load Management Full DR Registrations Energy Supply Curve:

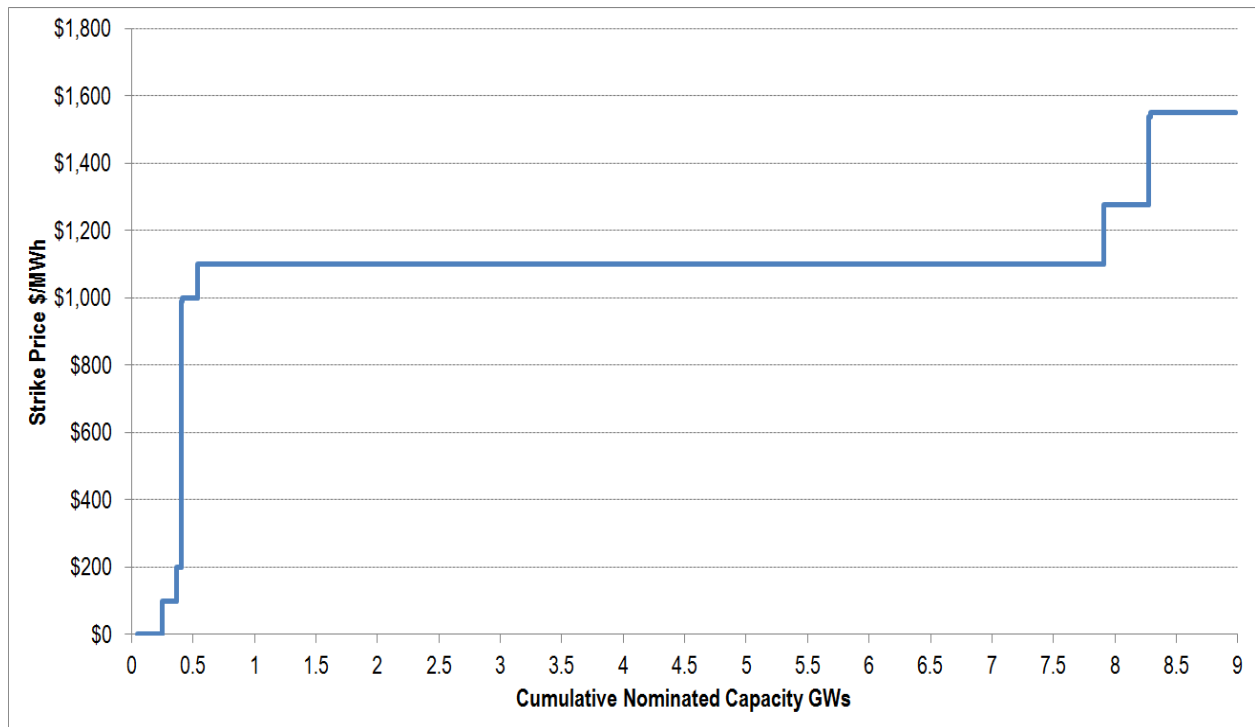
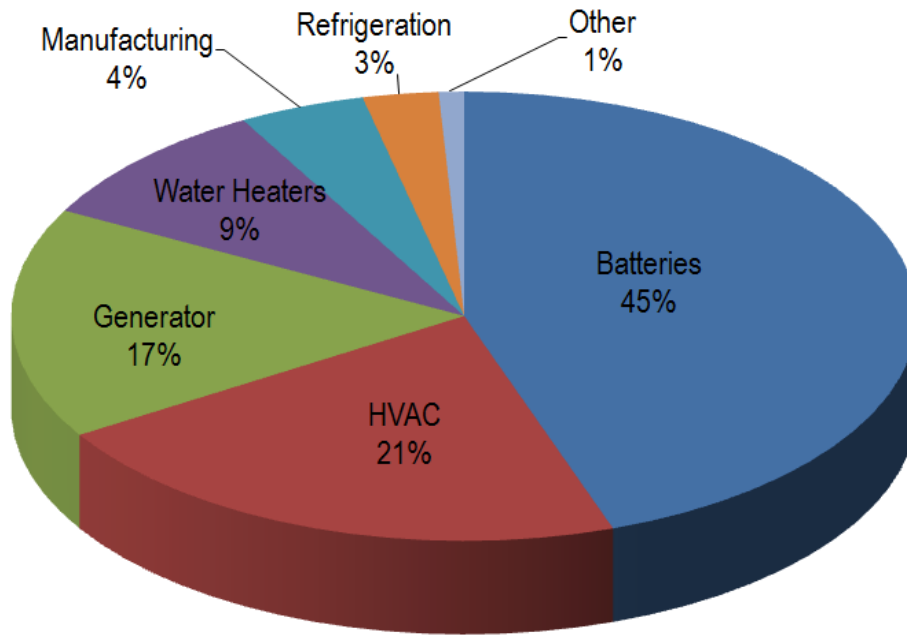


Figure 10: PJM Economic Demand Response Capability in Ancillary Service Markets (2014):

Synch Reserves	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Locations	MAD	146	146	142	141	142	128	130	133	133	139	139	138
	Non-MAD										1	1	1
	RTO	146	146	142	141	142	128	130	133	133	140	140	139
Average Number of Unique Participating Locations per Month:						138							
MWs	MAD	360.6	360.6	360.1	351.6	360.1	329.2	317.7	319.0	319.0	326.8	323.7	327.5
	Non-MAD										5.8	5.8	5.8
	RTO	360.6	360.6	360.1	351.6	360.1	329.2	317.7	319.0	319.0	332.6	329.5	333.3
Average MWs per Month:				339									
Regulation	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Locations	RTO	176	176	176	176	181	181	179	180	181	182	182	181
Average Number of Unique Participating Locations per Month:						179							
MWs	RTO	8	8	8	7	10	10	10	11	11	11	11	11
Average MWs per Month:				10									

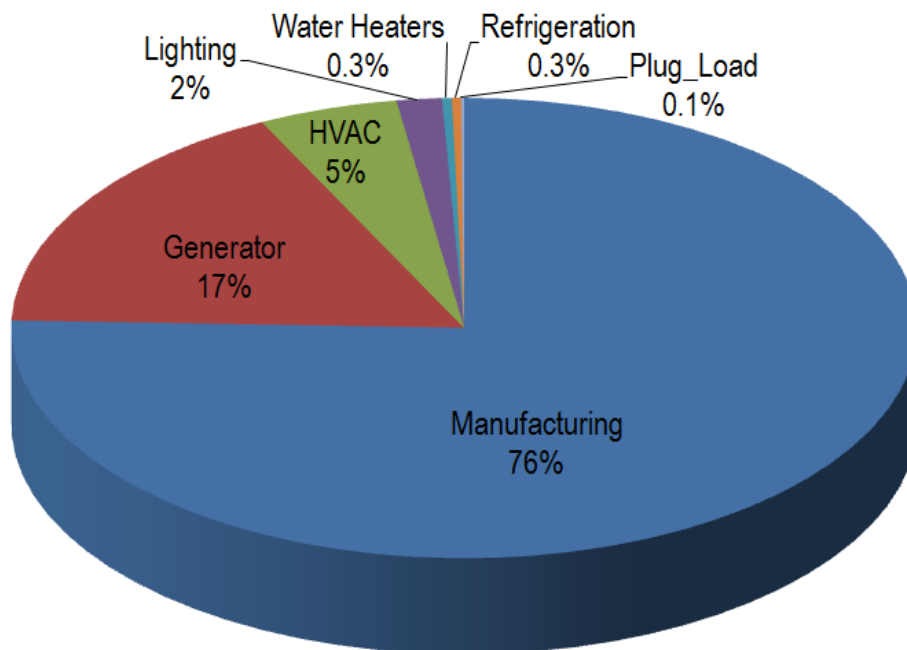
Capability represents total amount that may be offered. Actual offered and cleared volume may be significantly lower and is represented in subsequent figures/tables in report

Figure 11: PJM Demand Response Confirmed Regulation Registrations Load Reduction Methods



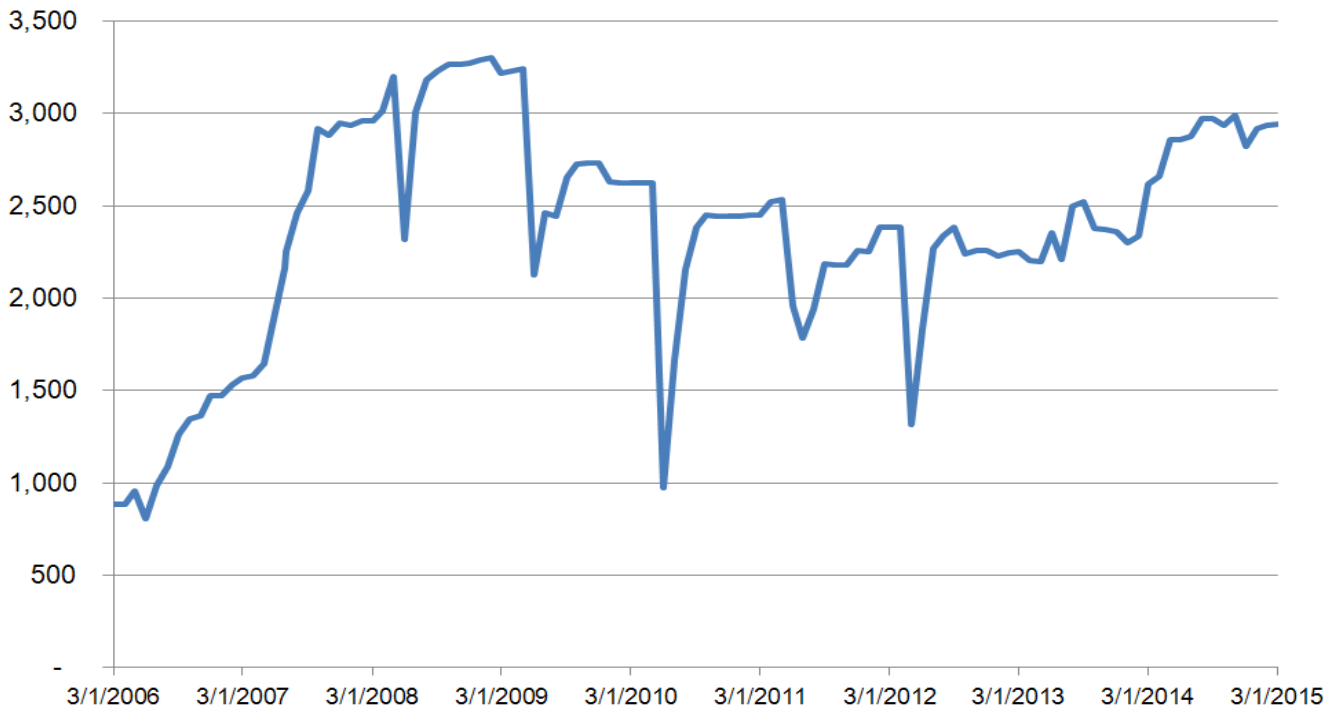
Note: Percent of CSP Reported Load Reduction MWs

Figure 12: PJM Demand Response Confirmed Synch Reserve Registrations Load Reduction Methods



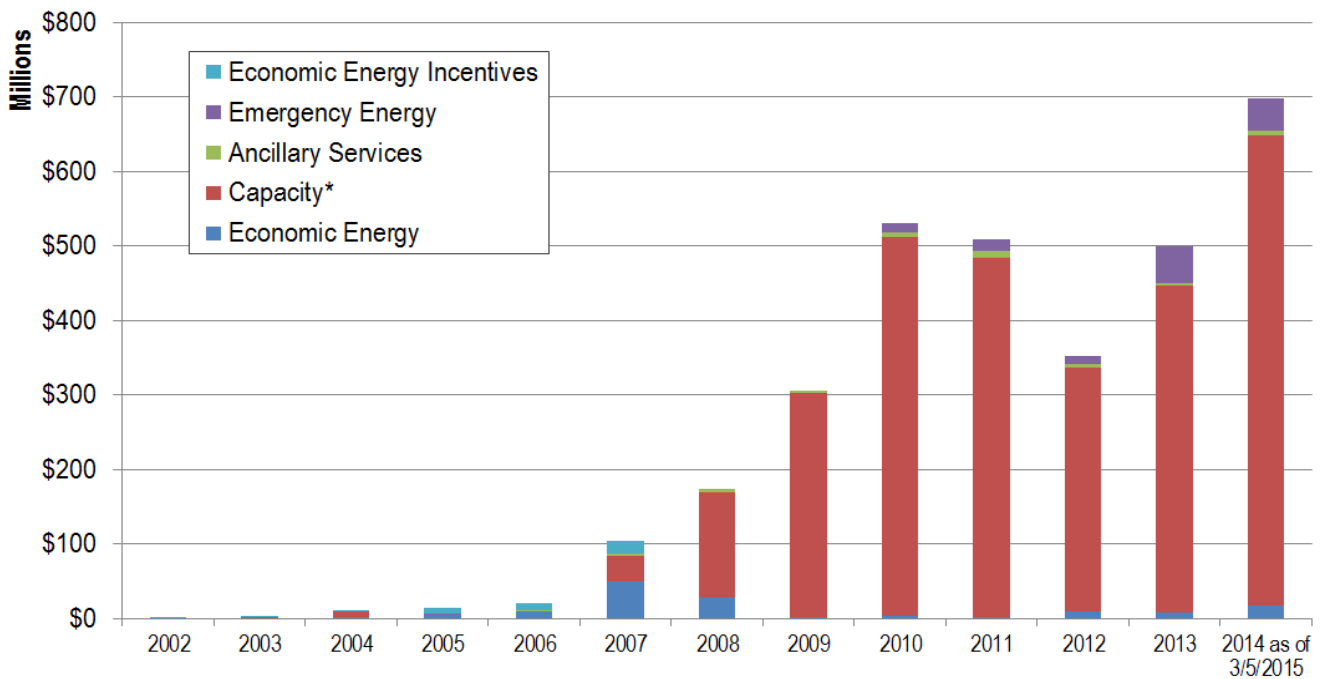
Note: Percent of CSP Reported Load Reduction MWs

Figure 13: PJM Economic Demand Response Capability in Energy Market (3/1/2006-3/5/2015)



Capability represents total amount that may be offered. Actual offered and cleared volume may be significantly lower and is represented in subsequent figures/tables in report.

Figure 14: PJM Estimated Revenue for Economic and Load Management DR Markets



*Capacity Net Revenue inclusive of Capacity Credits and Charges.

Figure 15: 2014 Economic Demand Response Monthly Registration Participation

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						1		1	1			
DE	DPL	1							2	2			
IL	COMED	11	6	5	2	2	9	9	9	7	4	6	3
IN	AEP			1									
MD	BGE	45	45	44			1	3		3	1	1	
	DPL								1	1			
	PEPCO						2		2	3			
NC	DOM						1	1	1	1			
NJ	JCPL	1	2	1			1	1			1	1	
	PSEG	8	6	6	5	4	3	9	6	6	9	9	8
OH	AEP	2	1	1			1		1	1			
	ATSI		2	1				1		2			
	DEOK	1		1									
PA	APS	3	2	2			1	3		1			
	DUQ	1											
	METED	6	1	4	1		5	1		1		2	1
	PECO	13	6	6	2	3	14	8	3	3	3	6	1
	PENELEC	3	3	3	2	3	2	2	2	2	2	2	2
	PPL	12	4	5	1	2	4	5	1	3		1	
VA	AEP	1											
	DOM	12	8	7	7	8	7	7	7	5	6	6	6
WV	APS		1	1	1	1						1	1
Total		120	87	88	21	23	52	50	36	42	26	35	22

Average Unique Participating Registrations per Month: 50

Figure 16: 2014 Economic Demand Response Monthly Registration Participation Day-Ahead Activity

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO												
DE	DPL	1											
IL	COMED	1							1				
IN	AEP												
MD	BGE						1	1			1	1	
	DPL												
	PEPCO												
NC	DOM						1	1	1	1			
NJ	JCPL	1	1	1			1	1					
	PSEG	4	3	4	3	3	3	4	3	3	5	5	5
OH	AEP	1	1	1			1		1	1			
	ATSI		1	1									
	DEOK												
PA	APS	1	1	1				1					
	DUQ												
	METED						1						
	PECO						1	1	1		1	1	
	PENELEC		1	1	1	1	1	1	1	1	1	1	1
	PPL	8	3	4		1	1	2				1	
VA	AEP												
	DOM	1	1			1	1	2	2	1		1	2
WV	APS												
Total		18	12	13	4	6	12	14	10	7	8	10	8

Average Unique Participating Registrations per Month (Day-Ahead): 10

Figure 17: 2014 Economic Demand Response Monthly Registration Participation Real-Time Activity

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						1		1	1			
DE	DPL								2	2			
IL	COMED	10	6	5	2	2	9	9	8	7	4	6	3
IN	AEP			1									
MD	BGE	45	45	44				2		3			
	DPL								1	1			
	PEPCO						2		2	3			
NC	DOM												
NJ	JCPL		1								1	1	
	PSEG	4	3	2	2	1		5	3	3	4	4	3
OH	AEP	1											
	ATSI		1					1		2			
	DEOK	1		1									
PA	APS	2	1	1			1	2		1			
	DUQ	1											
	METED	6	1	4	1		4	1		1		2	1
	PECO	13	6	6	2	3	13	7	2	3	2	5	1
	PENELEC	3	2	2	1	2	1	1	1	1	1	1	1
	PPL	4	1	1	1	1	3	3	1	3			
VA	AEP	1											
	DOM	11	7	7	7	7	6	5	5	4	6	5	4
WV	APS		1	1	1	1						1	1
Total		102	75	75	17	17	40	36	26	35	18	25	14

Average Unique Participating Registrations per Month (Real-Time): 40

Figure 18: 2014 Economic Demand Response Monthly MWh Reductions

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						37		10	21			
DE	DPL	617								56			
IL	COMED	1,051	1,327	1,051	238	114	512	356	546	368	692	1,400	1,284
IN	AEP			60									
MD	BGE	291	294	239			61	1,264		1,837		22	
	DPL								49	94			
	PEPCO						398		177	318			
NC	DOM						1,236	1,691	759	1,033			
NJ	JCPL	3,266	1,260	967			228	817			2		
	PSEG	1,393	921	701	698	1,171	991	741	1,064	905	2,514	1,430	1,779
OH	AEP	18	28	42			1		0	0			
	ATSI		273	247				21		74			
	DEOK	1,446		206									
PA	APS	343	1,006	371				536					
	DUQ												
	METED	30	24	3	1		52	1				23	4
	PECO	445	914	162	94	73	24	41	46	19	40	156	104
	PENELEC	161	658	250	866	412	956	966	333	743	1,199	1,179	684
	PPL	2,475	1,276	1,709	2	108	219	1,476		11			
VA	AEP	71											
	DOM	14,113	6,851	11,239	5,707	6,563	3,014	7,418	7,854	4,088	3,685	5,439	6,117
WV	APS		76	319	123	179							226
Total		25,722	14,908	17,566	7,729	8,620	7,729	15,329	10,838	9,567	8,133	9,649	10,198

Total MWh: 145,987

Figure 19: 2014 Economic Demand Response Monthly MWh Reductions Day-Ahead Activity

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO												
DE	DPL	617											
IL	COMED	1											
IN	AEP												
MD	BGE						61	37				22	
	DPL												
	PEPCO												
NC	DOM						1,236	1,691	759	1,033			
NJ	JCPL	3,266	1,285	967			228	817					
	PSEG	711	459	553	562	1,171	991	603	947	859	2,223	1,216	1,277
OH	AEP	16	28	42			1		0	0			
	ATSI		273	247									
	DEOK												
PA	APS	325	1,006	295				525					
	DUQ												
	METED						0						
	PECO						-10	6	3		5	34	
	PENELEC		100	81	866	412	956	885	333	604	928	1,003	486
	PPL	2,474	1,274	1,692		108	218	1,474					
VA	AEP												
	DOM	2,935	2,480			1,001	619	1,454	1,427	1		915	1,327
WV	APS												
Total		10,344	6,904	3,878	1,428	2,692	4,300	7,492	3,470	2,497	3,156	3,190	3,090

Total Day-Ahead MWh: 52,442

Figure 20: 2014 Economic Demand Response Monthly MWh Reductions Real-Time Activity

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						37		10	21			
DE	DPL									56			
IL	COMED	1,050	1,327	1,051	238	114	512	356	546	368	692	1,400	1,284
IN	AEP			60									
MD	BGE	291	294	239				1,227		1,837			
	DPL								49	94			
	PEPCO						398		177	318			
NC	DOM												
NJ	JCPL		-25								2		
	PSEG	682	461	148	136			138	117	45	291	214	501
OH	AEP	2											
	ATSI							21		74			
	DEOK	1,446		206									
PA	APS	18		76				11					
	DUQ												
	METED	30	24	3	1		52	1				23	4
	PECO	445	914	162	94	73	35	35	43	19	35	122	104
	PENELEC	161	558	169				81		139	271	176	198
	PPL	1	2	17	2	0	1	3		11			
VA	AEP	71											
	DOM	11,178	4,371	11,239	5,707	5,562	2,395	5,964	6,427	4,088	3,685	4,524	4,790
WV	APS		76	319	123	179							226
Total		15,378	8,003	13,689	6,300	5,928	3,429	7,837	7,369	7,070	4,976	6,459	7,108

Total Real-Time MWh: 93,546

Figure 21: Economic Demand Response Monthly Energy Market Revenue (2014)

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						\$9,897		\$2,731	\$3,701			
DE	DPL	\$195,717							\$2,633	\$28,134			
IL	COMED	\$107,346	\$101,600	\$98,794	\$10,413	\$8,083	\$31,568	\$15,569	\$20,391	\$15,226	\$28,460	\$60,226	\$49,977
IN	AEP			\$9,446									
MD	BGE	\$102,969	\$53,661	\$72,634			\$4,887	\$110,021		\$237,025	\$87	\$1,437	
	DPL								\$1,105	\$11,813			
	PEPCO						\$34,433		\$11,600	\$15,736			
NC	DOM						\$119,103	\$125,948	\$43,760	\$73,053			
NJ	JCPL	\$1,533,967	\$245,299	\$249,271			\$24,956	\$89,287			\$87		
	PSEG	\$421,559	\$119,563	\$95,640	\$41,070	\$58,224	\$55,472	\$31,876	\$41,134	\$36,117	\$97,583	\$79,110	\$80,788
OH	AEP	\$3,205	\$2,345	\$3,610			\$115		\$7	\$11			
	ATSI		\$29,304	\$44,746				\$1,379		\$9,573			
	DEOK	\$434,252		\$6,624									
PA	APS	\$69,004	\$120,390	\$24,194				\$28,180					
	DUQ												
	METED	\$6,446	\$1,566	\$1,207	\$55		\$3,363	\$95				\$1,662	\$26
	PECO	\$45,449	\$116,251	\$17,758	\$4,860	\$3,728	\$2,218	\$3,154	\$2,403	\$754	\$1,123	\$7,193	\$3,755
	PENELEC	\$17,214	\$44,677	\$23,178	\$44,558	\$24,617	\$51,432	\$43,496	\$12,694	\$32,166	\$48,918	\$57,585	\$28,840
	PPL	\$1,057,653	\$162,695	\$265,538	\$111	\$6,143	\$17,427	\$93,682		\$521		\$19	
VA	AEP	\$7,111											
	DOM	\$3,687,939	\$907,262	\$2,190,341	\$244,786	\$537,276	\$214,664	\$434,920	\$406,283	\$226,050	\$199,164	\$254,908	\$286,371
WV	APS		\$4,032	\$25,932	\$5,060	\$12,593							\$8,038
Total		\$7,689,831	\$1,908,644	\$3,128,912	\$350,913	\$650,665	\$569,536	\$977,608	\$544,741	\$689,882	\$375,421	\$462,140	\$457,794

Total CSP Credits: \$17,806,089

Figure 22: Economic Demand Response Monthly Energy Market Revenue Day-Ahead Activity (2014)

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO												
DE	DPL	\$195,717											
IL	COMED	\$34							\$3				
IN	AEP												
MD	BGE						\$4,887	\$3,615			\$87	\$1,437	
	DPL												
	PEPCO												
NC	DOM						\$119,103	\$125,948	\$43,760	\$73,053			
NJ	JCPL	\$1,533,967	\$247,539	\$249,271			\$24,956	\$89,287					
	PSEG	\$272,291	\$68,498	\$83,742	\$33,268	\$58,224	\$55,472	\$27,394	\$36,111	\$34,925	\$85,889	\$70,634	\$56,938
OH	AEP	\$1,936	\$2,345	\$3,610			\$115		\$7	\$11			
	ATSI		\$29,304	\$44,746									
	DEOK												
PA	APS	\$65,087	\$120,390	\$18,147				\$27,780					
	DUQ												
	METED						(\$83)						
	PECO						(\$611)	\$216	\$148		\$227	\$1,750	
	PENELEC		\$8,267	\$11,892	\$44,558	\$24,617	\$51,432	\$39,536	\$12,694	\$25,840	\$37,527	\$49,079	\$20,626
	PPL	\$1,057,078	\$162,481	\$264,673		\$6,130	\$17,359	\$93,398				\$19	
VA	AEP												
	DOM	\$547,661	\$403,390			\$53,715	\$62,276	\$93,339	\$73,427	\$21		\$57,054	\$59,499
WV	APS												
Total		\$3,673,770	\$1,042,215	\$676,081	\$77,826	\$142,686	\$334,907	\$500,512	\$166,150	\$133,851	\$123,730	\$179,973	\$137,063

Total Day-Ahead CSP Credits: \$7,188,763

Figure 23: Economic Demand Response Monthly Energy Market Revenue Real-Time Activity (2014)

State	Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DC	PEPCO						\$9,897		\$2,731	\$3,701			
DE	DPL								\$2,633	\$28,134			
IL	COMED	\$107,312	\$101,600	\$98,794	\$10,413	\$8,083	\$31,568	\$15,569	\$20,388	\$15,226	\$28,460	\$60,226	\$49,977
IN	AEP			\$9,446									
MD	BGE	\$102,969	\$53,661	\$72,634				\$106,406		\$237,025			
	DPL								\$1,105	\$11,813			
	PEPCO						\$34,433		\$11,600	\$15,736			
NC	DOM												
NJ	JCPL		(\$2,239)								\$87		
	PSEG	\$149,268	\$51,065	\$11,898	\$7,802			\$4,481	\$5,022	\$1,192	\$11,694	\$8,477	\$23,850
OH	AEP	\$1,269											
	ATSI							\$1,379		\$9,573			
	DEOK	\$434,252		\$6,624									
PA	APS	\$3,917		\$6,047				\$400					
	DUQ												
	METED	\$6,446	\$1,566	\$1,207	\$55		\$3,446	\$95				\$1,662	\$26
	PECO	\$45,449	\$116,251	\$17,758	\$4,860	\$3,728	\$2,828	\$2,939	\$2,255	\$754	\$897	\$5,443	\$3,755
	PENELEC	\$17,214	\$36,409	\$11,286				\$3,960		\$6,325	\$11,390	\$8,506	\$8,214
	PPL	\$575	\$213	\$865	\$111	\$13	\$68	\$284		\$521			
VA	AEP	\$7,111											
	DOM	\$3,140,277	\$503,872	\$2,190,341	\$244,786	\$483,561	\$152,389	\$341,581	\$332,856	\$226,029	\$199,164	\$197,853	\$226,872
WV	APS		\$4,032	\$25,932	\$5,060	\$12,593							\$8,038
Total		\$4,016,061	\$866,429	\$2,452,832	\$273,087	\$507,979	\$234,629	\$477,095	\$378,591	\$556,032	\$251,691	\$282,167	\$320,732

Total Real-Time CSP Credits: \$10,617,325

Figure 24: Economic Demand Response Energy Market Cost Allocation by Zone (2014)

Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AECO	\$88,787	\$21,811	\$36,352	\$4,216	\$6,575	\$7,867	\$16,679	\$7,246	\$10,059	\$3,795	\$5,392	\$5,254
AEP	\$1,287,055	\$312,328	\$490,612	\$55,153	\$105,762	\$86,463	\$130,093	\$84,283	\$100,854	\$62,383	\$76,849	\$71,410
APS	\$499,040	\$121,446	\$194,455	\$20,964	\$38,630	\$32,054	\$54,049	\$31,057	\$39,099	\$21,098	\$28,881	\$28,958
ATSI	\$610,023	\$155,457	\$248,281	\$30,829	\$57,728	\$48,066	\$71,721	\$45,485	\$56,314	\$32,652	\$39,270	\$38,801
BGE	\$336,929	\$79,554	\$130,350	\$14,007	\$28,830	\$24,750	\$48,599	\$24,614	\$31,991	\$16,974	\$18,380	\$19,894
COMED	\$751,170	\$204,212	\$329,208	\$35,592	\$77,758	\$70,601	\$83,644	\$70,120	\$75,588	\$41,420	\$48,631	\$45,069
DAY	\$163,297	\$40,896	\$62,819	\$7,580	\$14,810	\$12,270	\$17,406	\$12,183	\$14,838	\$8,540	\$10,185	\$9,723
DEOK	\$248,017	\$62,898	\$93,801	\$10,662	\$23,030	\$19,939	\$27,326	\$19,170	\$22,548	\$11,082	\$14,933	\$13,398
DOM	\$1,021,400	\$236,410	\$393,303	\$40,645	\$91,199	\$72,760	\$133,387	\$68,250	\$94,651	\$51,725	\$55,078	\$57,553
DPL	\$199,098	\$46,459	\$75,679	\$7,990	\$12,526	\$13,135	\$27,171	\$12,453	\$15,915	\$8,529	\$10,770	\$11,202
DUQ	\$125,595	\$24,946	\$49,291	\$5,212	\$12,433	\$10,406	\$15,241	\$9,580	\$11,024	\$6,562	\$7,942	\$7,626
EKPC	\$156,880	\$34,851	\$52,705	\$4,838	\$9,578	\$8,339	\$12,025	\$8,238	\$9,468	\$5,082	\$7,929	\$6,733
JCPL	\$200,870	\$50,017	\$81,694	\$8,870	\$15,532	\$17,879	\$38,668	\$16,140	\$22,068	\$8,688	\$12,354	\$11,955
METED	\$147,504	\$36,986	\$60,434	\$6,656	\$9,572	\$9,503	\$19,167	\$8,428	\$11,511	\$5,714	\$8,584	\$8,501
PECO	\$375,055	\$92,690	\$150,894	\$17,175	\$26,901	\$27,270	\$56,417	\$23,921	\$33,509	\$12,902	\$22,347	\$21,363
PENELEC	\$164,067	\$42,050	\$68,023	\$8,248	\$14,718	\$10,794	\$18,958	\$10,720	\$12,976	\$7,928	\$10,361	\$10,318
PEPCO	\$313,611	\$73,684	\$119,799	\$13,360	\$28,608	\$23,994	\$45,233	\$23,847	\$31,376	\$16,995	\$17,271	\$18,323
PPL	\$420,890	\$104,335	\$167,056	\$18,205	\$26,241	\$24,189	\$48,016	\$22,059	\$29,786	\$14,005	\$24,602	\$23,406
PSEG	\$368,239	\$92,173	\$150,738	\$18,849	\$30,794	\$31,715	\$66,823	\$28,451	\$39,518	\$18,525	\$23,461	\$23,436
RECO	\$12,180	\$3,050	\$5,037	\$658	\$1,098	\$1,239	\$2,527	\$1,141	\$1,546	\$619	\$811	\$866
Exports	\$199,606	\$72,391	\$168,380	\$21,206	\$18,342	\$16,302	\$44,458	\$17,355	\$25,242	\$20,205	\$18,111	\$24,006
TOTAL	\$7,689,314	\$1,908,644	\$3,128,912	\$350,913	\$650,665	\$569,536	\$977,608	\$544,741	\$689,882	\$375,421	\$462,140	\$457,794

Total Zonal Charges: \$17,805,571

Figure 25: Economic Demand Response Day-Ahead Energy Market Cost Allocation by Zone (2014)

Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AECO	\$41,762	\$13,174	\$8,862	\$819	\$1,507	\$4,370	\$8,834	\$2,277	\$2,067	\$871	\$1,938	\$1,448
AEP	\$600,578	\$188,978	\$119,190	\$10,368	\$24,806	\$46,772	\$67,261	\$23,028	\$19,805	\$16,326	\$27,431	\$17,172
APS	\$234,853	\$73,518	\$47,353	\$3,892	\$9,054	\$17,397	\$27,858	\$8,593	\$8,530	\$5,603	\$10,317	\$7,448
ATSI	\$287,944	\$93,523	\$60,568	\$5,927	\$14,880	\$26,153	\$38,744	\$12,645	\$11,709	\$8,550	\$14,389	\$9,837
BGE	\$157,923	\$48,047	\$31,921	\$2,675	\$6,574	\$13,817	\$24,653	\$7,991	\$6,506	\$4,600	\$6,673	\$5,839
COMED	\$334,108	\$121,509	\$81,405	\$7,299	\$18,077	\$37,632	\$40,270	\$17,936	\$15,184	\$11,101	\$17,824	\$10,106
DAY	\$75,752	\$24,825	\$15,326	\$1,449	\$3,685	\$6,683	\$9,284	\$3,434	\$3,028	\$2,206	\$3,713	\$2,478
DEOK	\$112,731	\$38,196	\$22,579	\$2,037	\$5,190	\$10,799	\$14,479	\$4,927	\$4,388	\$2,765	\$5,413	\$2,991
DOM	\$477,844	\$144,419	\$95,282	\$7,528	\$19,064	\$40,557	\$65,059	\$19,274	\$19,305	\$13,013	\$19,600	\$16,253
DPL	\$93,491	\$28,069	\$18,435	\$1,514	\$2,866	\$7,277	\$14,571	\$4,404	\$3,410	\$2,763	\$3,899	\$3,132
DUQ	\$59,691	\$13,551	\$12,048	\$969	\$2,978	\$5,595	\$8,211	\$2,592	\$2,202	\$1,736	\$2,858	\$1,910
EKPC	\$72,122	\$21,331	\$12,596	\$848	\$2,132	\$4,533	\$6,219	\$2,111	\$1,822	\$1,183	\$2,766	\$1,488
JCPL	\$94,619	\$30,358	\$19,952	\$1,767	\$3,565	\$9,784	\$20,492	\$5,110	\$4,654	\$2,113	\$4,481	\$3,337
METED	\$69,258	\$22,377	\$14,782	\$1,256	\$2,296	\$5,182	\$9,967	\$2,725	\$2,585	\$1,287	\$3,137	\$2,267
PECO	\$176,174	\$56,149	\$36,890	\$3,383	\$6,121	\$14,662	\$30,024	\$7,603	\$7,248	\$3,124	\$8,087	\$5,684
PENELEC	\$77,025	\$25,389	\$16,828	\$1,571	\$4,468	\$5,894	\$10,017	\$3,674	\$2,819	\$1,991	\$3,830	\$2,765
PEPCO	\$147,707	\$44,627	\$29,325	\$2,557	\$5,871	\$13,364	\$22,485	\$7,841	\$6,371	\$4,524	\$6,230	\$5,223
PPL	\$197,322	\$63,111	\$40,742	\$3,447	\$6,002	\$12,939	\$25,068	\$6,996	\$6,650	\$3,210	\$8,979	\$6,240
PSEG	\$173,359	\$55,809	\$37,272	\$3,985	\$7,069	\$17,215	\$35,844	\$9,089	\$8,551	\$4,355	\$8,640	\$6,234
RECO	\$5,676	\$1,841	\$1,248	\$140	\$248	\$672	\$1,304	\$362	\$323	\$155	\$301	\$246
Exports	\$90,472	\$39,254	\$39,621	\$4,565	\$5,508	\$8,585	\$25,880	\$5,684	\$6,137	\$6,089	\$7,264	\$7,685
TOTAL	\$3,580,411	\$1,148,053	\$762,224	\$67,996	\$151,962	\$309,885	\$506,523	\$158,297	\$143,293	\$97,563	\$167,769	\$119,781

 Total Day-Ahead Zonal Charges: **\$7,213,757**
Figure 26: Economic Demand Response Real-Time Energy Market Cost Allocation by Zone (2014)

Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AECO	\$47,026	\$8,637	\$27,490	\$3,397	\$5,068	\$3,497	\$7,845	\$4,969	\$7,992	\$2,924	\$3,454	\$3,806
AEP	\$686,476	\$123,351	\$371,422	\$44,785	\$80,956	\$39,691	\$62,832	\$61,255	\$81,049	\$46,056	\$49,419	\$54,239
APS	\$264,187	\$47,928	\$147,102	\$17,072	\$29,576	\$14,657	\$26,191	\$22,464	\$30,569	\$15,494	\$18,564	\$21,510
ATSI	\$322,079	\$61,935	\$187,714	\$24,903	\$42,848	\$21,913	\$32,976	\$32,840	\$44,606	\$24,102	\$24,881	\$28,964
BGE	\$179,006	\$31,508	\$98,429	\$11,332	\$22,256	\$10,933	\$23,946	\$16,624	\$25,486	\$12,374	\$11,706	\$14,055
COMED	\$417,062	\$82,703	\$247,803	\$28,292	\$59,681	\$32,968	\$43,374	\$52,185	\$60,404	\$30,319	\$30,807	\$34,963
DAY	\$87,546	\$16,072	\$47,493	\$6,131	\$11,125	\$5,587	\$8,123	\$8,749	\$11,810	\$6,334	\$6,472	\$7,245
DEOK	\$135,285	\$24,702	\$71,222	\$8,625	\$17,840	\$9,140	\$12,848	\$14,243	\$18,161	\$8,317	\$9,520	\$10,406
DOM	\$543,557	\$91,990	\$298,020	\$33,118	\$72,135	\$32,203	\$68,328	\$48,976	\$75,346	\$38,712	\$35,479	\$41,301
DPL	\$105,606	\$18,390	\$57,244	\$6,476	\$9,660	\$5,858	\$12,600	\$8,049	\$12,505	\$5,766	\$6,871	\$8,070
DUQ	\$65,904	\$11,395	\$37,243	\$4,243	\$9,455	\$4,811	\$7,031	\$6,987	\$8,822	\$4,826	\$5,084	\$5,716
EKPC	\$84,758	\$13,520	\$40,109	\$3,990	\$7,446	\$3,806	\$5,806	\$6,128	\$7,645	\$3,899	\$5,163	\$5,245
JCPL	\$106,251	\$19,659	\$61,742	\$7,104	\$11,966	\$8,095	\$18,176	\$11,030	\$17,414	\$6,575	\$7,872	\$8,619
METED	\$78,246	\$14,609	\$45,652	\$5,399	\$7,275	\$4,321	\$9,200	\$5,702	\$8,926	\$4,427	\$5,447	\$6,235
PECO	\$198,881	\$36,541	\$114,004	\$13,792	\$20,780	\$12,608	\$26,393	\$16,318	\$26,261	\$9,778	\$14,260	\$15,680
PENELEC	\$87,042	\$16,661	\$51,195	\$6,678	\$10,249	\$4,900	\$8,941	\$7,046	\$10,157	\$5,937	\$6,531	\$7,553
PEPCO	\$165,904	\$29,057	\$90,474	\$10,803	\$22,737	\$10,630	\$22,748	\$16,006	\$25,006	\$12,471	\$11,040	\$13,099
PPL	\$223,568	\$41,224	\$126,314	\$14,758	\$20,239	\$11,250	\$22,948	\$15,063	\$23,136	\$10,795	\$15,623	\$17,166
PSEG	\$194,880	\$36,364	\$113,466	\$14,864	\$23,725	\$14,500	\$30,979	\$19,362	\$30,968	\$14,170	\$14,820	\$17,202
RECO	\$6,504	\$1,209	\$3,789	\$518	\$850	\$566	\$1,223	\$779	\$1,223	\$465	\$510	\$620
Exports	\$109,134	\$33,137	\$128,759	\$16,641	\$12,834	\$7,717	\$18,579	\$11,670	\$19,105	\$14,116	\$10,847	\$16,321
TOTAL	\$4,108,903	\$760,591	\$2,366,688	\$282,918	\$498,703	\$259,651	\$471,085	\$386,444	\$546,589	\$277,857	\$294,371	\$338,014

 Total Real-Time Zonal Charges: **\$10,591,815**

Figure 27: Load Management Demand Response Monthly Capacity Revenue from RPM (2014)

Zone	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AECO	\$1,035,717	\$935,486	\$1,035,717	\$1,002,307	\$1,035,717	\$805,435	\$832,282	\$832,282	\$805,435	\$832,282	\$805,435	\$832,282
AEP	\$774,652	\$699,686	\$774,652	\$749,663	\$774,652	\$6,193,547	\$6,399,998	\$6,399,998	\$6,193,547	\$6,399,998	\$6,193,547	\$6,399,998
APS	\$493,260	\$445,525	\$493,260	\$477,348	\$493,260	\$3,380,132	\$3,492,803	\$3,492,803	\$3,380,132	\$3,492,803	\$3,380,132	\$3,492,803
ATSI	\$377,750	\$341,193	\$377,750	\$365,564	\$377,750	\$3,717,155	\$3,841,060	\$3,841,060	\$3,717,155	\$3,841,060	\$3,717,155	\$3,841,060
BGE	\$7,736,807	\$6,988,083	\$7,736,807	\$7,487,232	\$7,736,807	\$5,140,527	\$5,311,878	\$5,311,878	\$5,140,527	\$5,311,878	\$5,140,527	\$5,311,878
COMED	\$808,185	\$729,973	\$808,185	\$782,114	\$808,185	\$5,846,358	\$6,041,237	\$6,041,237	\$5,846,358	\$6,041,237	\$5,846,358	\$6,041,237
DAY	\$44,278	\$39,993	\$44,278	\$42,849	\$44,278	\$872,987	\$902,087	\$902,087	\$872,987	\$902,087	\$872,987	\$902,087
DEOK	\$16,653	\$15,041	\$16,653	\$16,115	\$16,653	\$330,654	\$341,676	\$341,676	\$330,654	\$341,676	\$330,654	\$341,676
DOM	\$605,391	\$546,805	\$605,391	\$585,863	\$605,391	\$5,165,946	\$5,338,145	\$5,338,145	\$5,165,946	\$5,338,145	\$5,165,946	\$5,338,145
DPL	\$1,979,013	\$1,787,496	\$1,979,013	\$1,915,174	\$1,979,013	\$1,542,580	\$1,593,999	\$1,593,999	\$1,542,580	\$1,593,999	\$1,542,580	\$1,593,999
DUQ	\$148,045	\$133,718	\$148,045	\$143,269	\$148,045	\$840,774	\$868,800	\$868,800	\$840,774	\$868,800	\$840,774	\$868,800
EKPC	\$1,544	\$1,395	\$1,544	\$1,495	\$1,544	\$9,900	\$10,230	\$10,230	\$9,900	\$10,230	\$9,900	\$10,230
JCPL	\$2,288,883	\$2,067,378	\$2,288,883	\$2,215,048	\$2,288,883	\$1,709,946	\$1,766,944	\$1,766,944	\$1,709,946	\$1,766,944	\$1,709,946	\$1,766,944
METED	\$2,246,581	\$2,029,170	\$2,246,581	\$2,174,111	\$2,246,581	\$1,558,377	\$1,610,323	\$1,610,323	\$1,558,377	\$1,610,323	\$1,558,377	\$1,610,323
PECO	\$5,314,219	\$4,799,939	\$5,314,219	\$5,142,792	\$5,314,219	\$3,249,878	\$3,358,207	\$3,358,207	\$3,249,878	\$3,358,207	\$3,249,878	\$3,358,207
PENELEC	\$2,980,723	\$2,692,266	\$2,980,723	\$2,884,571	\$2,980,723	\$1,675,004	\$1,730,838	\$1,730,838	\$1,675,004	\$1,730,838	\$1,675,004	\$1,730,838
PEPCO	\$4,229,396	\$3,820,100	\$4,229,396	\$4,092,964	\$4,229,396	\$3,467,834	\$3,583,429	\$3,583,429	\$3,467,834	\$3,583,429	\$3,467,834	\$3,583,429
PPL	\$7,253,736	\$6,551,762	\$7,253,736	\$7,019,745	\$7,253,736	\$5,215,729	\$5,389,586	\$5,389,586	\$5,215,729	\$5,389,586	\$5,215,729	\$5,389,586
PSEG	\$8,859,978	\$8,002,561	\$8,859,978	\$8,574,172	\$8,859,978	\$5,460,187	\$5,642,193	\$5,642,193	\$5,460,187	\$5,642,193	\$5,460,187	\$5,642,193
RECO	\$257,721	\$232,781	\$257,721	\$249,408	\$257,721	\$118,962	\$122,927	\$122,927	\$118,962	\$122,927	\$118,962	\$122,927
Total	\$47,452,531	\$42,860,351	\$47,452,531	\$45,921,805	\$47,452,531	\$56,301,913	\$58,178,643	\$58,178,643	\$56,301,913	\$58,178,643	\$56,301,913	\$58,178,643

Total Capacity Credits: \$632,760,060

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Figure 28: Economic Demand Response Dispatched vs Settled Real-Time Energy Market Summary (2014)

Year	Month	CSPs		Zone		Registrations			MWh			Registration Hours		
		Dispatched	Settled	Dispatched	Settled	Dispatched	Settled	%	Dispatched	Settled	%	Dispatched	Settled	%
2014	1	7	7	12	12	104	102	98%	16,305	15,378	94%	2,928	2,925	100%
2014	2	7	7	11	11	75	75	100%	10,037	8,003	80%	2,526	2,526	100%
2014	3	5	5	11	11	75	75	100%	15,247	13,689	90%	2,342	2,342	100%
2014	4	3	3	8	8	17	17	100%	6,081	6,300	104%	776	776	100%
2014	5	3	3	7	7	17	17	100%	6,398	5,928	93%	803	803	100%
2014	6	3	3	8	8	40	40	100%	4,301	3,429	80%	982	982	100%
2014	7	5	5	10	10	36	36	100%	9,363	7,837	84%	1,195	1,195	100%
2014	8	5	5	8	8	26	26	100%	8,135	7,369	91%	1,041	1,041	100%
2014	9	9	9	12	12	35	35	100%	7,559	7,070	94%	933	933	100%
2014	10	4	4	6	6	18	18	100%	4,851	4,976	103%	802	802	100%
2014	11	4	4	8	8	25	25	100%	5,920	6,459	109%	1,162	1,162	100%
2014	12	4	4	7	7	15	14	93%	5,316	7,108	134%	914	881	96%
YTD Totals						483	480	99%	99,513	93,546	94%	16,404	16,368	100%
YTD Average		5	5	9	9									

Figure 29: Economic Demand Response Cleared vs Settled Day-Ahead Energy Market Summary (2014)

Year	Month	CSPs		Zone		Registrations			MWh			Registration Hours		
		Cleared	Settled	Cleared	Settled	Cleared	Settled	%	Cleared	Settled	%	Cleared	Settled	%
2014	1	9	9	8	8	18	18	100%	10,663	10,344	97%	1,193	1,193	100%
2014	2	8	8	8	8	12	12	100%	7,490	6,904	92%	794	794	100%
2014	3	7	7	7	7	13	13	100%	4,715	3,878	82%	817	817	100%
2014	4	2	2	2	2	4	4	100%	1,279	1,428	112%	388	388	100%
2014	5	4	4	4	4	6	6	100%	2,883	2,692	93%	580	580	100%
2014	6	7	7	9	9	12	12	100%	3,951	4,300	109%	770	770	100%
2014	7	8	8	8	8	14	14	100%	7,500	7,492	100%	1,072	1,072	100%
2014	8	5	5	6	6	10	10	100%	3,219	3,470	108%	610	610	100%
2014	9	3	3	4	4	7	7	100%	2,625	2,497	95%	549	549	100%
2014	10	4	4	4	4	8	8	100%	2,577	3,156	122%	1,120	1,120	100%
2014	11	6	6	6	6	10	10	100%	2,977	3,190	107%	1,007	1,007	100%
2014	12	3	3	3	3	8	8	100%	2,807	3,090	110%	694	681	98%
YTD Totals						122	122	100%	52,685	52,442	100%	9,594	9,581	100%
YTD Average		6	6	6	6									

Note: For Figures 28 and 29 above, Settlement information is submitted up to 60 days after the event. Therefore, YTD performance reflected in these reports for the current 2 months is artificially low due to incomplete information at the time of report preparation.

Figure 30: Economic Demand Response Regulation Market Participation (2014)

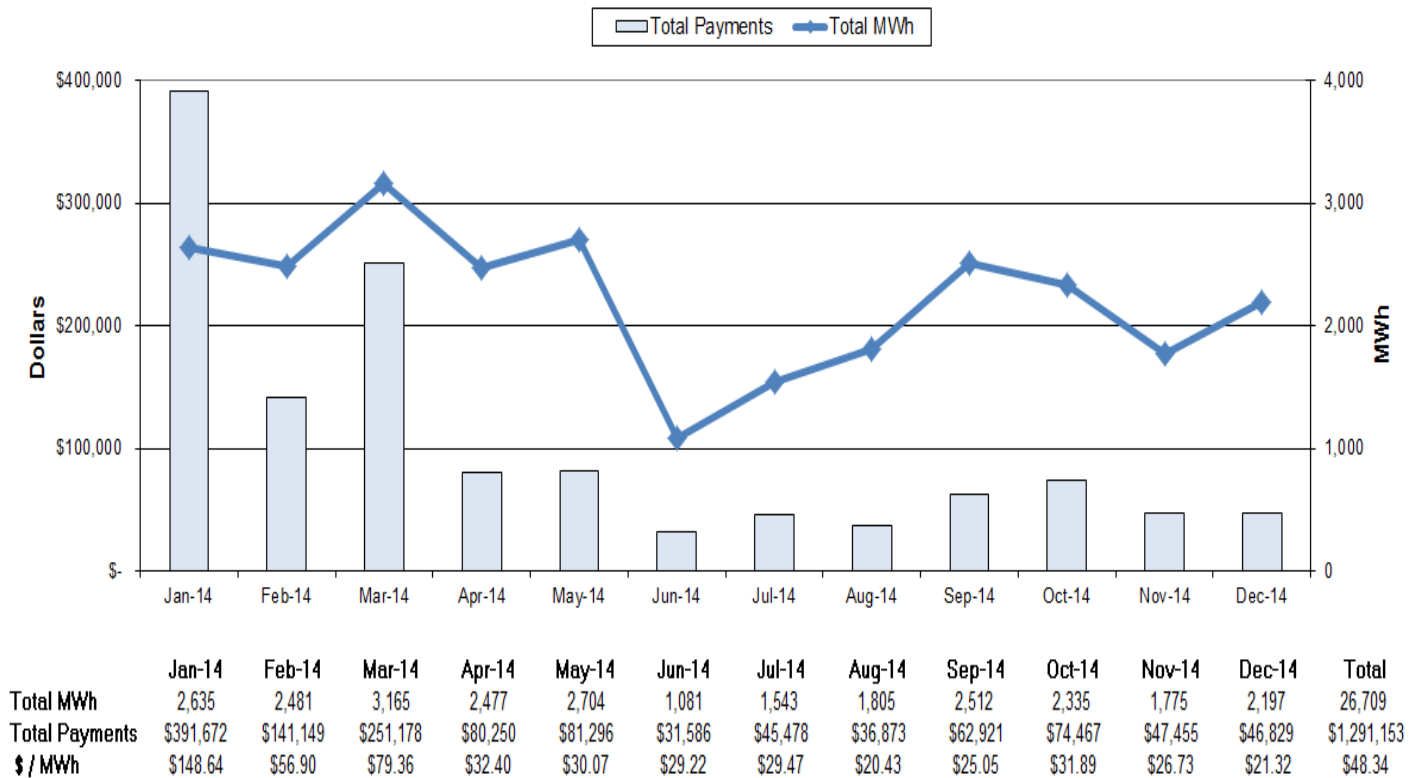
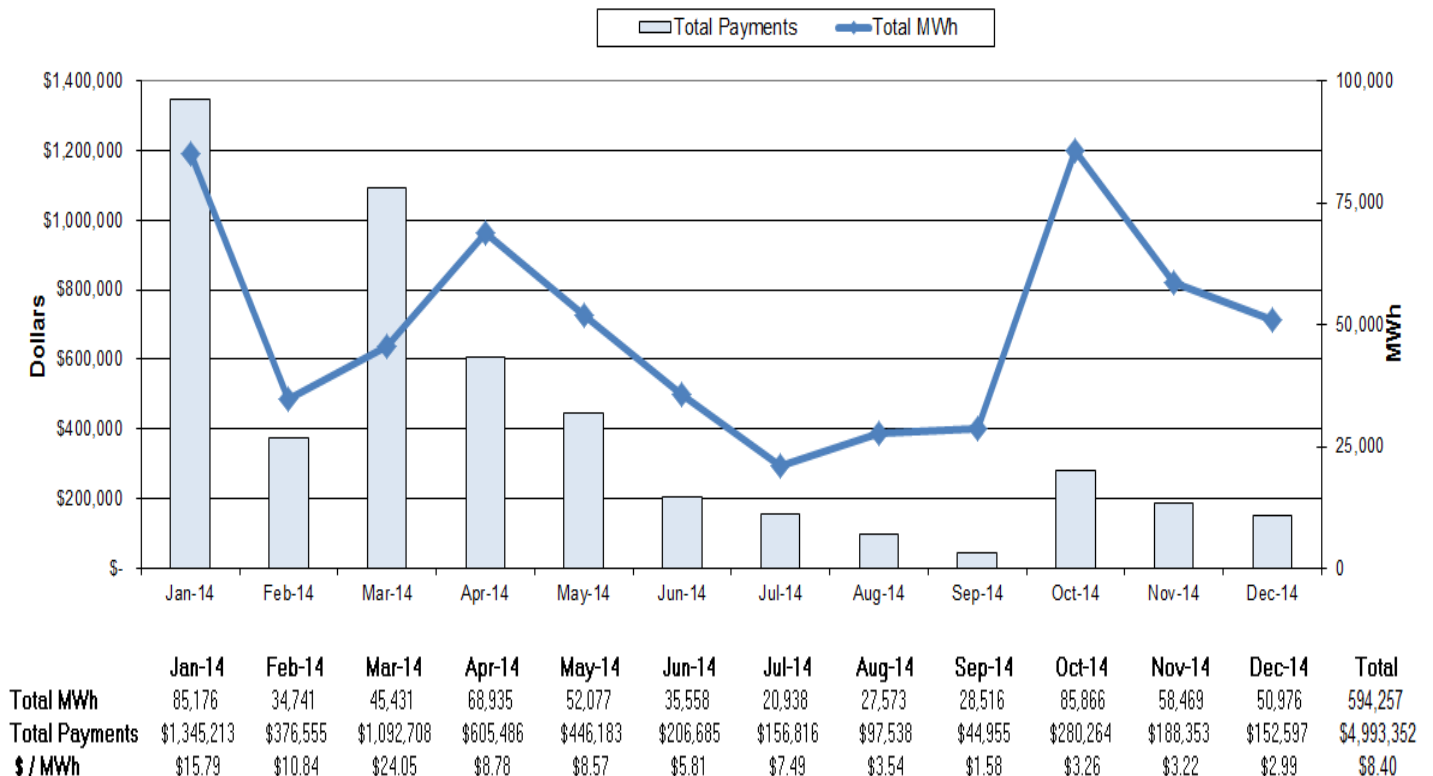
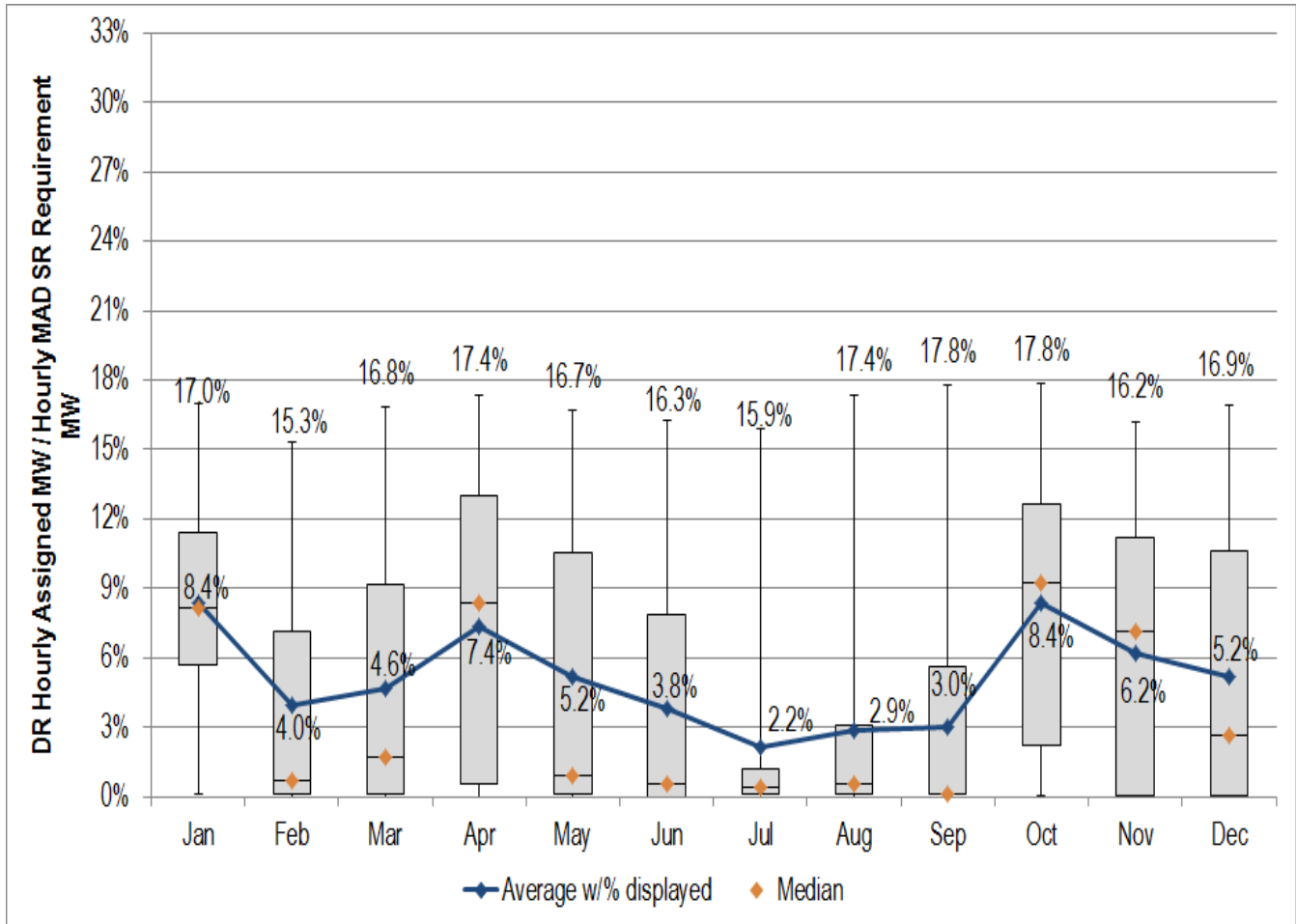


Figure 31: Economic Demand Response Synchronous Reserve Market Participation (2014)



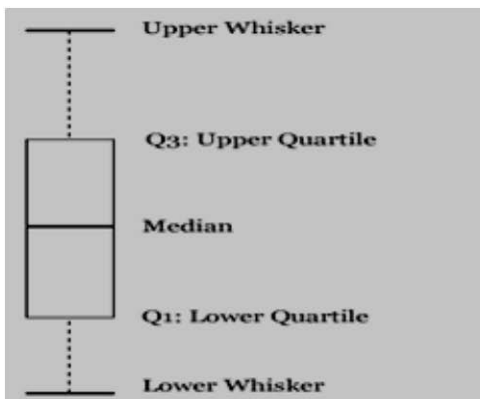
Note: For Figures 30 and 31 above, MWh=sum of the settled MW. Example: 1 MW load available for 12 hours = 12 MWh.

Figure 32: Economic DR Synchronous Reserve Penetration Distribution (Box-plot) for MAD Zone (2014)



Notes:

- 1) Economic Demand Response are Tier2 resources.
- 2) Percents shown on upper whisker are maximum hourly DR percentage of Total MAD SR Requirement.
- 3) The Box-plot depicts the distribution of DR hourly assigned (as a percentage of the MAD requirement) for a month:



The upper whisker is the maximum value

The box top is the Upper Quartile (75%) value

The line inside the box is the median (50%) value

The box bottom is the Lower Quartile (25%) value

The lower whisker is the minimum value