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January 15, 2010

Hearing Examiner Ruth Price
Delaware Public Service Commission
861 Silver Lake Boulevard
Cannon Building, Suite 100
Dover, DE 19904

RE: Delmarva Power Integrated Resource Plan
Docket No.: 10-02

Dear Hearing Examiner Price, et al.:

Thank you for the opportunity to make this comment. I am writing this as an individual, a member of the public, and a half-time resident of the state of Delaware at the above address. I am not making this comment in the course of representation of any party. For the record, I am a utility regulatory attorney and energy consultant, licensed in the state of Minnesota and also currently admitted pro hac vice representing Stop the Lines! on New Jersey's Susquehanna-Roseland transmission project. In my work, I've come across many documents and information that should be a part of this IRP docket, and as an interested member of the public and resident, I am sending this to assure that it gets in the record.

I make the above statement because at the public hearing on December 3, 2008, IRP Docket 07-20, my rights to comment were improperly restricted. This comment is in writing so that my status as a half-time Delaware resident is clear and that the Comment will be received in its entirety.

The issues I raised at the December 3, 2008, IRP Docket 07-20, remain issues today.

Necessary documents to include in the IRP

PJM 2010 Load Forecast (attached)
PJM 3Q State of the Market – too large to attach. It can be found online at:
http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2009.shtml
North America Electric Council 2009 Long Term Reliability Assessment:
http://www.nerc.com/page.php?cid=4|61

TABLE F-1

PJM RTO HISTORICAL PEAKS
(MW)

SUMMER

YEAR	NORMALIZED BASE	NORMALIZED COOLING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE/TIME	
1998	72,950	38,170	111,120	114,996	Tuesday	07/21/1998 17:00
1999	73,990	42,980	116,970	121,655	Tuesday	07/06/1999 17:00
2000	76,300	40,080	116,380	114,178	Wednesday	08/09/2000 17:00
2001	75,990	45,080	121,070	131,116	Thursday	08/09/2001 16:00
2002	77,140	48,120	125,260	130,360	Thursday	08/01/2002 17:00
2003	77,650	46,700	124,350	126,332	Thursday	08/21/2003 17:00
2004			130,645	120,235	Wednesday	06/09/2004 17:00
2005			133,550	134,219	Tuesday	07/26/2005 16:00
2006			134,905	145,951	Wednesday	08/02/2006 17:00
2007			136,095	140,948	Wednesday	08/08/2007 16:00
2008			136,315	130,792	Monday	06/09/2008 17:00
2009			133,780	126,944	Monday	08/10/2009 17:00

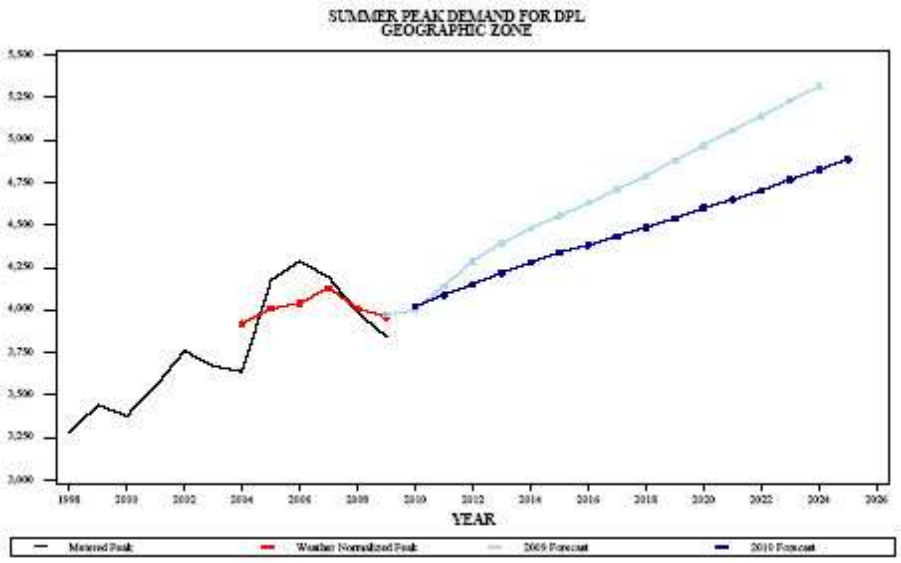
WINTER

YEAR	NORMALIZED BASE	NORMALIZED HEATING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE/TIME	
97/98				88,970	Wednesday	01/14/1998 19:00
98/99				99,982	Tuesday	01/05/1999 19:00
99/00				102,359	Thursday	01/27/2000 20:00
00/01				101,717	Wednesday	12/20/2000 19:00
01/02				97,294	Thursday	01/03/2002 19:00
02/03				112,755	Thursday	01/23/2003 19:00
03/04			108,110	106,760	Monday	01/26/2004 19:00
04/05			110,250	114,061	Monday	12/20/2004 19:00
05/06			111,745	110,415	Wednesday	12/14/2005 19:00
06/07			112,455	118,800	Monday	02/05/2007 20:00
07/08			113,185	111,724	Thursday	01/03/2008 19:00
08/09			113,150	117,169	Friday	01/16/2009 19:00

Notes: Normalized values for 1998 - 2003 are calculated by PJM staff using the bottom-up coincident peak weather-normalization methodology.
Normalized values for 2004 - 2009 are calculated by PJM staff using a methodology consistent with the PJM Load Forecast Model.
All times are shown in hour ending Eastern Prevailing Time.
All historic peak values reflect the membership of the PJM RTO as of December 31, 2009.

Peak demand has significantly decreased since 2006

The most important issue is that the PJM and DPL peak demand history must be part of the IRP. I've reviewed the documents on-line at the Delmarva site (why isn't everything on the DPS IRP site, such as presentation and notes from workshops?) and I don't see any mention of decreased demand. The PJM 2010 Load Forecast report has just been released and it clearly shows that demand is down in PJM and DPL and it has been since a peak in 2006. See chart preceding. This also applies to DPL:



PJM 2010 Load Forecast Report. The system infrastructure is built, or not built, based on peak demand. This historic information must be part of the IRP.

Energy use is down since a peak in 2005

It's also important to look at energy use. Decreased demand is also demonstrated in the DPL SEC filings, the 2009 figures should be filled in as soon as the 10-K is available:

DELMARVA POWER & LIGHT

2008 SEC 10-K http://www.secinfo.com/d12wBc.s1f.htm ; 2006 SEC 10-K http://www.secinfo.com/d12wBc.uh.htm

Delmarva	2009	2008	2007	2006	2005
Regulated T&D Sales GWh					
Residential		5,038	5,333	5,170	5,578
Commercial		5,275	5,471	5,357	5,410
Industrial		2,652	2,825	2,899	3,063
Other		50	51	51	50
TOTAL:		**13,015**	**13.680**	**13,477**	**14,101**

Default T&D Sales GWh		2008	2007	2006	2005
Residential		4,923	5,257	5,154	5,589
Commercial		2,263	2,291	3,472	4,822
Industrial		357	551	983	1,720
Other		43	45	49	51
TOTAL:		**7,586**	**8,144**	**9,658**	**12,182**

In 2008, DPL delivered a total of 13,015,000 megawatt hours of electricity to its customers, of which 39% was delivered to residential customers, 41% to commercial customers and 20% to industrial customers. In 2007, DPL delivered a total of 13,680,000 megawatt hours of electricity, of which 39% was delivered to residential customers, 40% to commercial customers and 21% to industrial customers.

From the Monitoring Analytics' PJM 3Q State of the Market, PJM peak load for 3rd Quarter 2009 was down 2, 676 MW, 2.1%, from 3rd Quarter 2008; real-time load was down 4.5%, day ahead load dropped 8%, and prices dropped 48% to $37.42/MWh. Monitoring Analytics PJM 3Q Quarterly Report, November, 2009, p. 5, 7. That drop is also reflected in the just released 2010 PJM Load Forecast, which shows that the historic peak demand was in 2006, base year for the 2007 RTEP and the basis for the claim of need for the Susquehanna-Roseland, PATH and Mid-Atlantic Power Pathway:

The full chart for historical peak demand (p. 70) was several pages above – considering the PJM historical peak demand, the PJM 2010 forecast (p. 24) is inexplicable, and is contradicted by the 2009 NERC Reliability Assessment -- NERC paints a very different picture for this timeframe:

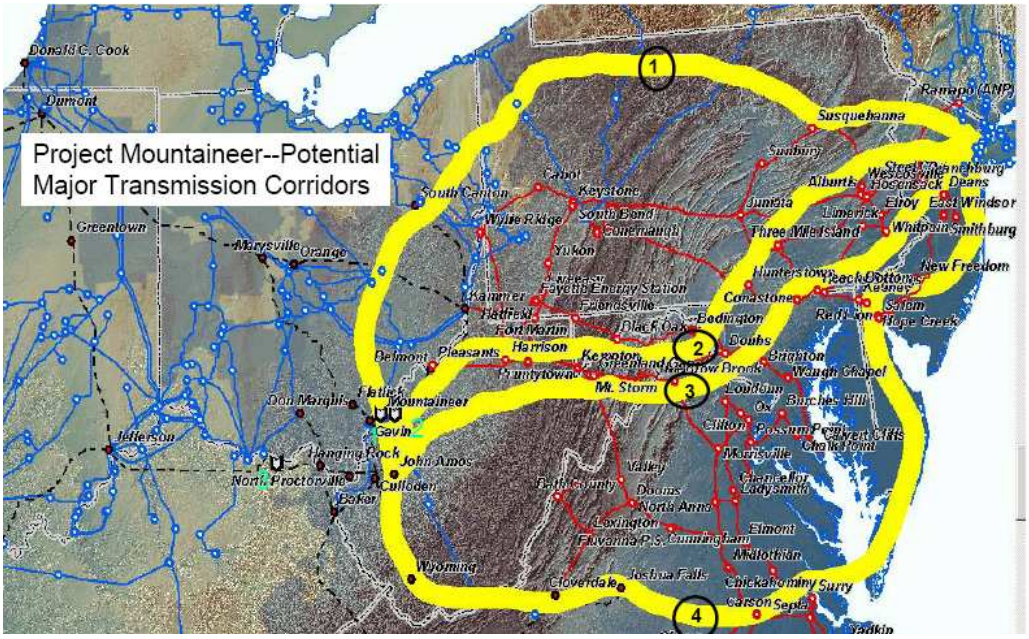
> *RFC – A five percent drop in peak demand compared to last-year's forecast for 2009. In 2011 and 2012, the annual growth rates increase and then decline through 2018.*

2009 NERC Reliability Assessment, p. 14. It is in DPL's interest to overstate demand, and to build infrastructure for overstated demand, because a more robust system can carry increased market transactions. This is in DPL's interest, but it is not in the public or ratepayer interest to build and pay for infrastructure that is not needed and only benefits DPL's corporate bottom line.

Mid-Atlantic Power Pathway (MAPP) is not needed

The Mid-Atlantic Power Pathway is a 500kV transmission project that, together with PATH and Susquehanna-Roseland, grew out of the 2007 RTEP. The 2007 RTEP was based on the historic demand peak of 2006, a demand that has not been sustained, thankfully. Based on decreased demand, the MAPP leg from Indian River to Salem was withdrawn and the rest of MAPP was delayed. Now PEPCO and PJM have asked for a "procedural suspension," based on "PATH withdrawal," but it is much more than that. As time goes on, the "need" case for these lines has fallen apart – there is no need. The next RTEP must include updated historical demand and forecast information, which will show very clearly MAPP is not needed, as it does for PATH and Susquehanna-Roseland, and that they will not be needed in the forecast range nor will they be needed at any time in the foreseeable future.

MAPP is the NE part of Line 4 of Project Mountaineer – transmission for coal. This transmission would also enable the Delaware Electric Co-op's announced plan to build a new coal plan with Dominion. As a facilitator for new and existing coal generation and other non-renewable central station power, it is outmoded and against public policy.



Cost apportionment for PJM's "backbone" transmission projects has been rejected by the 7th Circuit, which objected to foisting the costs on those who would receive zero benefit. The 7th Circuit decision is attached.

<u>This is a time when we can plan our energy future</u>

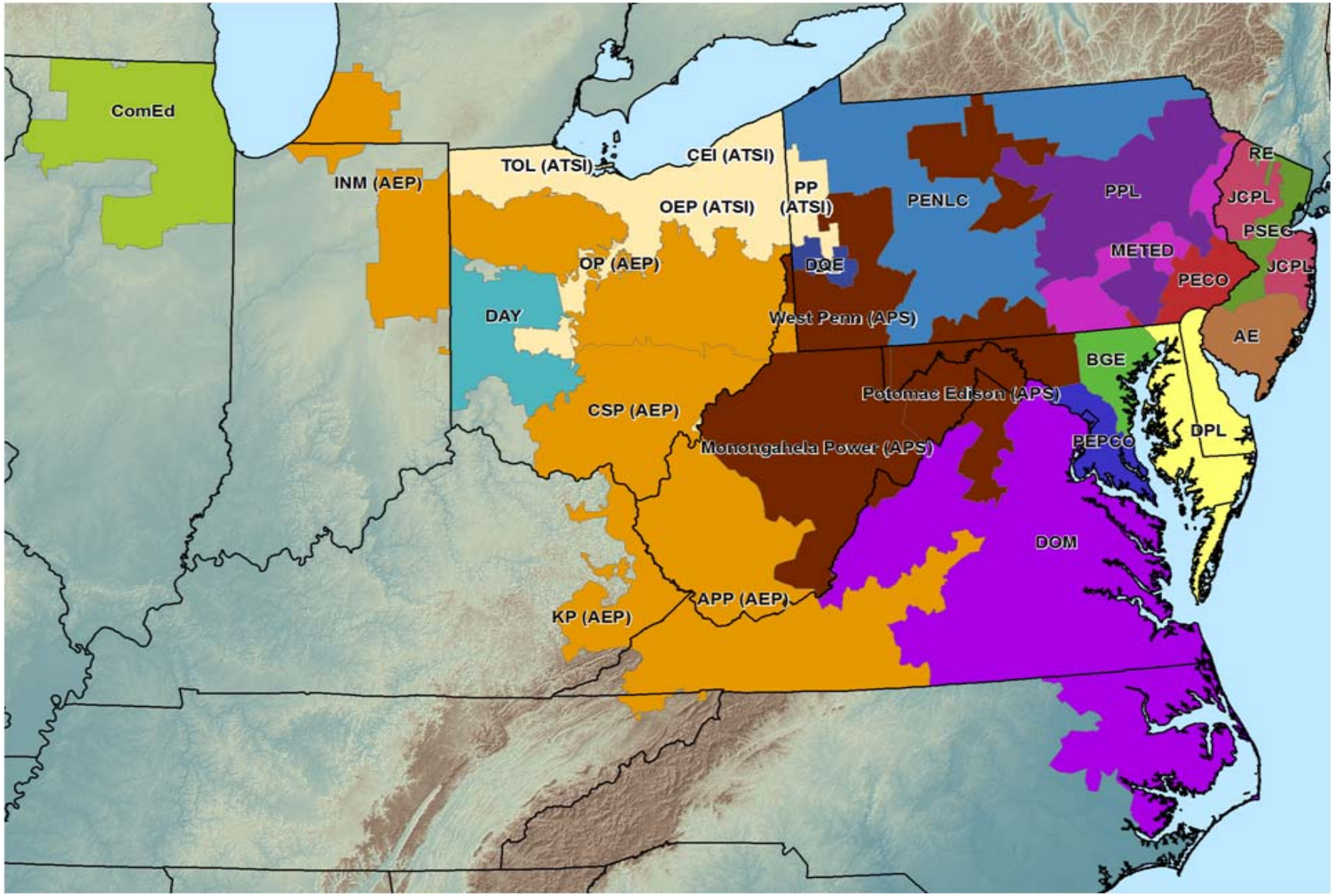
The heat is off, demand has dropped and there is no need for new fossil generation or transmission. What the IRP can and should include is Delmarva Power's plan to increase renewable generation that is dispatchable, such as the PSC ordered wind project with natural gas back up.

Respectfully submitted,

Carol A. Overland, Energy Consultant

cc: Service List:

PJM Load Forecast Report
January 2010



Prepared by PJM Resource Adequacy Planning Department

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TERMS AND ABBREVIATIONS USED IN THIS REPORT

AE	Atlantic Electric zone (part of Pepco Holdings, Inc)
AEP	American Electric Power zone (incorporated 10/1/2004)
APP	Appalachian Power, sub-zone of AEP
APS	Allegheny Power zone (incorporated 4/1/2002)
ATSI	American Transmission Systems, Inc. zone (to be incorporated 6/1/2011)
Base Load	Average peak load on non-holiday weekdays with no heating or cooling load. Base load is insensitive to weather.
BGE	Baltimore Gas & Electric zone
CEI	Cleveland Electric Illuminating, sub-zone of ATSI
COMED	Commonwealth Edison zone (incorporated 5/1/2004)
Contractually Interruptible	Load Management from customers responding to direction from a control center
Cooling Load	The weather-sensitive portion of summer peak load
CSP	Columbus Southern Power, sub-zone of AEP
Direct Control	Load Management achieved directly by a signal from a control center
DAY	Dayton Power & Light zone (incorporated 10/1/2004)
DLCO	Duquesne Lighting Company zone (incorporated 1/1/2005)
DPL	Delmarva Power & Light zone (part of Pepco Holdings, Inc)
FE/GPU	The combination of FirstEnergy's Jersey Central Power & Light, Metropolitan Edison, and Pennsylvania Electric zones (formerly GPU)
Heating Load	The weather-sensitive portion of winter peak load
INM	Indiana Michigan Power, sub-zone of AEP
JCPL	Jersey Central Power & Light zone
KP	Kentucky Power, sub-zone of AEP
METED	Metropolitan Edison zone
MP	Monongahela Power, sub-zone of APS
NERC	North American Electric Reliability Corporation

Net Energy	Net Energy for Load, measured as net generation of main generating units plus energy receipts minus energy deliveries
OEP	Ohio Edison, sub-zone of ATSI
OP	Ohio Power, sub-zone of AEP
PECO	PECO Energy zone
PED	Potomac Edison, sub-zone of APS
PEPCO	Potomac Electric Power zone (part of Pepco Holdings, Inc)
PL	PPL Electric Utilities, sub-zone of PLGroup
PLGroup/PLGRP	Pennsylvania Power & Light zone
PENLC	Pennsylvania Electric zone
PP	Pennsylvania Power, sub-zone of ATSI
PS	Public Service Electric & Gas zone
RECO	Rockland Electric (East) zone (incorporated 3/1/2002)
TOL	Toledo Edison, sub-zone of ATSI
UGI	UGI Utilities, sub-zone of PLGroup
Unrestricted Peak	Peak load prior to any reduction for load management, accelerated energy efficiency or voltage reduction.
WP	West Penn Power, sub-zone of APS
Zone	Areas within the PJM Control Area, as defined in the PJM Reliability Assurance Agreement

2010 PJM LOAD FORECAST REPORT

EXECUTIVE SUMMARY

- This report presents an independent load forecast prepared by PJM staff.

- The report includes long-term forecasts of peak loads, net energy, load management and energy efficiency for each PJM zone, region, and the total RTO.

- This year's report includes the load of American Transmission Systems, Inc (ATSI), which is scheduled to be integrated into the PJM RTO on June 1, 2011.

- Several tables have been expanded in this year's report:
  - The Regional Summary tables have been revised to more closely represent the type of information provided to NERC and regional authorities.
  - The 'C' tables have been expanded to include extreme weather (90/10) forecasts in addition to the base (50/50) forecast;
  - Also, the data file that accompanies publication of this document has been expanded to include forecasts for all regions and Locational Deliverability Areas.

- All load models were estimated with historical data from January 1998 through August 2009. The models were simulated with weather data from years 1974 through 2008, which generated 455 scenarios. The economic forecast used was Moody's Economy.com's November 2009 release.

- The models for several zones have been revised:
  - AE: The Gross Metropolitan Product (GMP) for the Vineland, NJ metropolitan area was added. The GMP for AE zone is now the sum of Atlantic City and Vineland;
  - AEP: The GMP of the Kalamazoo MI metropolitan area was dropped, while the GMPs of the Elkhart IN, Kingsport TN, Lynchburg VA and Huntington WV areas were added. The weather station data from Charleston WV was dropped, while data from Fort Wayne IN and Roanoke VA were added. The new weather station mixture and weights for AEP zone are: Columbus 50%, Fort Wayne 20%, Roanoke 30%;
  - DOM: The GMP combination of Richmond VA, Roanoke VA, and Virginia Beach VA was replaced with the Gross State Product of Virginia;
  - DPL: The weather station data from Philadelphia PA was replaced by Wilmington DE (weighted 70%) and Wallops Island VA (weighted 30%).

- The summer peak forecast of AEP zone was adjusted downward by 600 MW to account for anticipated lingering impacts of the recession, judged by PJM staff not to be reflected in the forecast model.

- The PJM RTO weather normalized summer peak for 2009 was 133,780 MW. The projection for the 2010 PJM RTO summer peak is 135,750 MW, an increase of 1,970 MW, or 1.5%, from the 2009 normalized peak.

- Summer peak load growth for PJM RTO (with ATSI) is projected to average 1.7% per year over the next 10 years, and 1.4% over the next 15 years. The PJM RTO summer peak is forecasted to be 174,724 MW in 2020, a 10-year increase of 26,933 MW, and reaches 182,665 MW in 2025, a 15-year increase of 34,874 MW. Annualized 10-year growth rates for individual zones range from 1.0% to 2.5%.

- Summer peak load growth for PJM RTO (without ATSI) is projected to average 1.7% per year over the next 10 years, and 1.5% over the next 15 years. The PJM RTO summer peak is forecasted to be 161,047 MW in 2020, a 10-year increase of 25,297 MW, and reaches 168,824 MW in 2025, a 15-year increase of 33,074 MW.

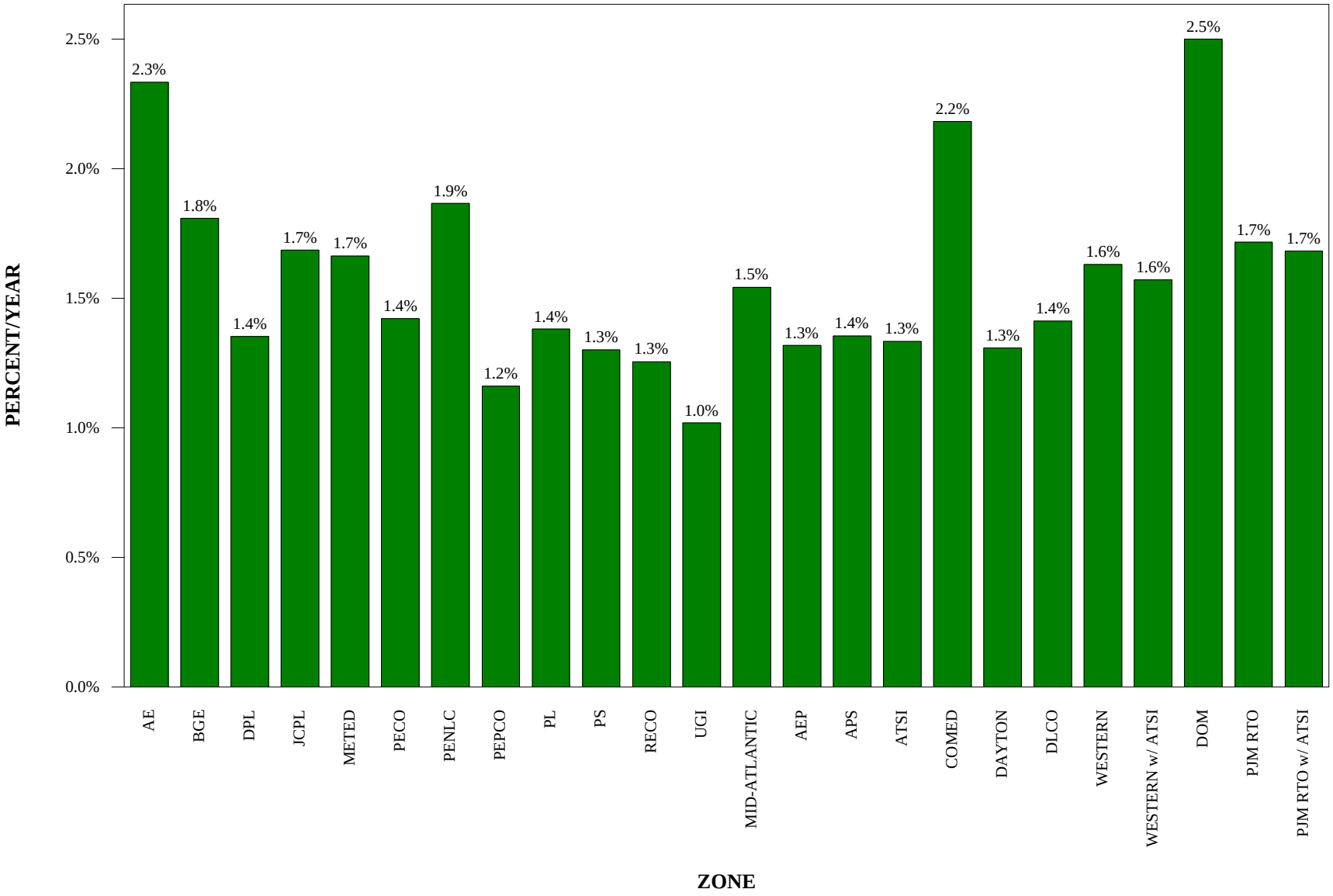
- Winter peak load growth for PJM RTO (with ATSI) is projected to average 1.4% per year over the next 10-year period, and 1.2% over the next 15-years. The PJM RTO winter peak load in 2019/20 is forecasted to be 141,072 MW, a 10-year increase of 17,943 MW, and reaches 146,481 MW in 2024/25, a 15-year increase of 23,352 MW. Annualized 10-year growth rates for individual zones range from 0.8 to 2.1%.

- Compared to the 2009 Load Report, the new PJM RTO summer peak forecast shows the following changes for three years of interest:
  - The next delivery year – 2010 -288 MW (-0.2%)
  - The next RPM auction year – 2013 244 MW (0.2%)
    13,189 MW (8.9%) – with ATSI
  - The next RTEP study year – 2015 709 MW (0.5%)
    13,992 MW (9.2%) – with ATSI

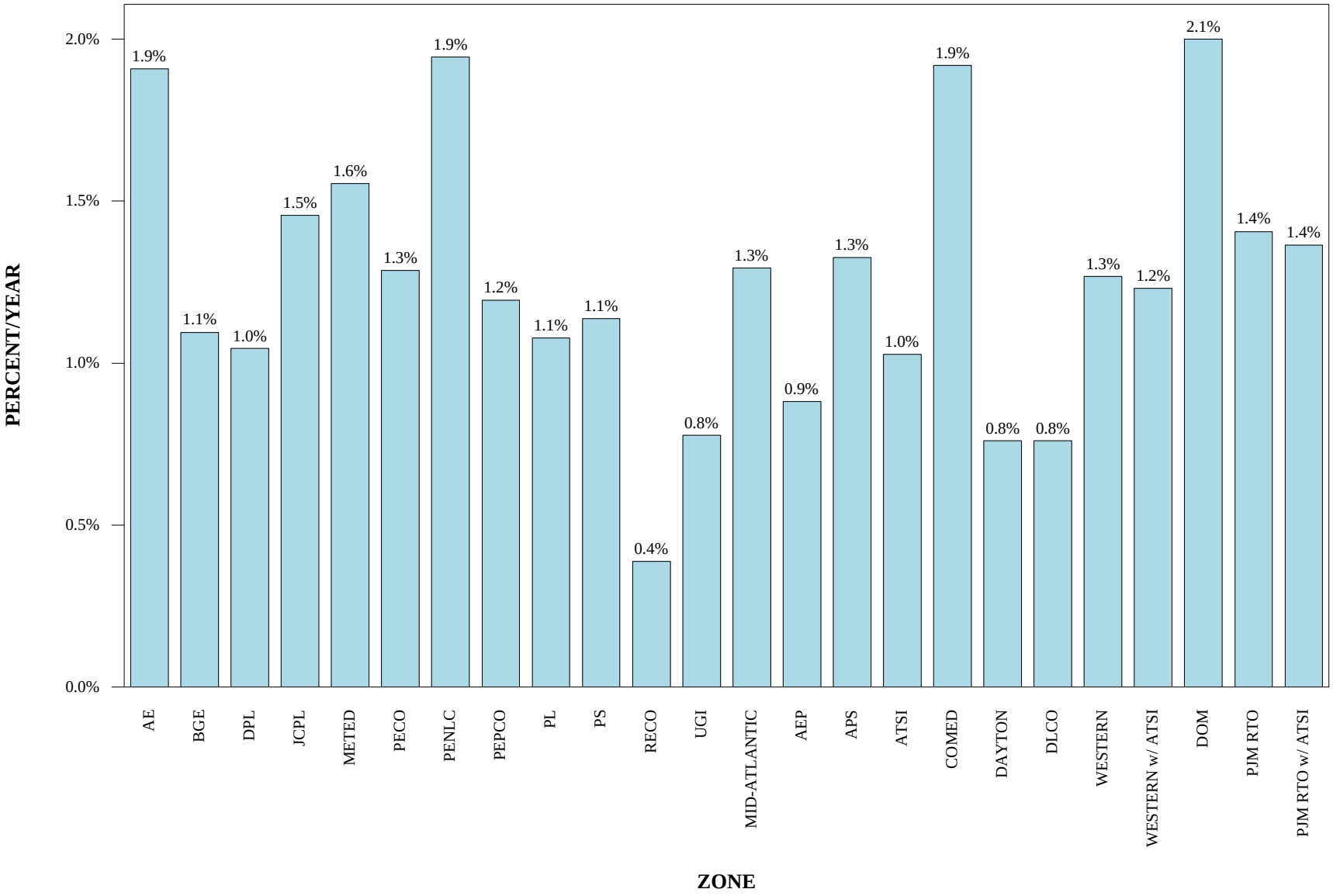
- Based on the forecast contained within this report, the PJM RTO will continue to be summer peaking during the next 15 years.

NOTE:
Unless noted otherwise, all peak values are unrestricted peaks, which represent the peak load prior to reductions for load management or energy efficiency impacts.
All compound growth rates are calculated from the first year of the forecast.

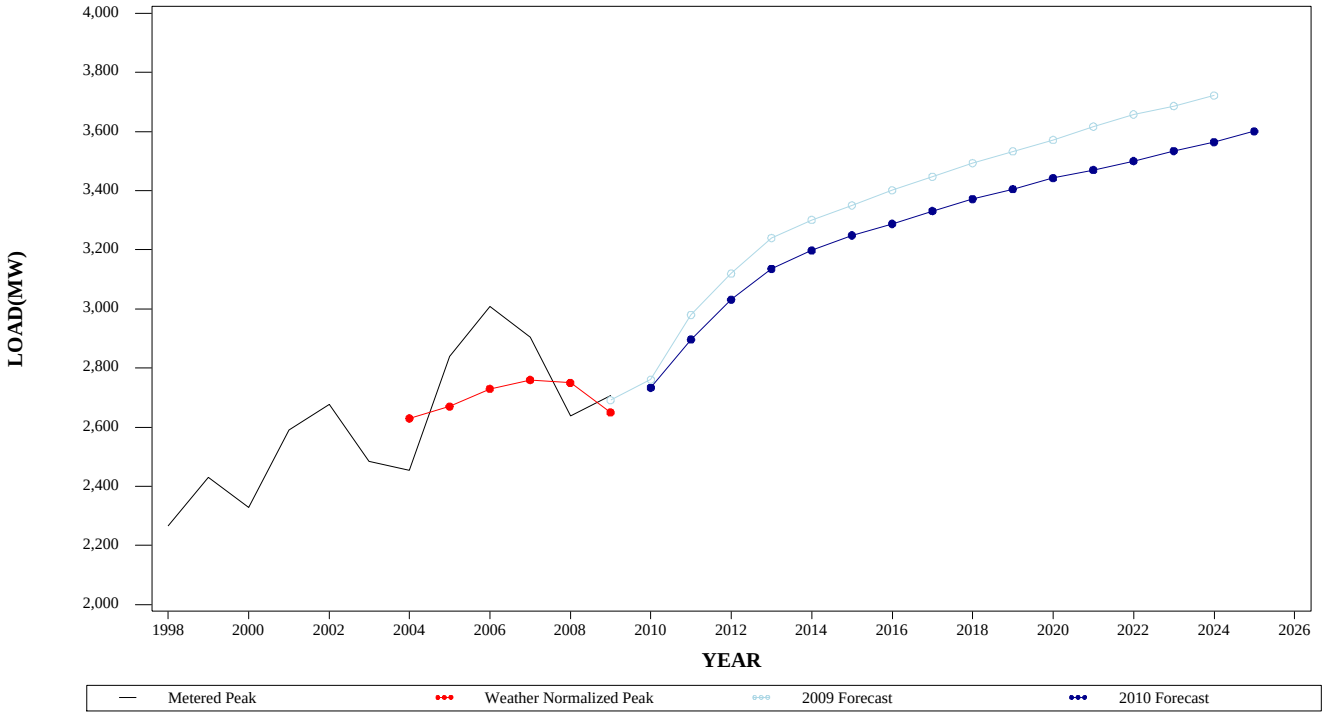
PJM SUMMER PEAK LOAD GROWTH RATE
2010 - 2020



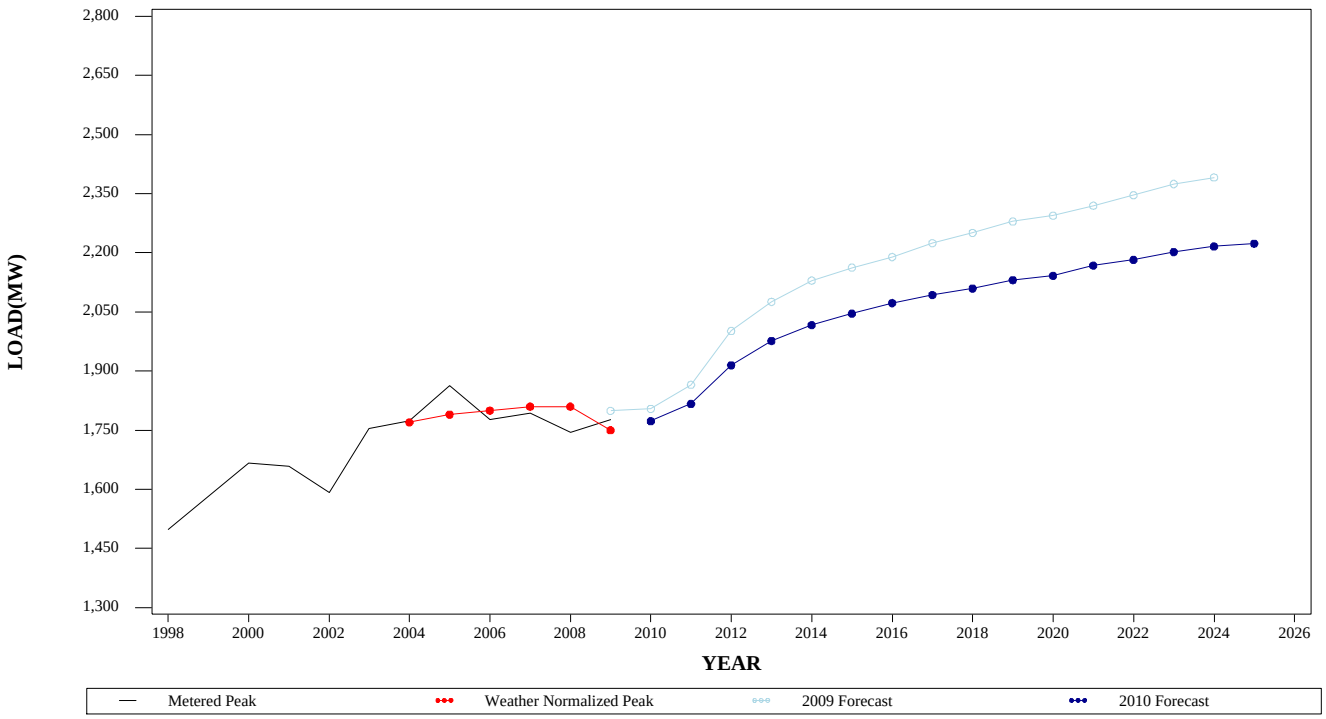
PJM WINTER PEAK LOAD GROWTH RATE
2010 - 2020



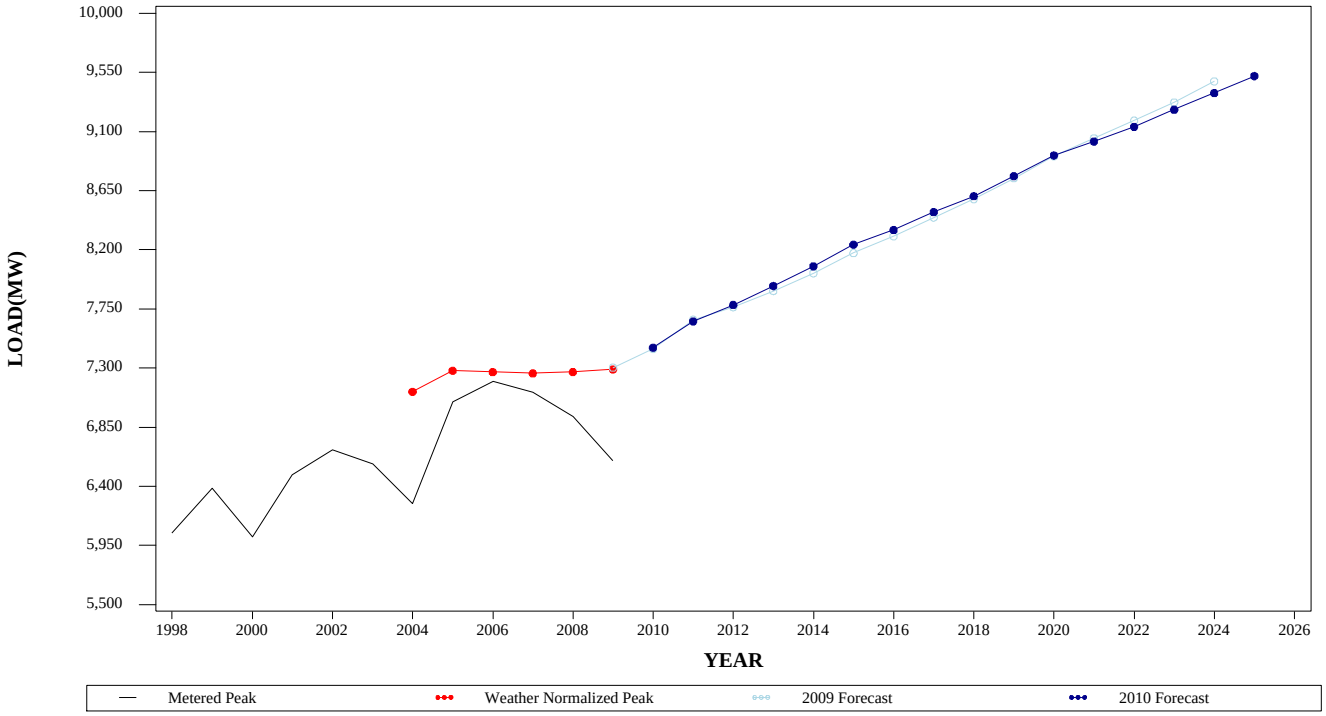
SUMMER PEAK DEMAND FOR AE GEOGRAPHIC ZONE



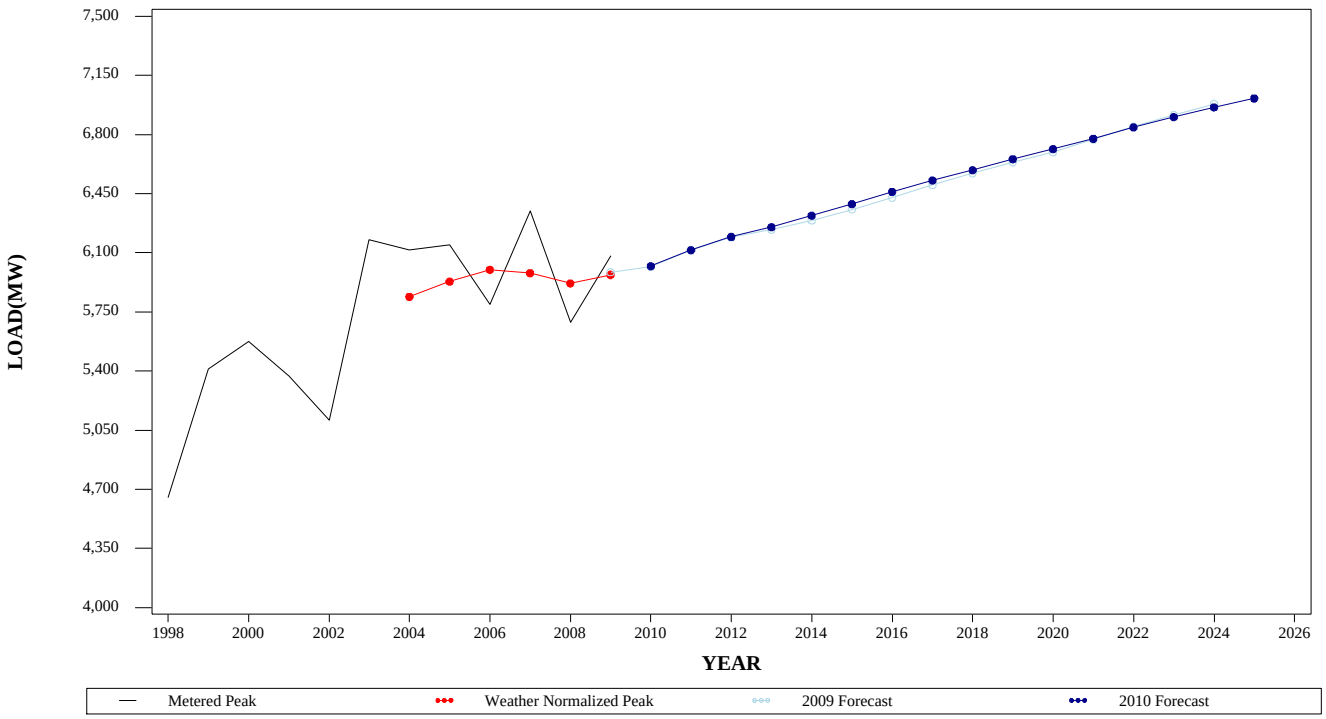
WINTER PEAK DEMAND FOR AE GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR BGE GEOGRAPHIC ZONE



WINTER PEAK DEMAND FOR BGE GEOGRAPHIC ZONE



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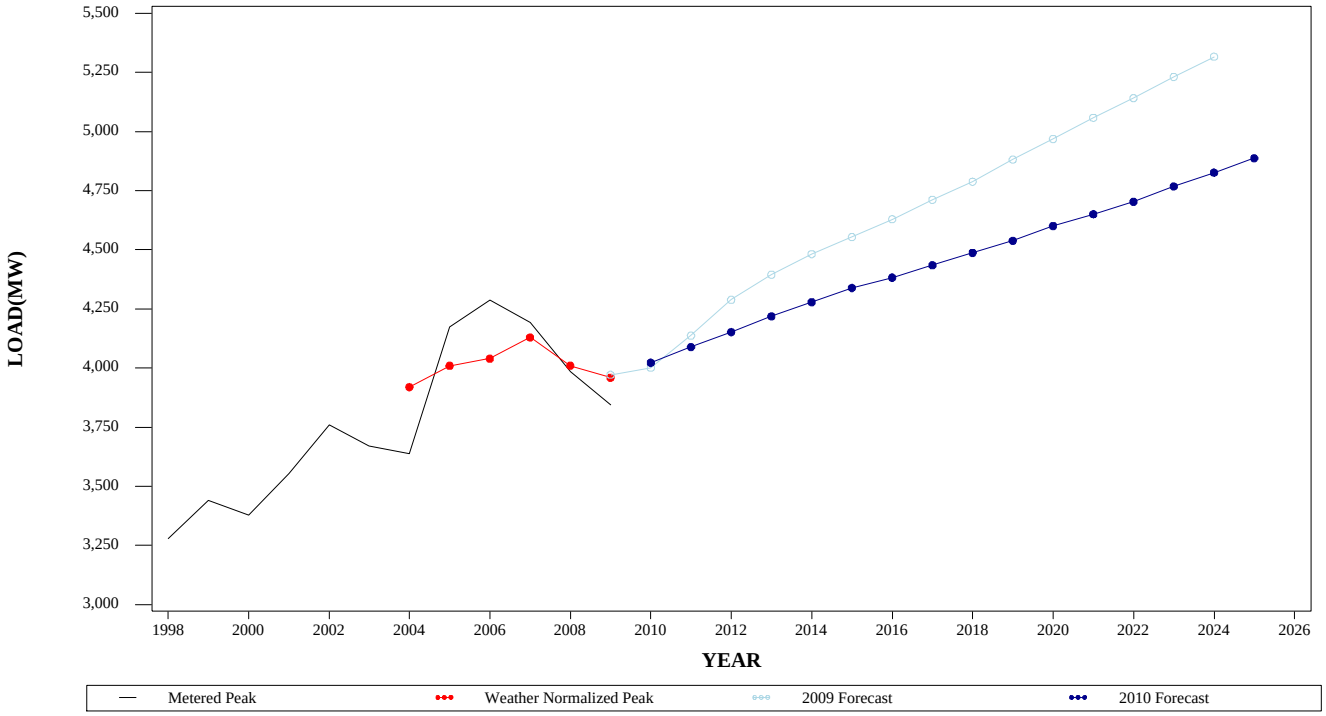
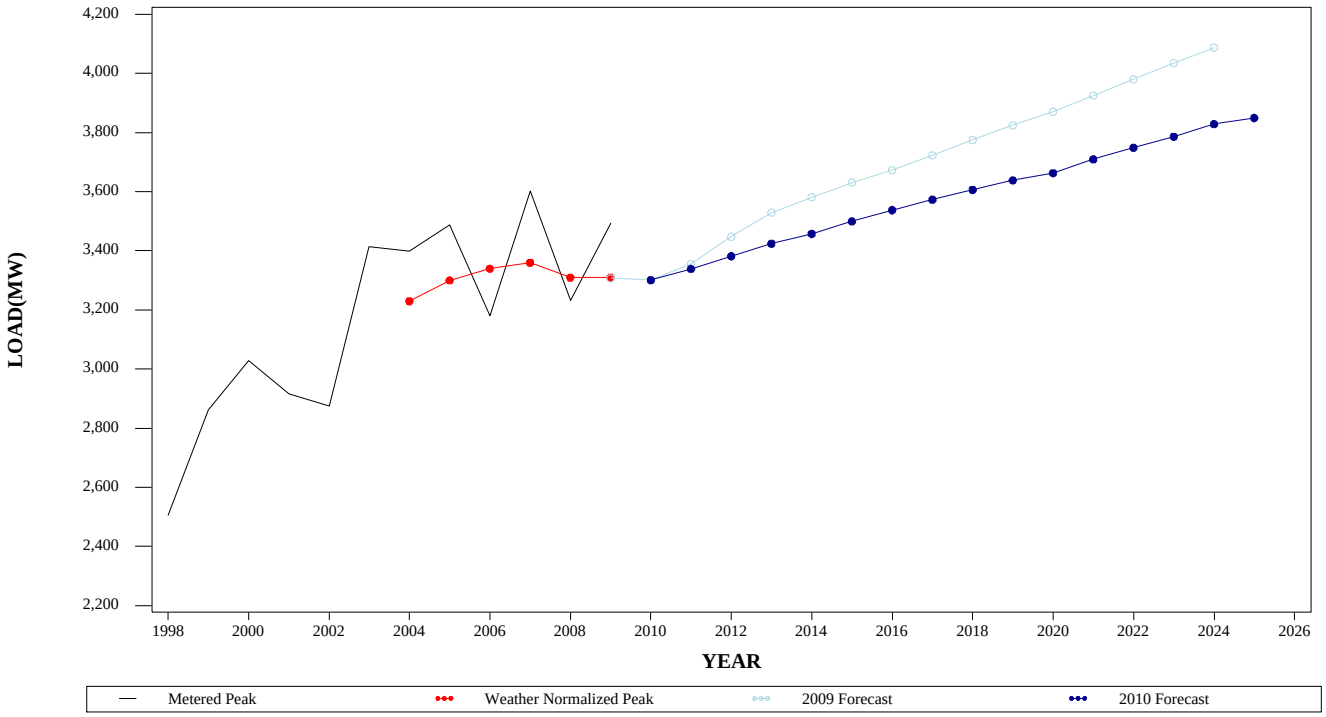
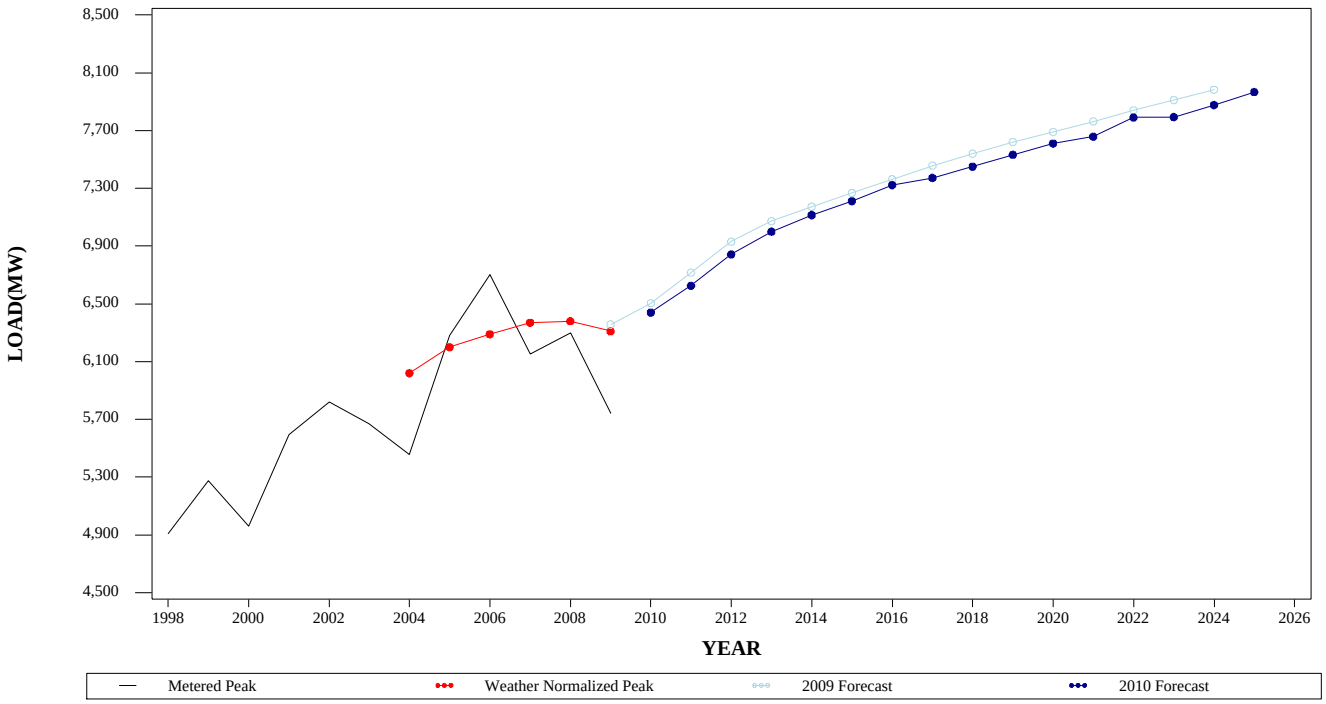


WINTER PEAK DEMAND FOR DPL GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR JCPL
GEOGRAPHIC ZONE



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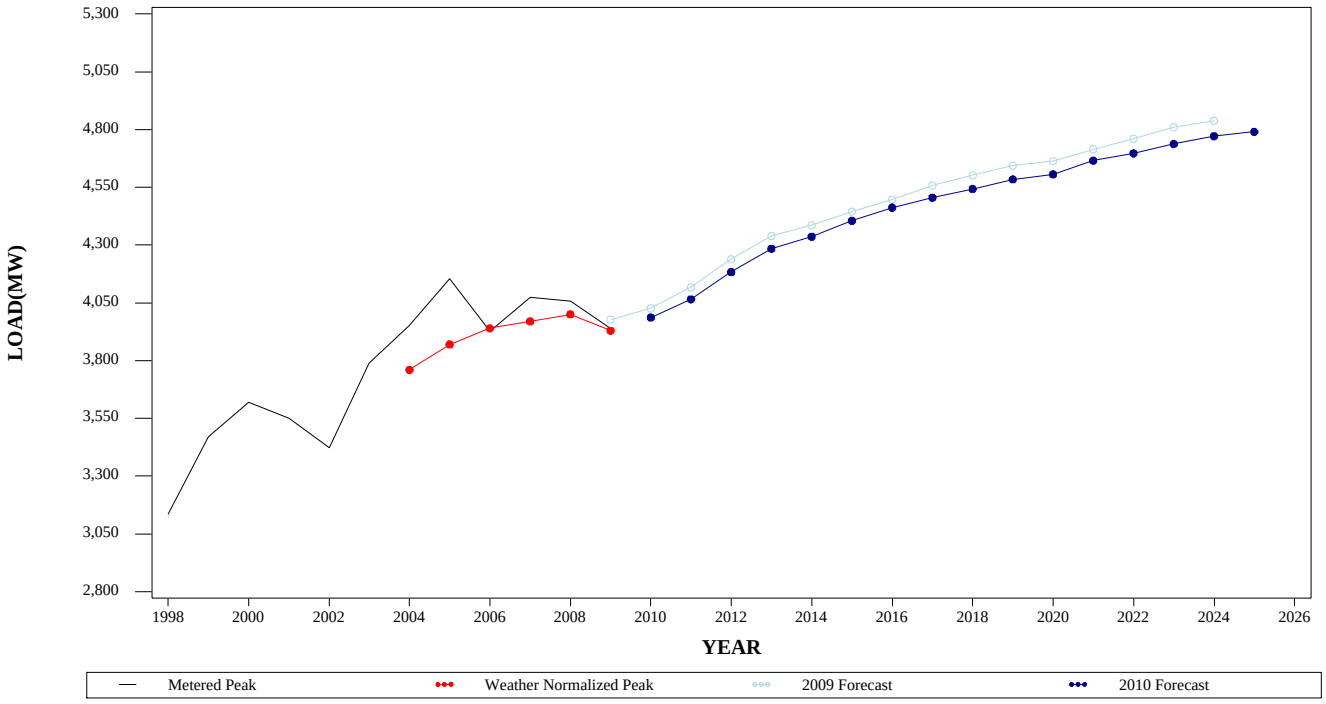
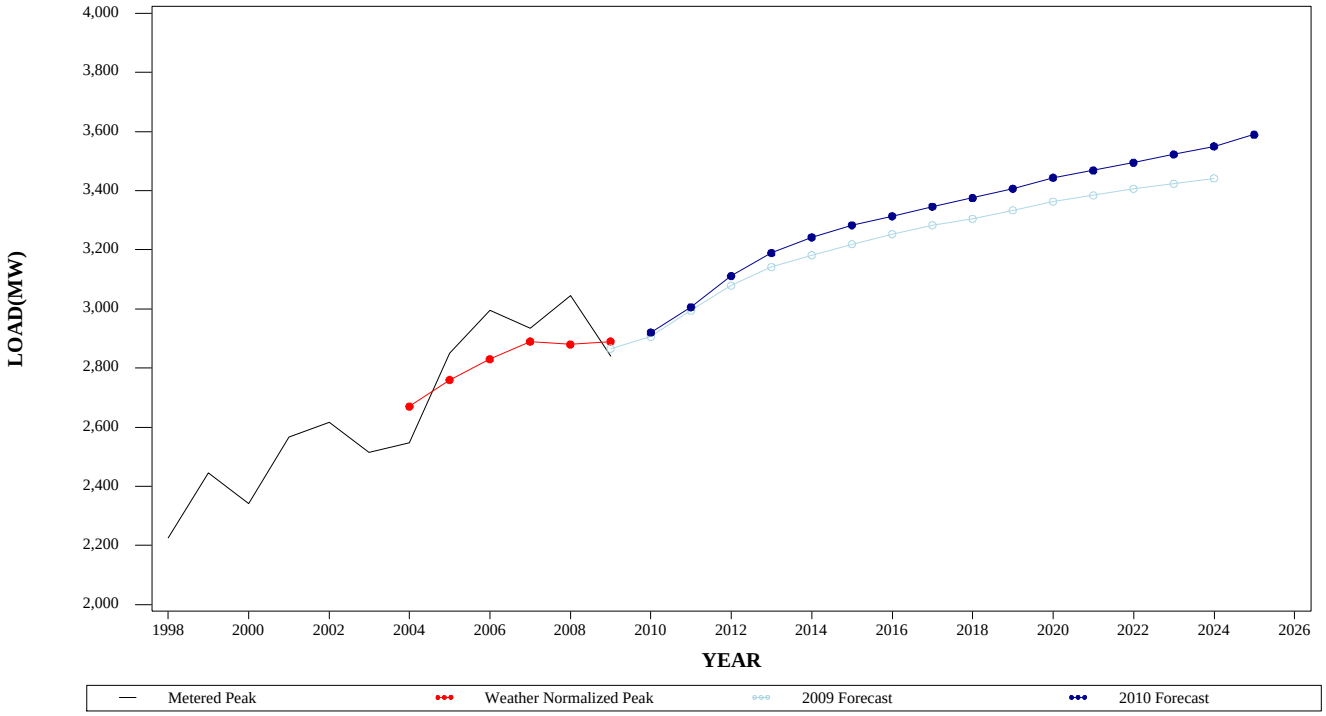
GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR METED GEOGRAPHIC ZONE



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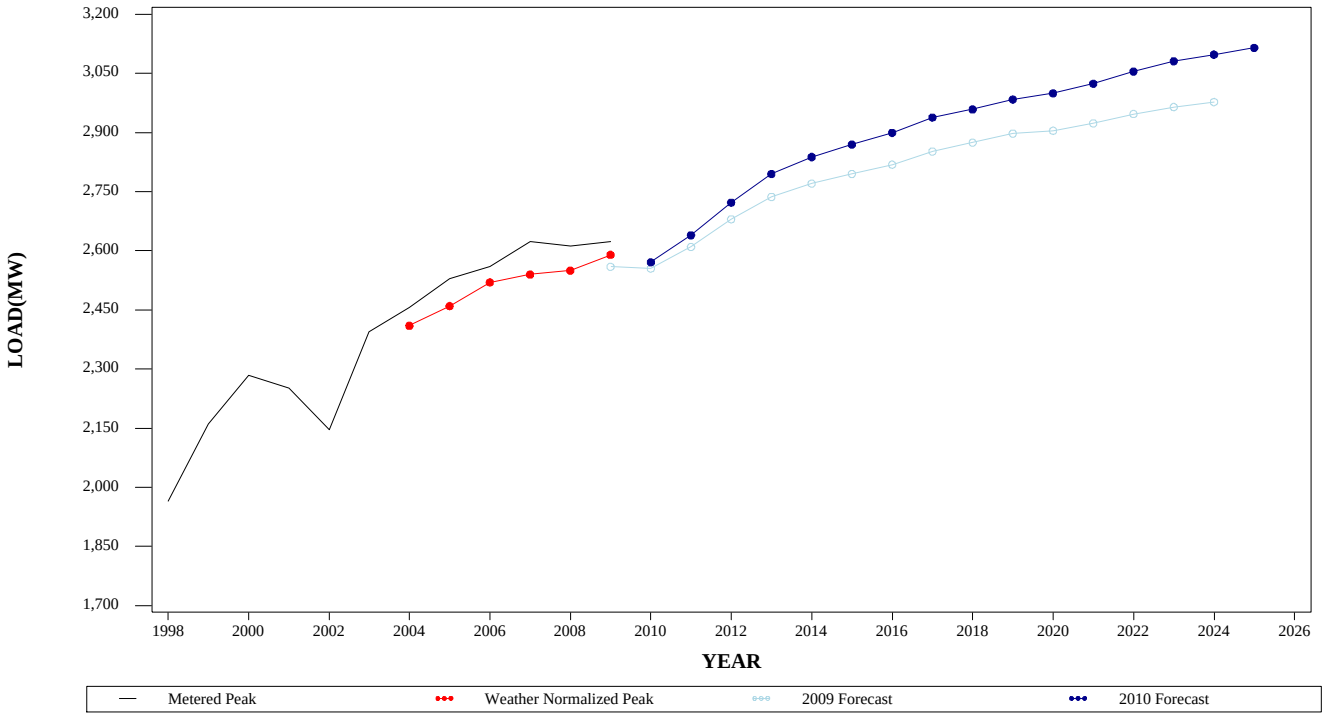

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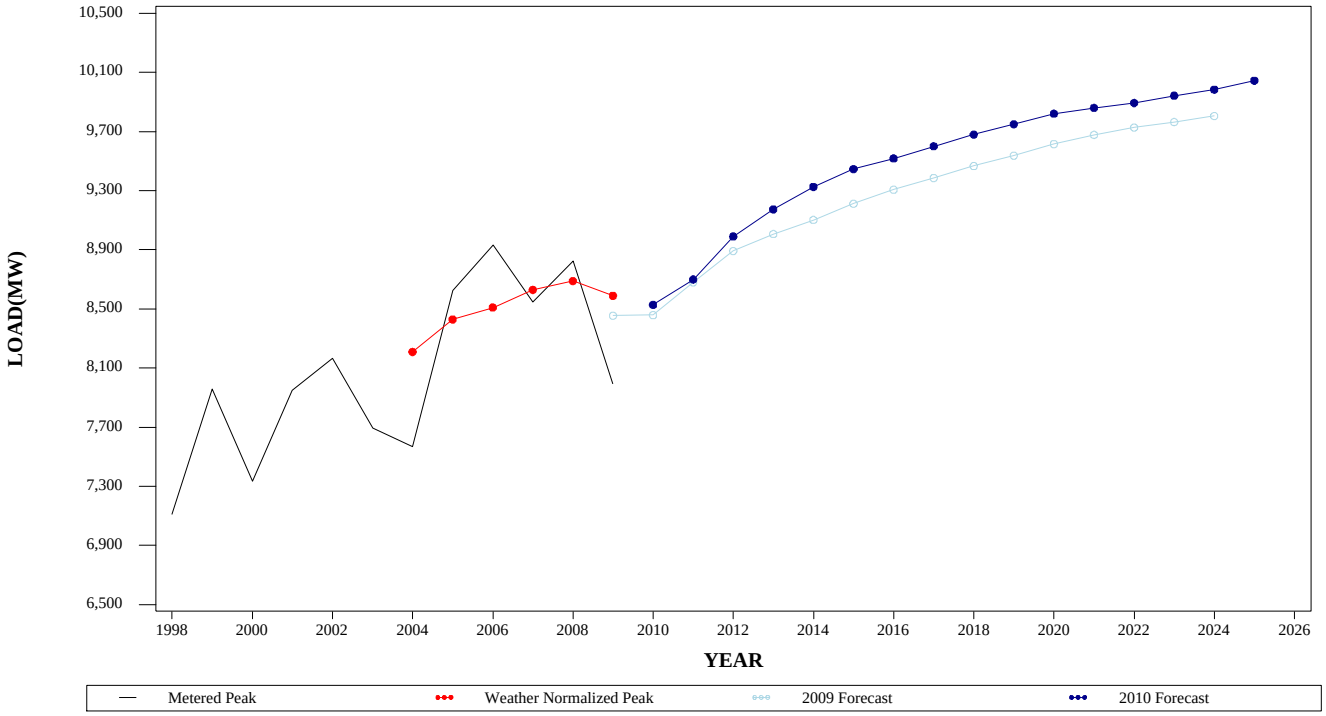
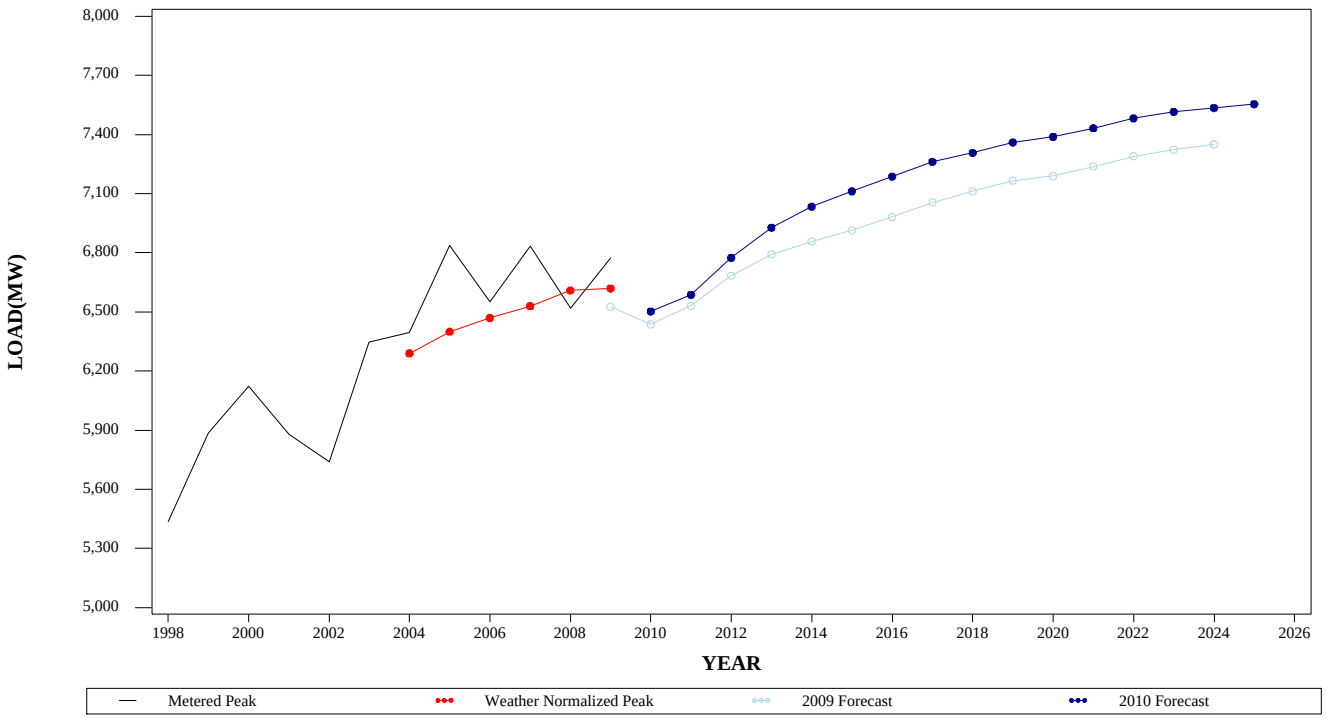


WINTER PEAK DEMAND FOR PECO GEOGRAPHIC ZONE



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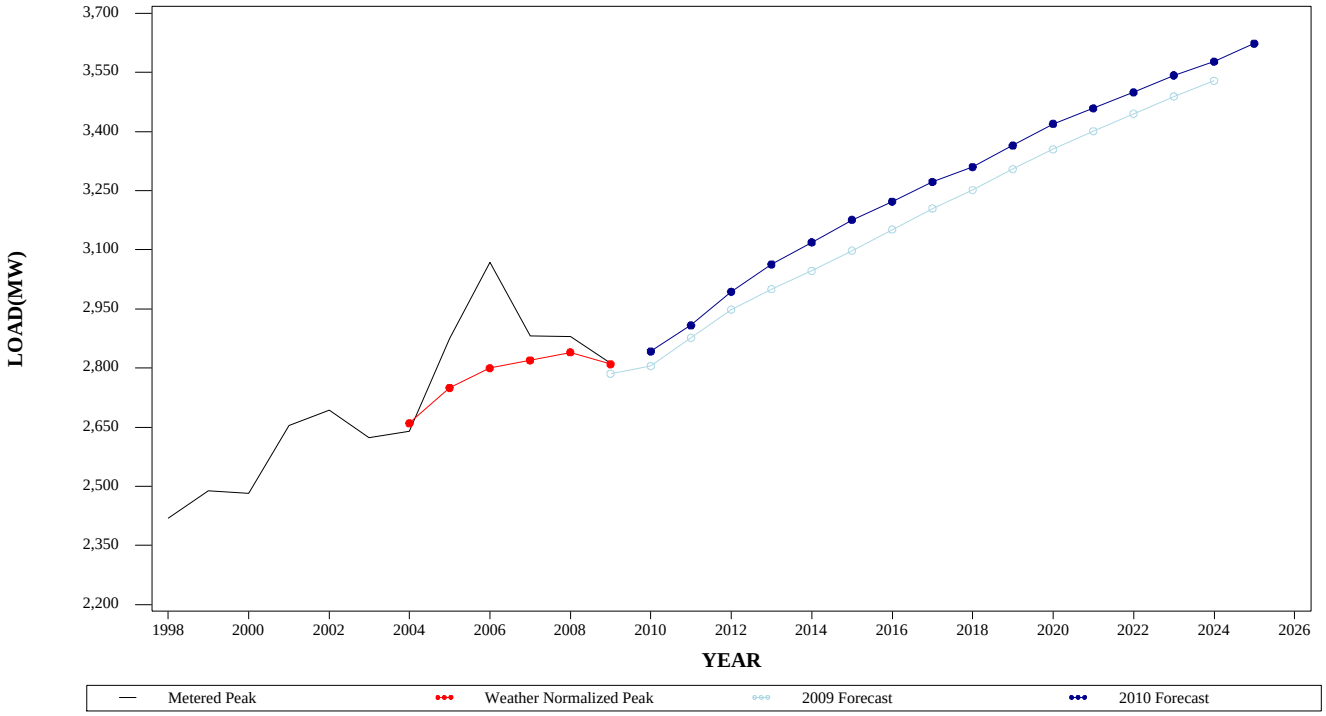

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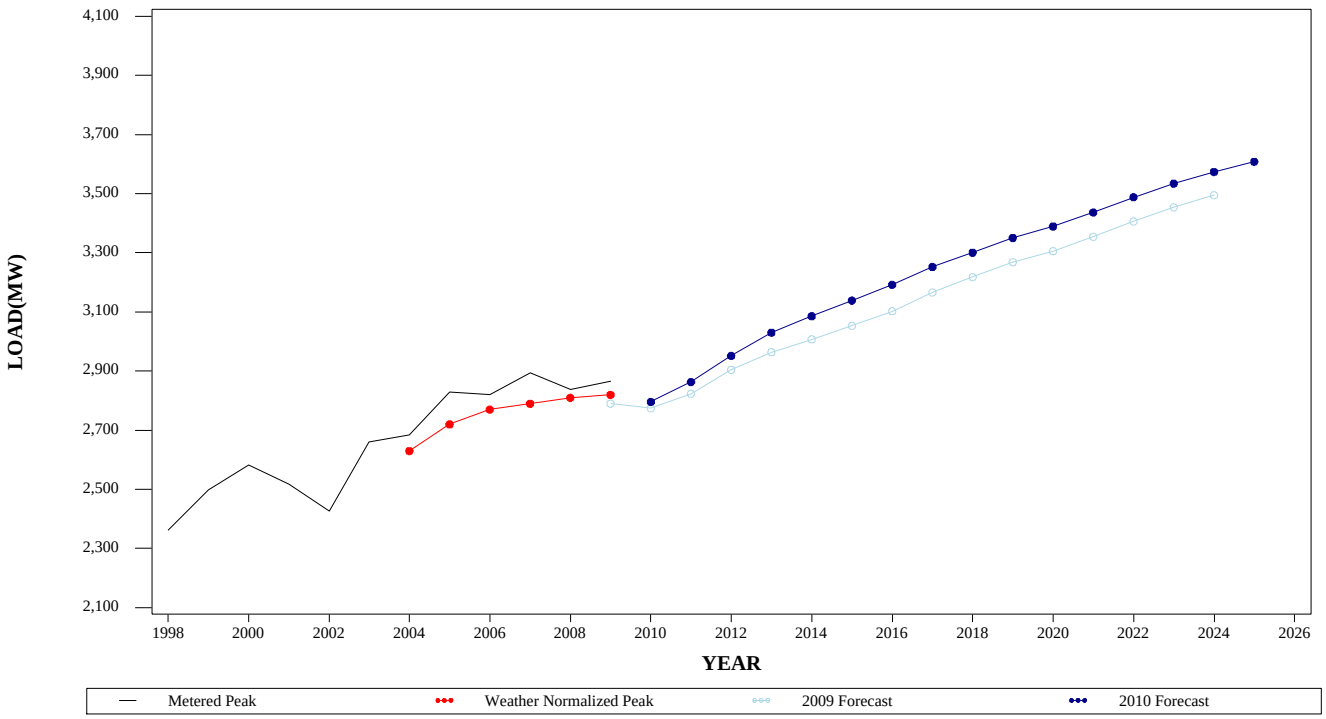
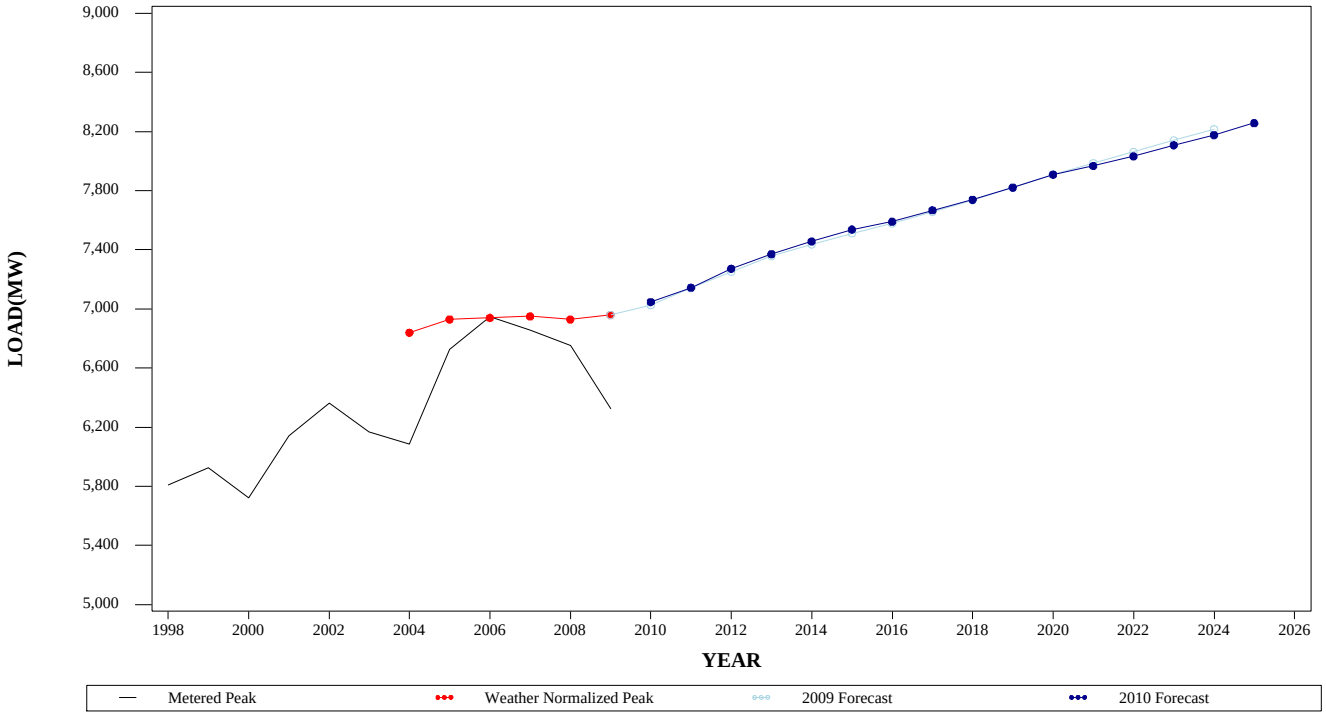
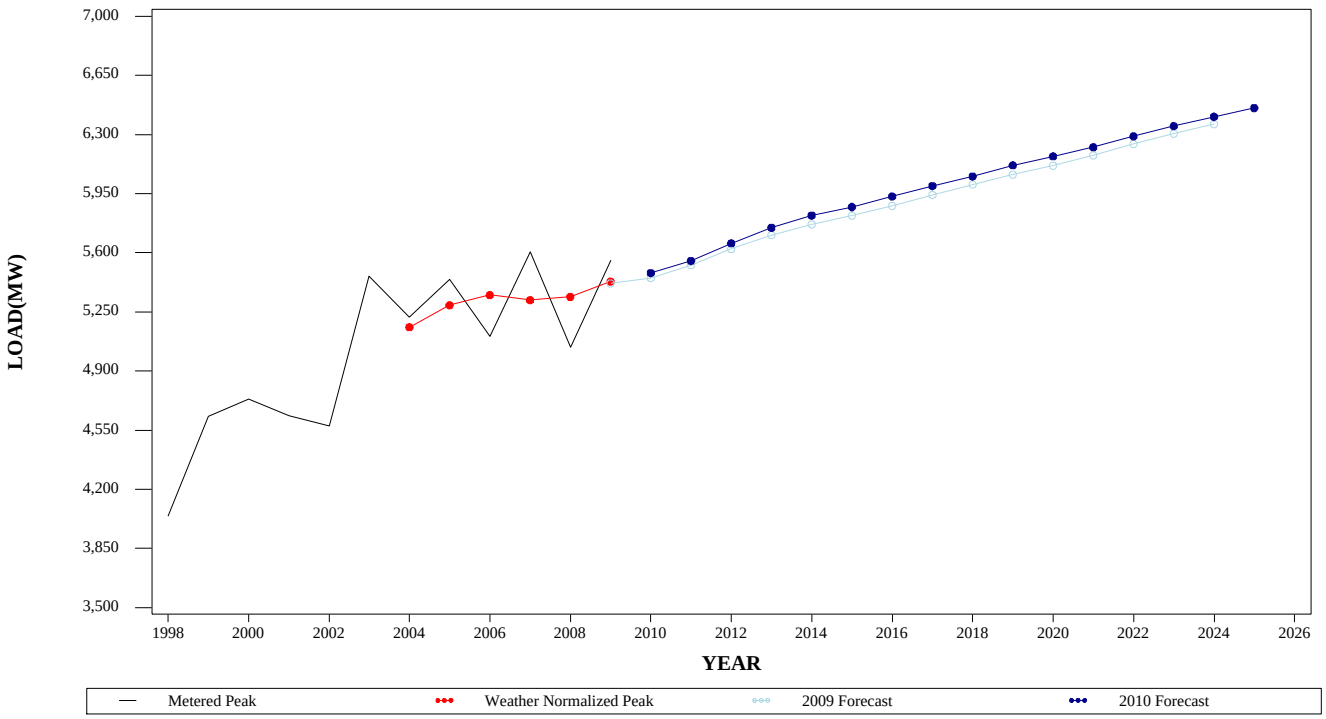


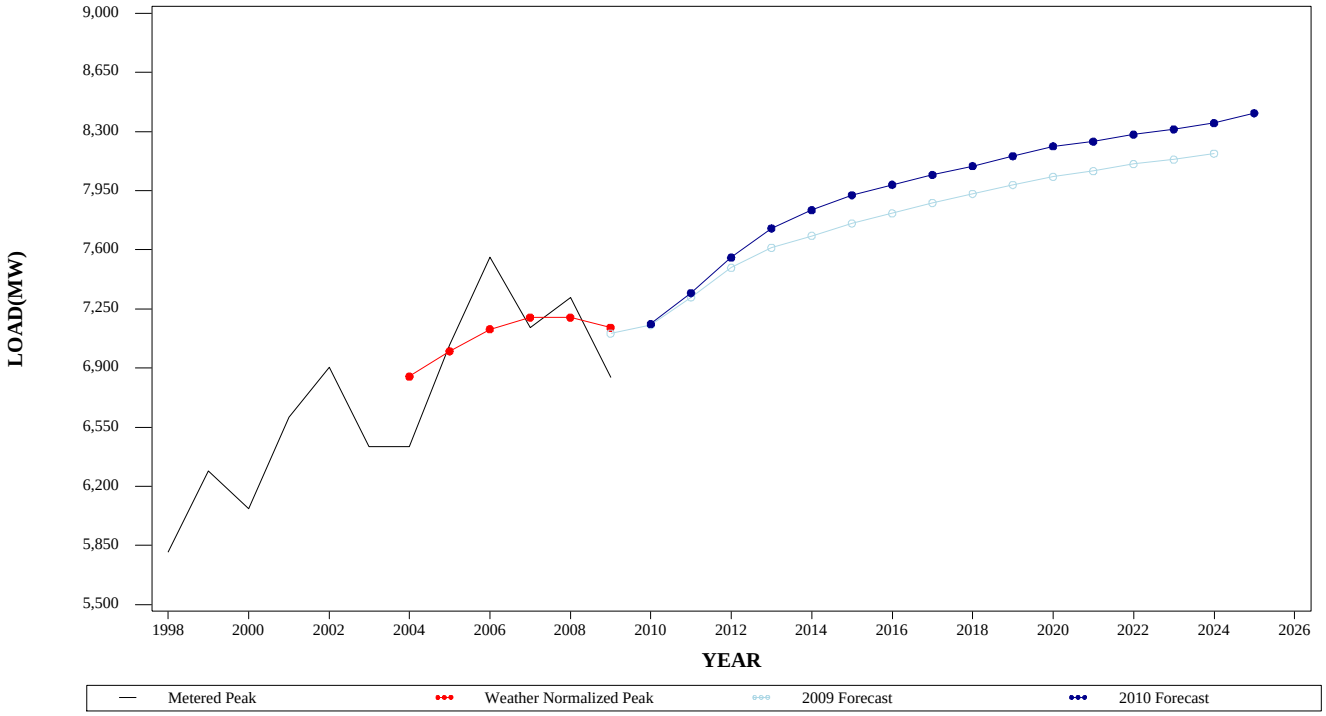
SUMMER PEAK DEMAND FOR PEPCO GEOGRAPHIC ZONE



WINTER PEAK DEMAND FOR PEPCO GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR PL GEOGRAPHIC ZONE



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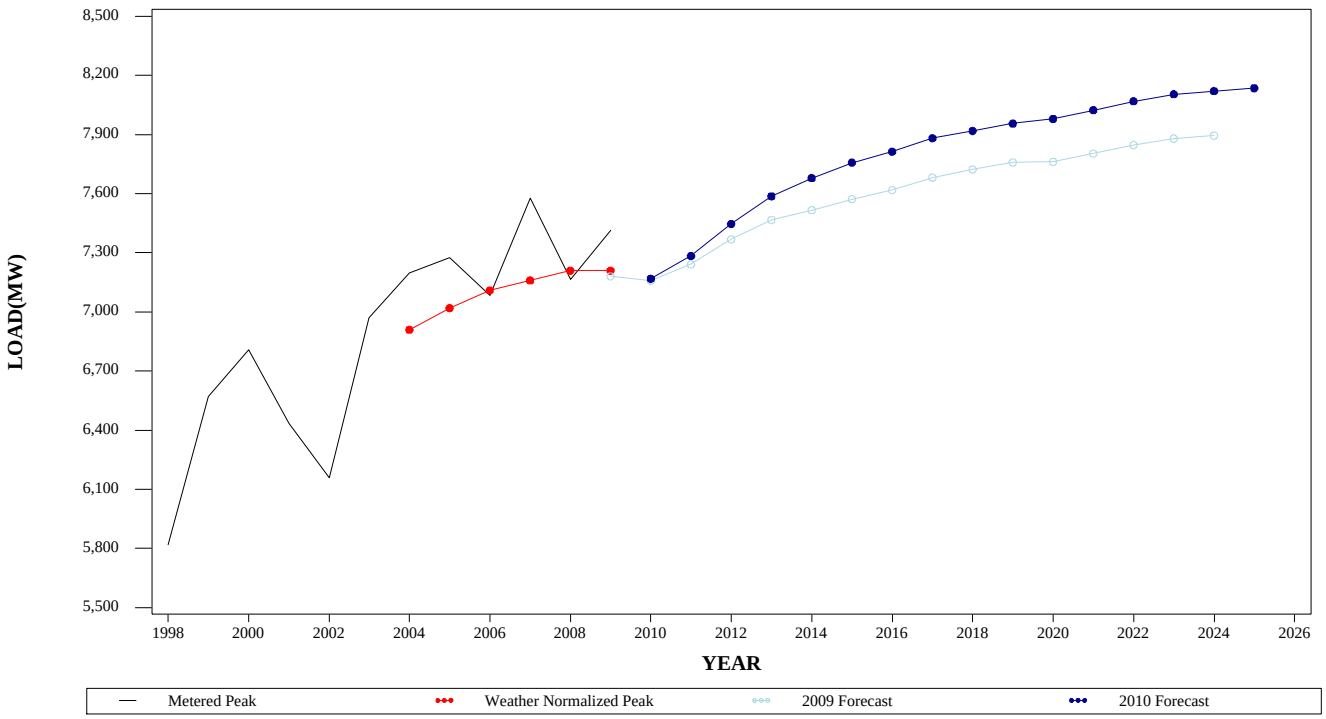
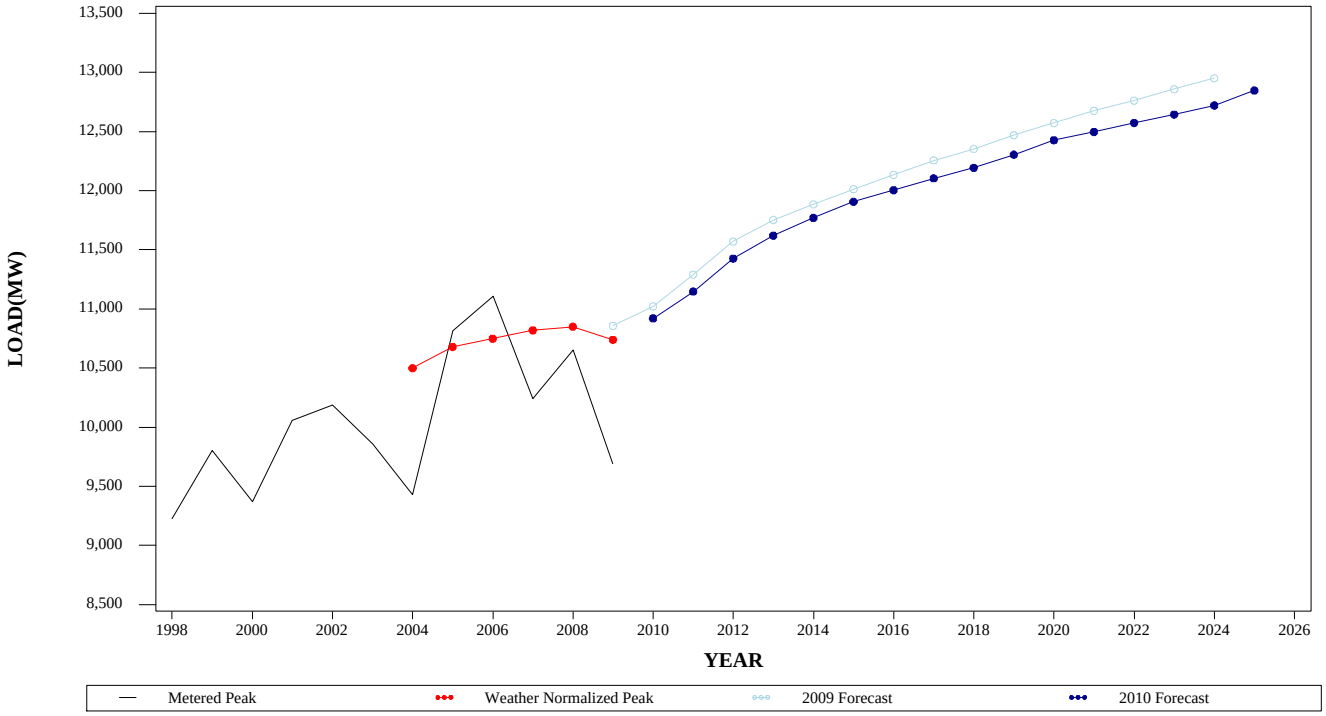
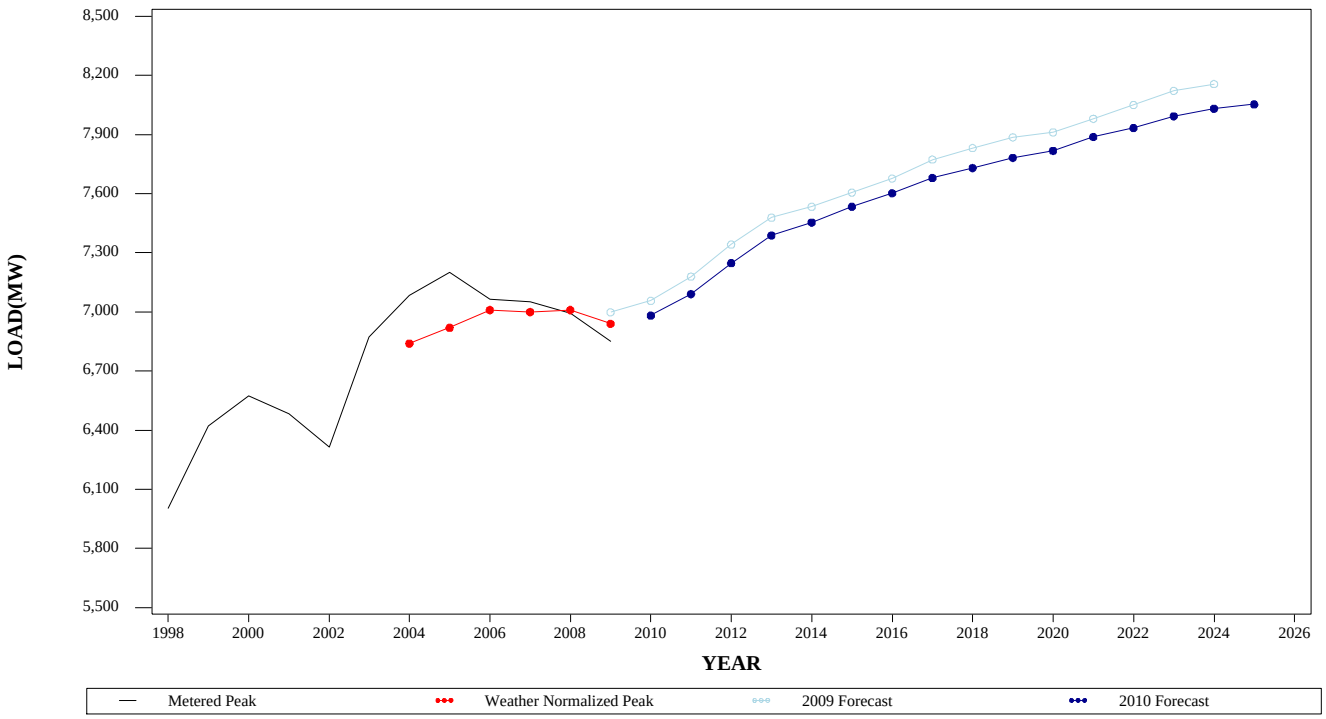


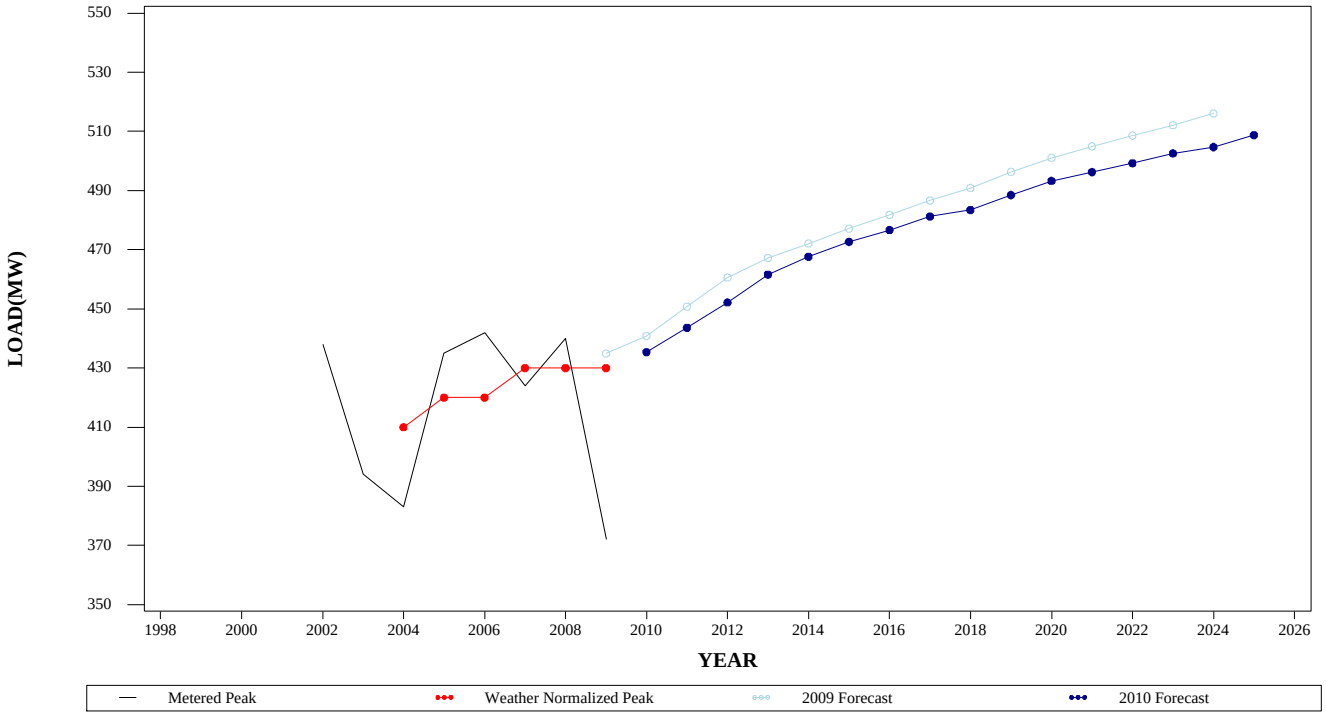
SUMMER PEAK DEMAND FOR PS GEOGRAPHIC ZONE



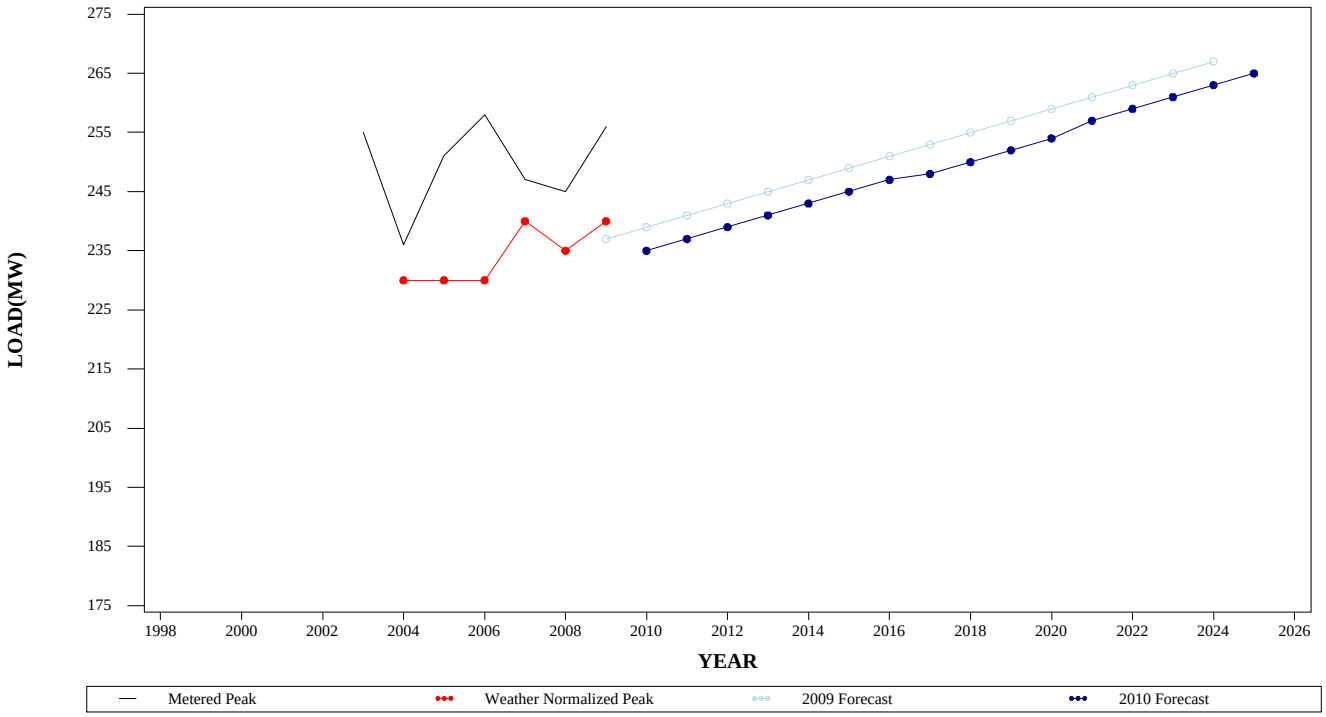
WINTER PEAK DEMAND FOR PS GEOGRAPHIC ZONE



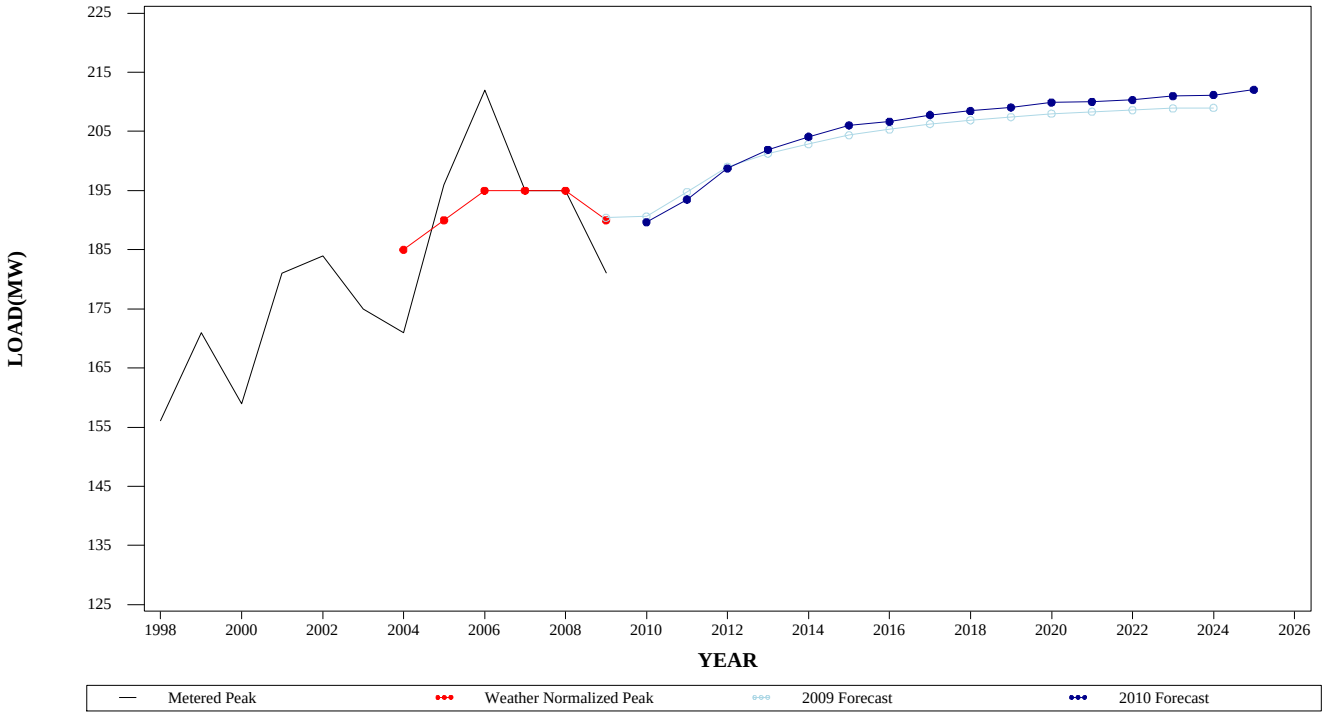
SUMMER PEAK DEMAND FOR RECO GEOGRAPHIC ZONE



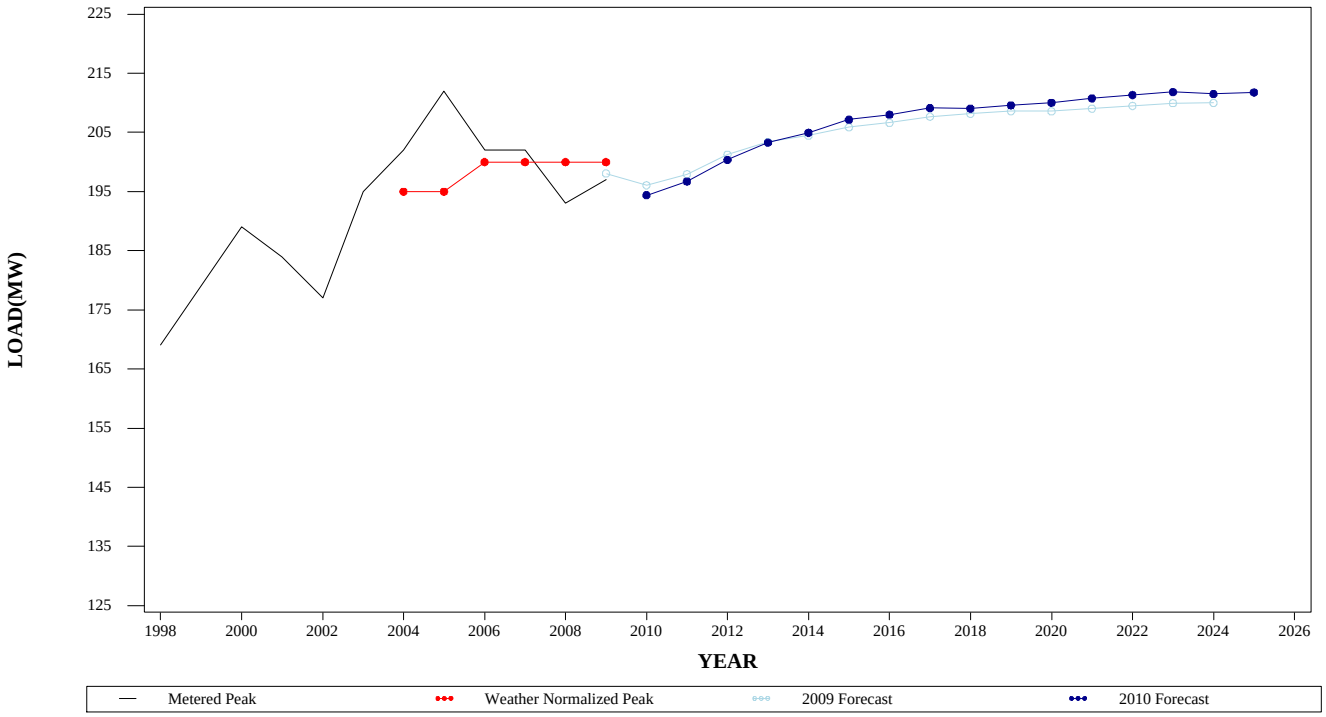
WINTER PEAK DEMAND FOR RECO GEOGRAPHIC ZONE



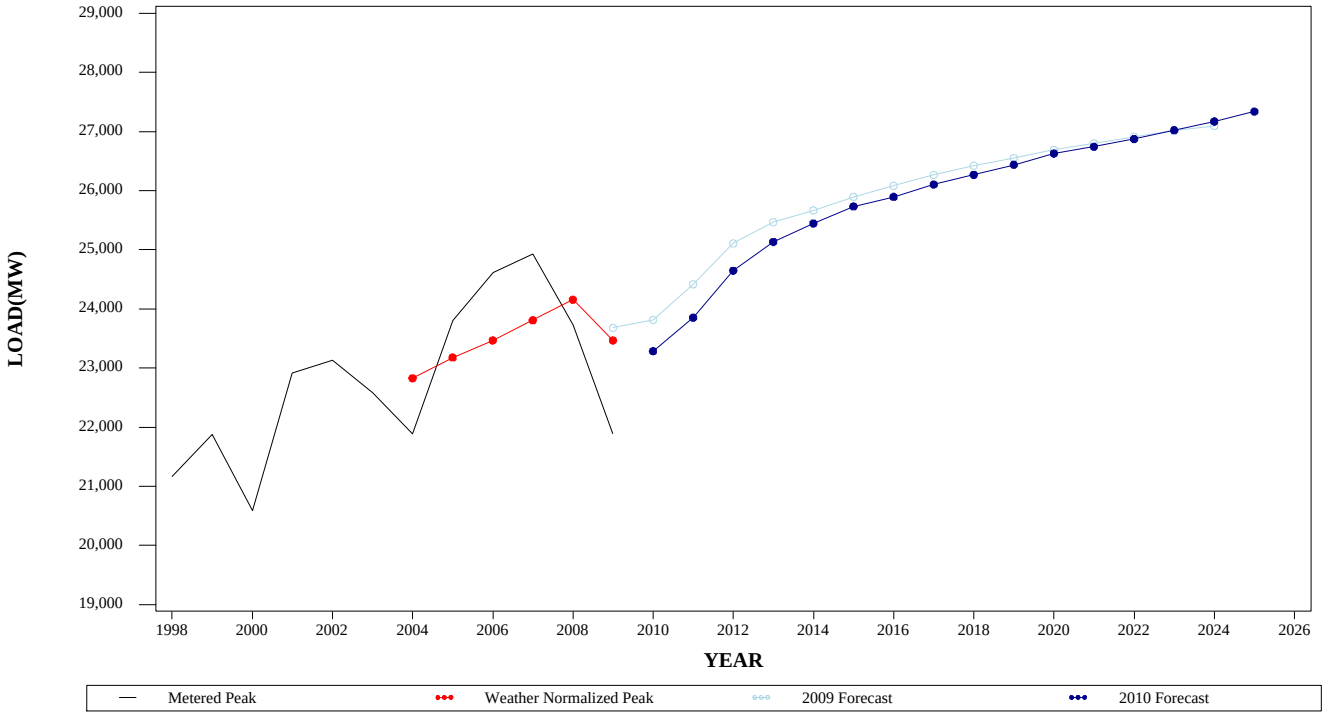
SUMMER PEAK DEMAND FOR UGI GEOGRAPHIC ZONE



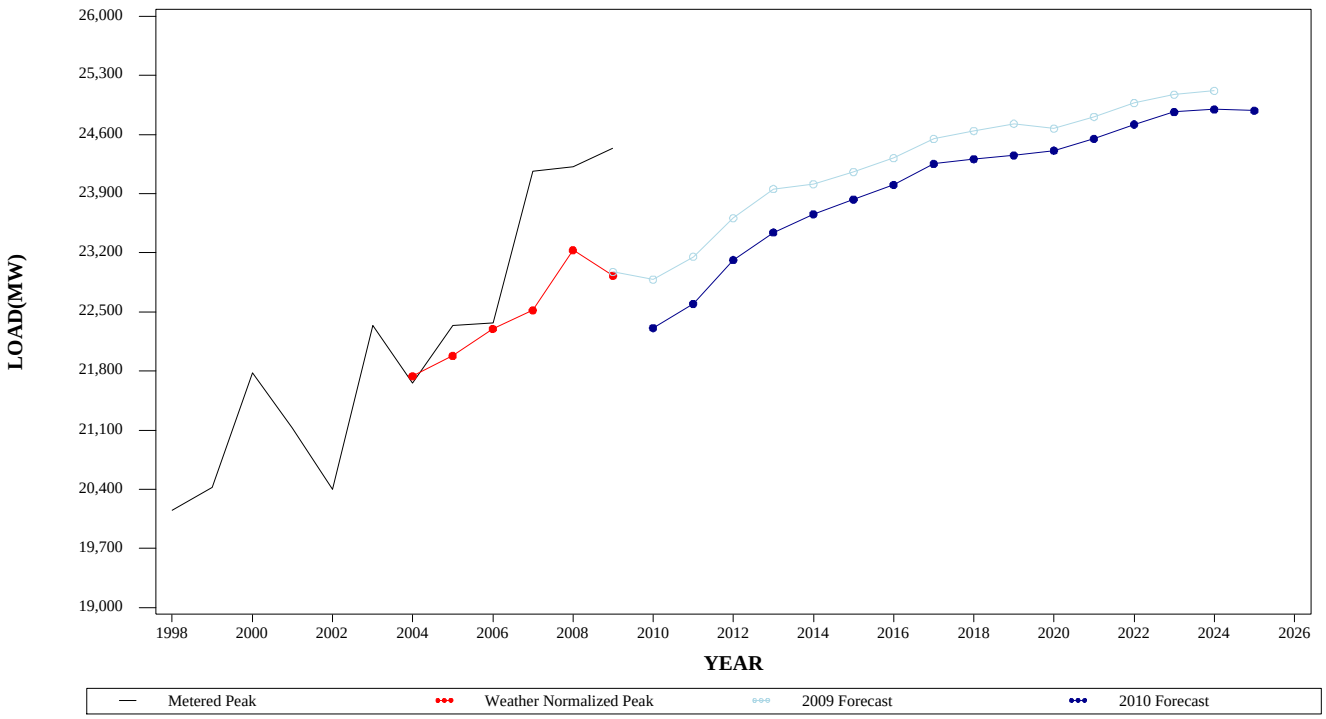
WINTER PEAK DEMAND FOR UGI GEOGRAPHIC ZONE



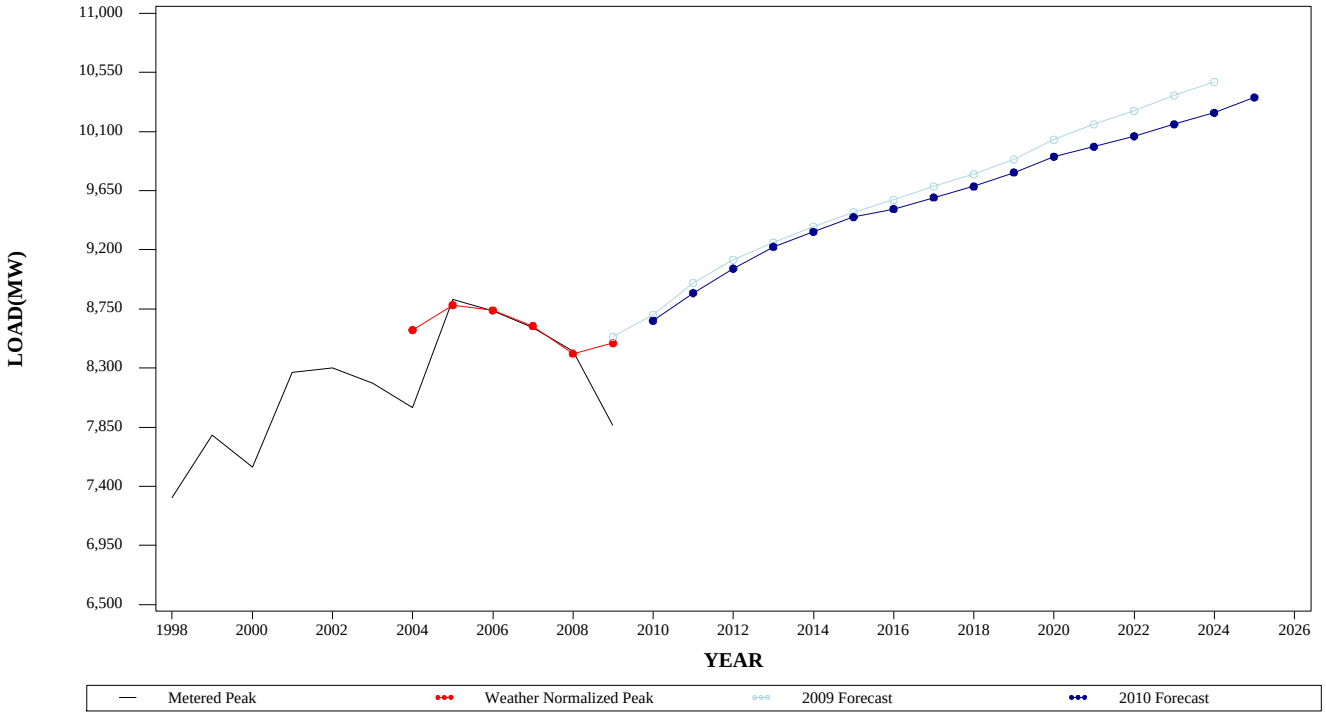
SUMMER PEAK DEMAND FOR AEP GEOGRAPHIC ZONE



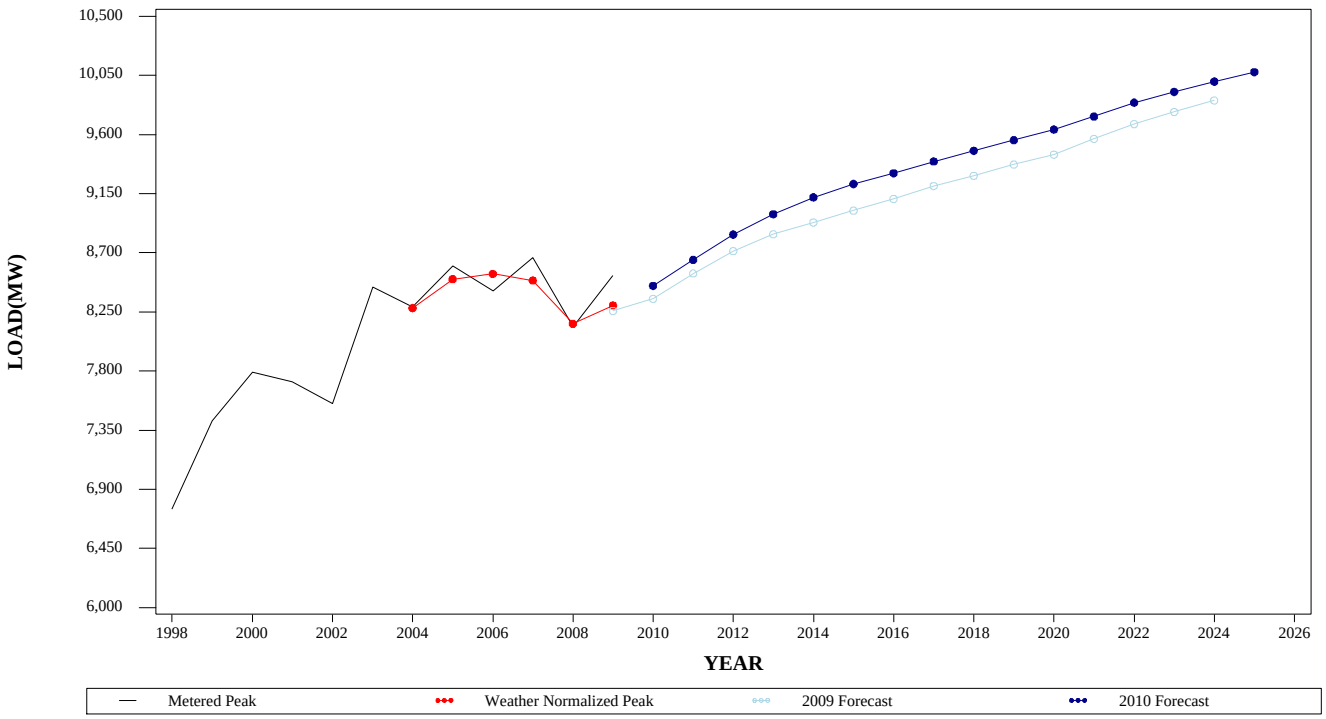
WINTER PEAK DEMAND FOR AEP GEOGRAPHIC ZONE



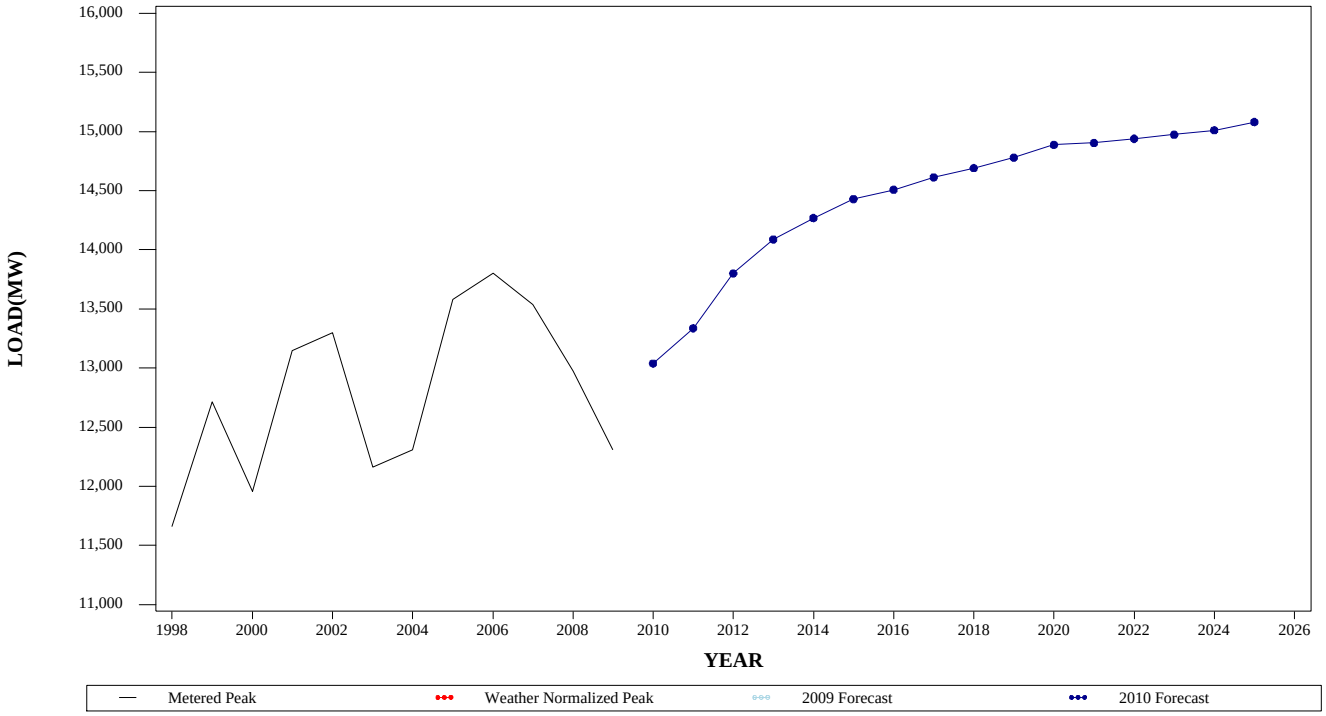
SUMMER PEAK DEMAND FOR APS GEOGRAPHIC ZONE



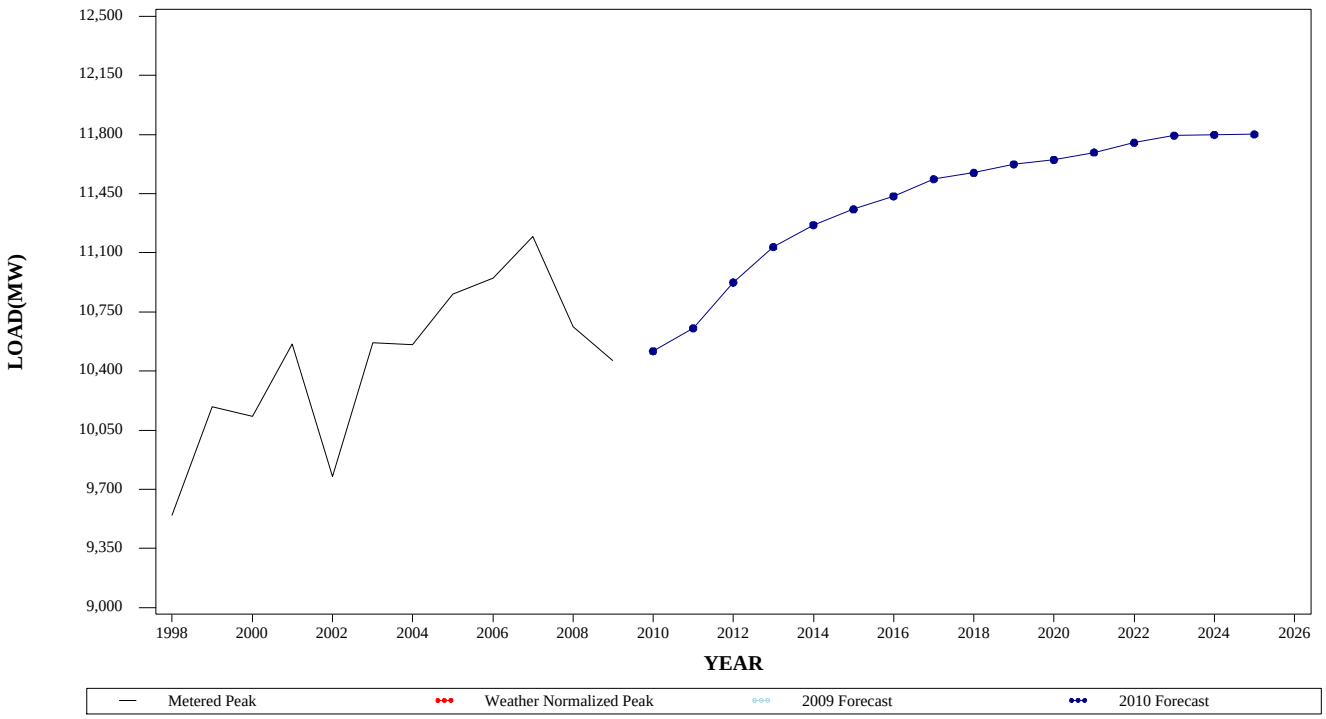
WINTER PEAK DEMAND FOR APS GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR ATSI GEOGRAPHIC ZONE



WINTER PEAK DEMAND FOR ATSI GEOGRAPHIC ZONE



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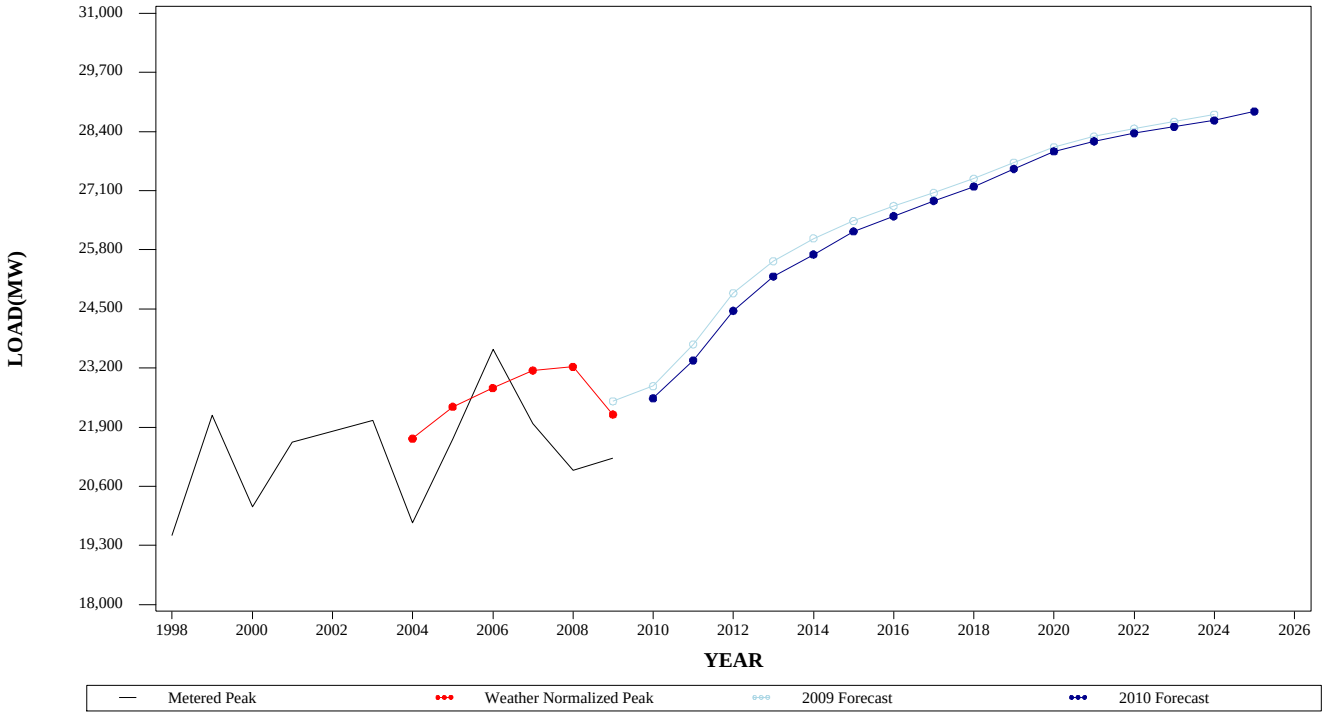
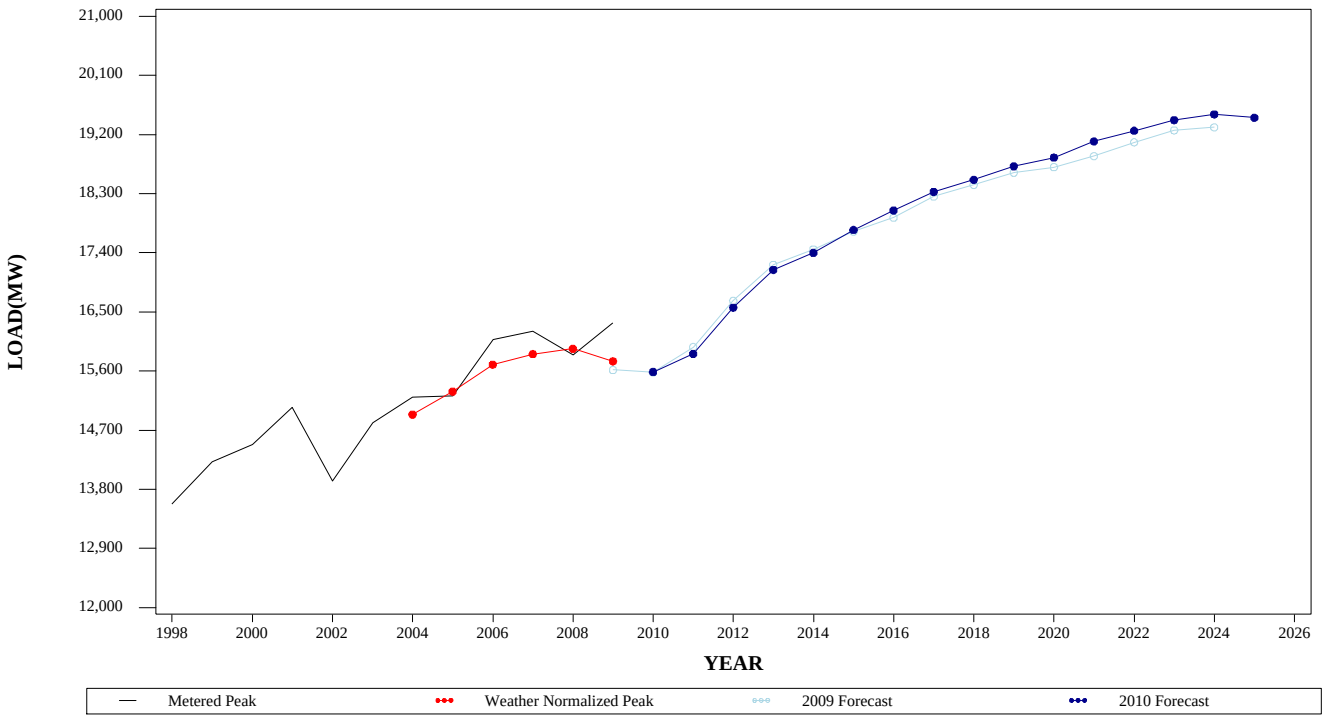
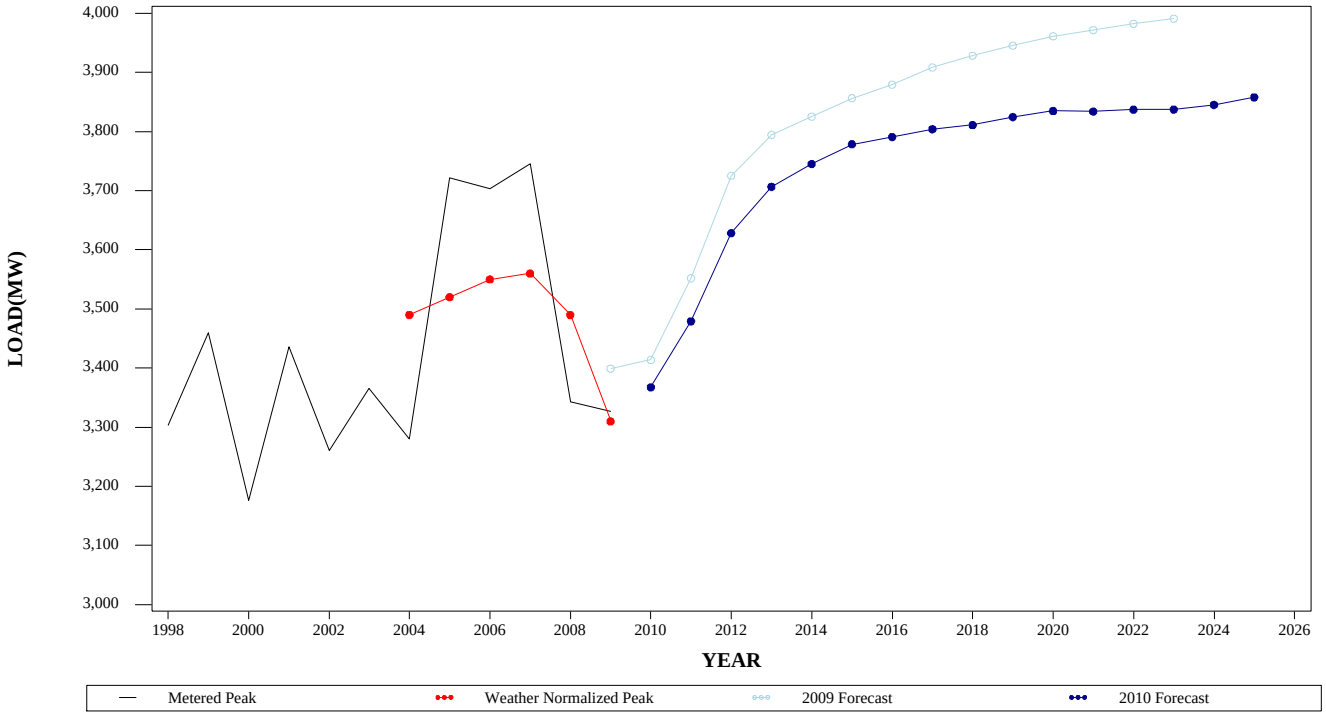


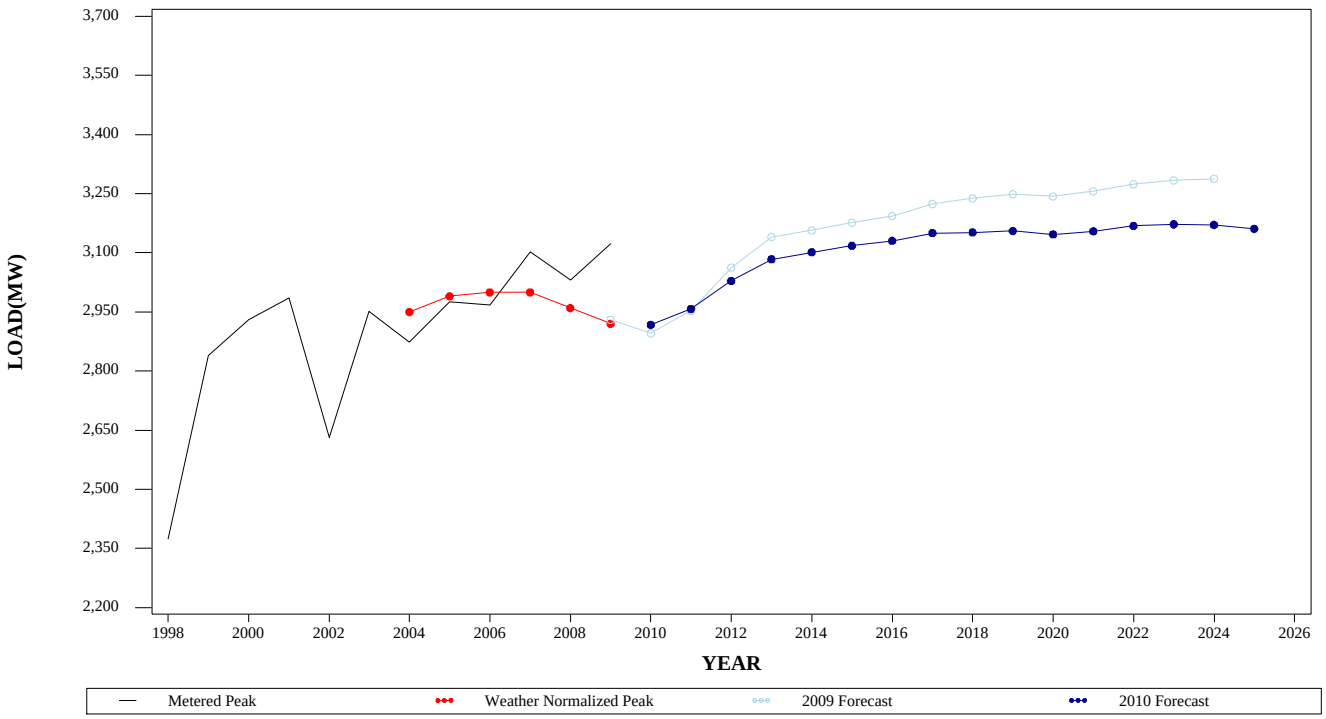
WINTER PEAK DEMAND FOR COMED GEOGRAPHIC ZONE



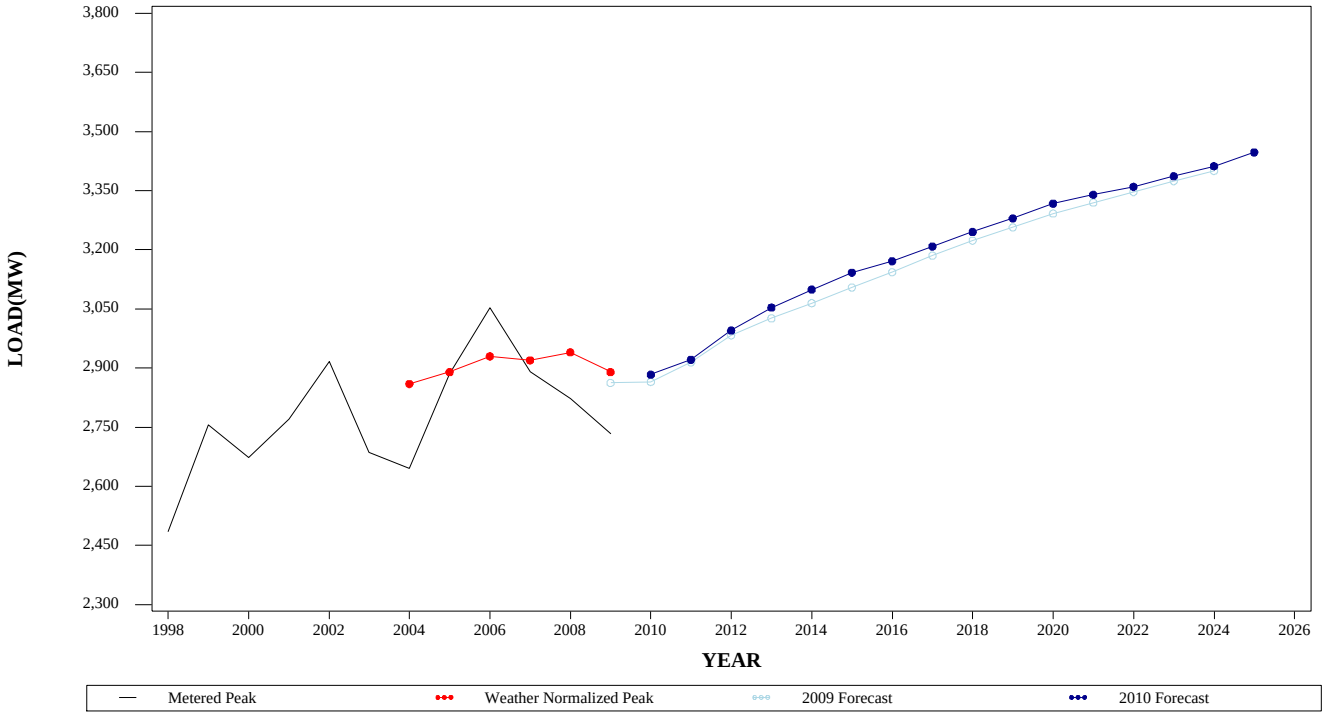
SUMMER PEAK DEMAND FOR DAYTON GEOGRAPHIC ZONE



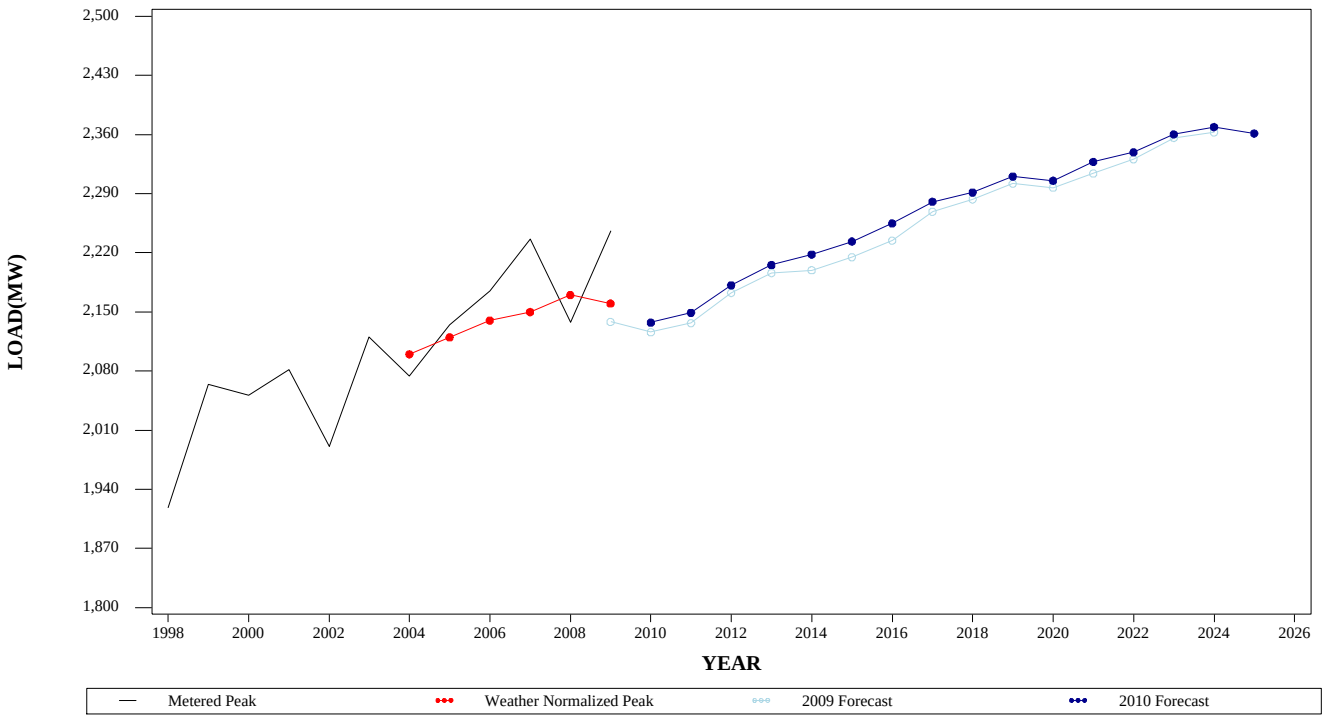
WINTER PEAK DEMAND FOR DAYTON GEOGRAPHIC ZONE



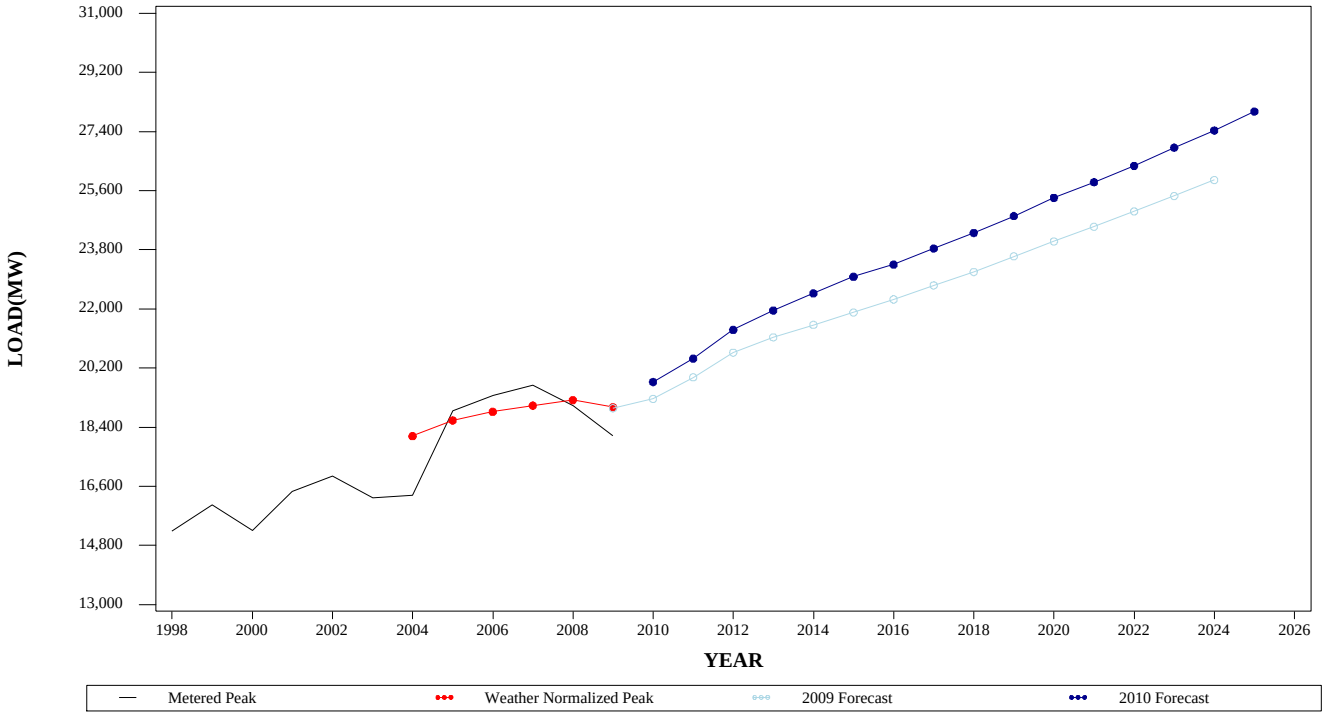
SUMMER PEAK DEMAND FOR DLCO GEOGRAPHIC ZONE



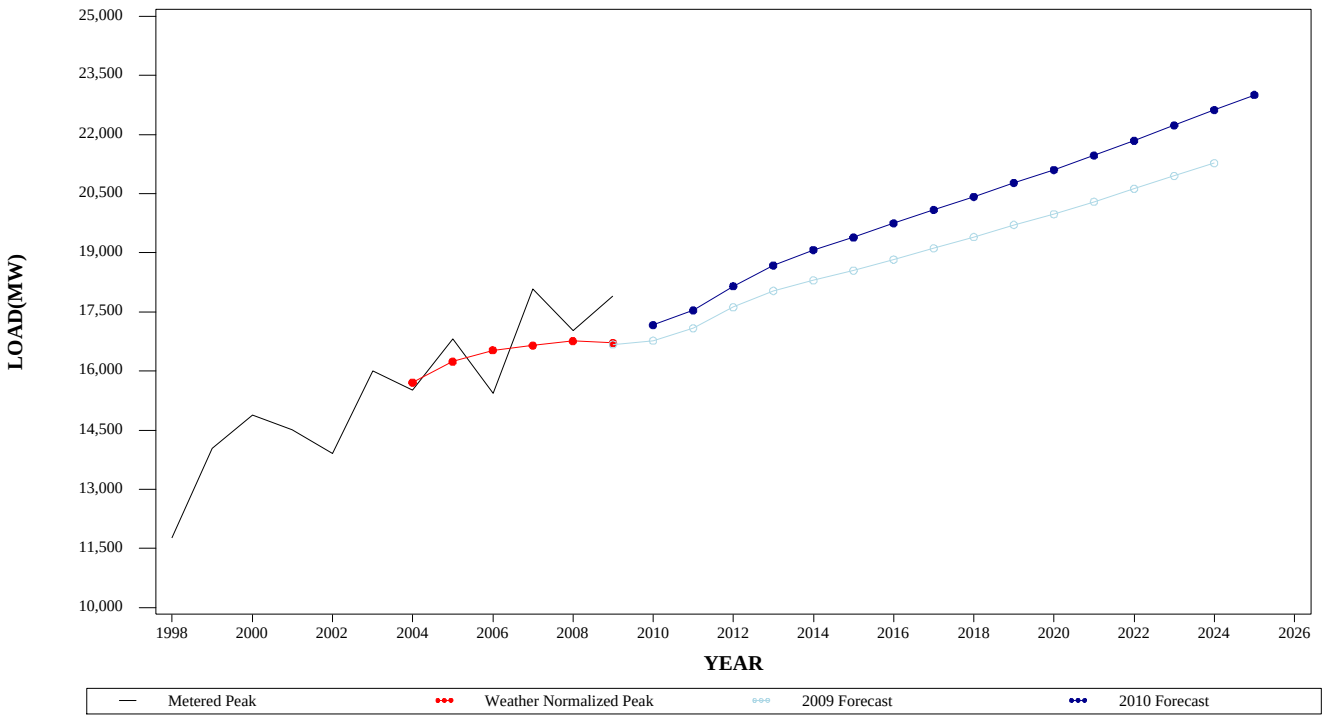
WINTER PEAK DEMAND FOR DLCO GEOGRAPHIC ZONE



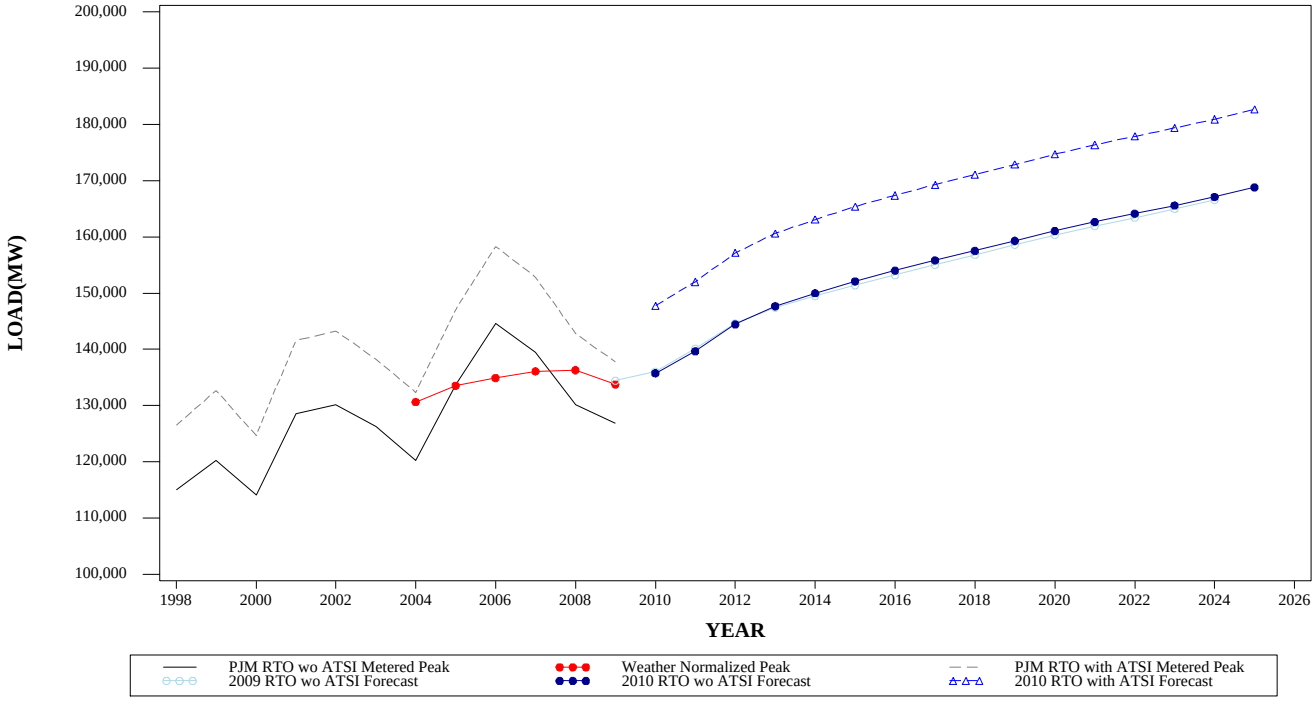
SUMMER PEAK DEMAND FOR DOM GEOGRAPHIC ZONE



WINTER PEAK DEMAND FOR DOM GEOGRAPHIC ZONE



SUMMER PEAK DEMAND FOR PJM RTO
GEOGRAPHIC ZONE



WINTER PEAK DEMAND FOR PJM RTO
GEOGRAPHIC ZONE

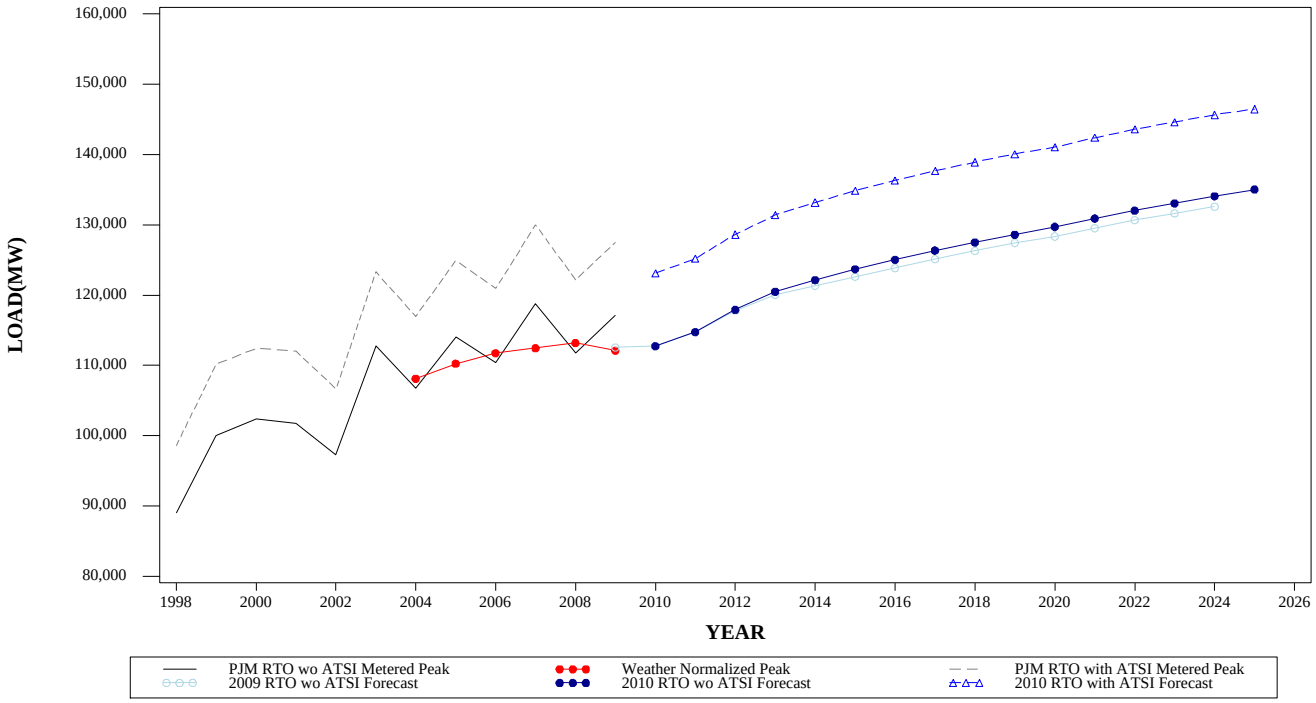


Table A-1

PJM MID-ATLANTIC REGION
SUMMER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2009 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	2010		2015		2020	
	MW	**%**	**MW**	**%**	**MW**	**%**
AE	(27)	-1.0%	(102)	-3.0%	(129)	-3.6%
BGE	10	0.1%	64	0.8%	6	0.1%
DPL	21	0.5%	(215)	-4.7%	(368)	-7.4%
JCPL	(64)	-1.0%	(57)	-0.8%	(80)	-1.0%
METED	14	0.5%	64	2.0%	80	2.4%
PECO	69	0.8%	235	2.6%	205	2.1%
PENLC	37	1.3%	78	2.5%	65	1.9%
PEPCO	22	0.3%	26	0.3%	(2)	0.0%
PL	6	0.1%	167	2.2%	181	2.3%
PS	(101)	-0.9%	(106)	-0.9%	(144)	-1.1%
RECO	(6)	-1.4%	(4)	-0.8%	(8)	-1.6%
UGI	(1)	-0.5%	2	1.0%	2	1.0%
PJM MID-ATLANTIC	(172)	-0.3%	77	0.1%	(215)	-0.3%
FE/GPU	(14)	-0.1%	68	0.5%	41	0.3%
PLGRP	9	0.1%	169	2.1%	189	2.3%

Table A-1

PJM WESTERN REGION, PJM SOUTHERN REGION AND PJM RTO
SUMMER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2009 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	2010		2015		2020	
	MW	**%**	**MW**	**%**	**MW**	**%**
AEP	(530)	-2.2%	(162)	-0.6%	(61)	-0.2%
APS	(44)	-0.5%	(38)	-0.4%	(129)	-1.3%
ATSI	13,040	-	14,430	-	14,888	-
COMED	(267)	-1.2%	(229)	-0.9%	(93)	-0.3%
DAY	(46)	-1.3%	(77)	-2.0%	(126)	-3.2%
DLCO	18	0.6%	37	1.2%	26	0.8%
PJM WESTERN (with ATSI)	11,811	-	13,547	-	14,030	-
PJM WESTERN (without ATSI)	(954)	-1.6%	(553)	-0.8%	(473)	-0.7%
DOM	515	2.7%	1,087	5.0%	1,328	5.5%
PJM RTO (with ATSI)	11,753	-	13,992	-	14,367	-
PJM RTO (without ATSI)	(288)	-0.2%	709	0.5%	690	0.4%

Table A-2

PJM MID-ATLANTIC REGION
WINTER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2009 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	09/10		14/15		19/20	
	MW	**%**	**MW**	**%**	**MW**	**%**
AE	(32)	-1.8%	(117)	-5.4%	(152)	-6.6%
BGE	5	0.1%	31	0.5%	17	0.3%
DPL	0	0.0%	(132)	-3.6%	(207)	-5.3%
JCPL	(41)	-1.0%	(40)	-0.9%	(58)	-1.2%
METED	16	0.6%	75	2.7%	95	3.3%
PECO	65	1.0%	197	2.8%	199	2.8%
PENLC	21	0.8%	86	2.8%	84	2.5%
PEPCO	30	0.6%	51	0.9%	54	0.9%
PL	10	0.1%	185	2.4%	217	2.8%
PS	(74)	-1.0%	(72)	-0.9%	(94)	-1.2%
RECO	(4)	-1.7%	(4)	-1.6%	(5)	-1.9%
UGI	(2)	-1.0%	1	0.5%	1	0.5%
PJM MID-ATLANTIC	(112)	-0.2%	142	0.3%	62	0.1%
FE/GPU	(14)	-0.2%	118	1.2%	108	1.0%
PLGRP	(2)	0.0%	179	2.3%	209	2.6%

Table A-2

PJM WESTERN REGION, PJM SOUTHERN REGION AND PJM RTO
WINTER PEAK LOAD COMPARISONS OF THE CURRENT FORECAST
TO THE JANUARY 2009 LOAD FORECAST REPORT

INCREASE OR DECREASE OVER PRIOR FORECAST

	09/10		14/15		19/20	
	MW	**%**	**MW**	**%**	**MW**	**%**
AEP	(575)	-2.5%	(326)	-1.3%	(261)	-1.1%
APS	98	1.2%	204	2.3%	190	2.0%
ATSI	10,518	-	11,358	-	11,651	-
COMED	8	0.1%	25	0.1%	146	0.8%
DAY	22	0.8%	(58)	-1.8%	(96)	-3.0%
DLCO	11	0.5%	18	0.8%	8	0.3%
PJM WESTERN (with ATSI)	9,827	-	10,943	-	11,361	-
PJM WESTERN (without ATSI)	(549)	-1.1%	(243)	-0.4%	(160)	-0.3%
DOM	396	2.4%	840	4.5%	1,121	5.6%
PJM RTO (with ATSI)	10,379	-	12,228	-	12,714	-
PJM RTO (without ATSI)	(8)	0.0%	1,076	0.9%	1,367	1.1%

PJM CONTROL AREA - JANUARY 2010
SUMMER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Growth Rate (10 yr)
PJM - RELIABILITY*FIRST* (with ATSI)		129,102	132,736	137,025	140,029	142,104	143,913	145,377	146,837	148,168	149,609	150,983	1.6%
	%		2.8%	3.2%	2.2%	1.5%	1.3%	1.0%	1.0%	0.9%	1.0%	0.9%	
PJM - SERC		19,779	20,488	21,365	21,958	22,476	22,982	23,353	23,843	24,316	24,830	25,387	2.5%
	%		3.6%	4.3%	2.8%	2.4%	2.3%	1.6%	2.1%	2.0%	2.1%	2.2%	
PJM RTO (with ATSI)		147,791	152,028	157,167	160,631	163,093	165,402	167,403	169,297	171,081	172,869	174,724	1.7%
	%		2.9%	3.4%	2.2%	1.5%	1.4%	1.2%	1.1%	1.1%	1.0%	1.1%	
PJM - RELIABILITY*FIRST* (without ATSI)		116,701	120,024	123,960	126,656	128,482	130,184	131,608	132,963	134,259	135,580	136,848	1.6%
	%		2.8%	3.3%	2.2%	1.4%	1.3%	1.1%	1.0%	1.0%	1.0%	0.9%	
PJM RTO (without ATSI)		135,750	139,654	144,426	147,686	149,988	152,119	154,014	155,845	157,519	159,311	161,047	1.7%
	%		2.9%	3.4%	2.3%	1.6%	1.4%	1.2%	1.2%	1.1%	1.1%	1.1%	

Notes:
Projected PJM seasonal peak load at normal peak weather conditions in the absense of any load reductions due to load management, voltage reductions or voluntary curtailments.
The above forecasts incorporate all load in the PJM Control Area, including members and non-members.
All growth rates are calculated from the first year of the forecast.

PJM CONTROL AREA - JANUARY 2010
SUMMER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2021-2025

		2021	2022	2023	2024	2025	Annual Growth Rate (15 yr)
PJM - RELIABILITY*FIRST* (with ATSI)		152,068	153,073	154,085	155,184	156,358	1.3%
	%	0.7%	0.7%	0.7%	0.7%	0.8%	
PJM - SERC		25,861	26,359	26,912	27,436	28,013	2.3%
	%	1.9%	1.9%	2.1%	1.9%	2.1%	
PJM RTO (with ATSI)		176,382	177,894	179,385	180,936	182,665	1.4%
	%	0.9%	0.9%	0.8%	0.9%	1.0%	
PJM - RELIABILITY*FIRST* (without ATSI)		137,905	138,903	139,853	140,918	142,027	1.3%
	%	0.8%	0.7%	0.7%	0.8%	0.8%	
PJM RTO (without ATSI)		162,659	164,144	165,595	167,120	168,824	1.5%
	%	1.0%	0.9%	0.9%	0.9%	1.0%	

Notes:
Projected PJM seasonal peak load at normal peak weather conditions in the absense of any load reductions due to load management, voltage reductions or voluntary curtailments.
The above forecasts incorporate all load in the PJM Control Area, including members and non-members.
All growth rates are calculated from the first year of the forecast.

PJM CONTROL AREA - JANUARY 2010
WINTER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2009/10-2019/20

		09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	Annual Growth Rate (10 yr)
PJM - RELIABILITY*FIRST (with ATSI)*		106,670	108,563	111,371	113,370	114,714	116,058	117,323	118,564	119,465	120,084	120,685	1.2%
	%		1.8%	2.6%	1.8%	1.2%	1.2%	1.1%	1.1%	0.8%	0.5%	0.5%	
PJM - SERC		17,169	17,540	18,154	18,683	19,075	19,391	19,751	20,091	20,422	20,778	21,104	2.1%
	%		2.2%	3.5%	2.9%	2.1%	1.7%	1.9%	1.7%	1.6%	1.7%	1.6%	
PJM RTO (with ATSI)		123,129	125,182	128,631	131,401	133,193	134,856	136,311	137,687	138,925	140,090	141,072	1.4%
	%		1.7%	2.8%	2.2%	1.4%	1.2%	1.1%	1.0%	0.9%	0.8%	0.7%	
PJM - RELIABILITY*FIRST (without ATSI)*		96,228	98,011	100,577	102,424	103,613	104,890	106,067	107,172	107,986	108,616	109,236	1.3%
	%		1.9%	2.6%	1.8%	1.2%	1.2%	1.1%	1.0%	0.8%	0.6%	0.6%	
PJM RTO (without ATSI)		112,742	114,746	117,912	120,496	122,148	123,704	125,042	126,356	127,505	128,607	129,725	1.4%
	%		1.8%	2.8%	2.2%	1.4%	1.3%	1.1%	1.1%	0.9%	0.9%	0.9%	

Notes:
Projected PJM seasonal peak load at normal peak weather conditions in the absense of any load reductions due to load management, voltage reductions or voluntary curtailments.
The above forecasts incorporate all load in the PJM Control Area, including members and non-members.
All growth rates are calculated from the first year of the forecast.

PJM CONTROL AREA - JANUARY 2010
WINTER TOTAL INTERNAL DEMAND FORECAST (MW) FOR EACH NERC REGION
2020/21-2024/25

		20/21	21/22	22/23	23/24	24/25	Annual Growth Rate (15 yr)
PJM - RELIABILITY*FIRST* (with ATSI)		121,762	122,777	123,438	124,060	124,282	1.0%
	%	0.9%	0.8%	0.5%	0.5%	0.2%	
PJM - SERC		21,470	21,845	22,235	22,625	23,008	2.0%
	%	1.7%	1.7%	1.8%	1.8%	1.7%	
PJM RTO (with ATSI)		142,400	143,601	144,643	145,666	146,481	1.2%
	%	0.9%	0.8%	0.7%	0.7%	0.6%	
PJM - RELIABILITY*FIRST* (without ATSI)		110,280	111,148	111,768	112,394	112,706	1.1%
	%	1.0%	0.8%	0.6%	0.6%	0.3%	
PJM RTO (without ATSI)		130,908	132,033	133,061	134,086	135,028	1.2%
	%	0.9%	0.9%	0.8%	0.8%	0.7%	

Notes:
Projected PJM seasonal peak load at normal peak weather conditions in the absense of any load reductions due to load management, voltage reductions or voluntary curtailments.
The above forecasts incorporate all load in the PJM Control Area, including members and non-members.
All growth rates are calculated from the first year of the forecast.

Table B-1

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2010-2020

	METERED 2009	UNRESTRICTED 2009	NORMAL 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Growth Rate (10 yr)
AE	2,707	2,707	2,650	2,734	2,897	3,032	3,136	3,198	3,249	3,288	3,332	3,372	3,405	3,443	2.3%
%				3.2%	6.0%	4.7%	3.4%	2.0%	1.6%	1.2%	1.3%	1.2%	1.0%	1.1%	
BGE	6,596	6,596	7,290	7,456	7,656	7,781	7,926	8,076	8,240	8,351	8,488	8,609	8,761	8,919	1.8%
%				2.3%	2.7%	1.6%	1.9%	1.9%	2.0%	1.3%	1.6%	1.4%	1.8%	1.8%	
DPL	3,843	3,843	3,960	4,023	4,089	4,153	4,219	4,279	4,339	4,383	4,435	4,488	4,539	4,601	1.4%
%				1.6%	1.6%	1.6%	1.6%	1.4%	1.4%	1.0%	1.2%	1.2%	1.1%	1.4%	
JCPL	5,738	5,738	6,310	6,440	6,625	6,843	7,000	7,115	7,212	7,323	7,373	7,451	7,533	7,611	1.7%
%				2.1%	2.9%	3.3%	2.3%	1.6%	1.4%	1.5%	0.7%	1.1%	1.1%	1.0%	
METED	2,839	2,839	2,890	2,920	3,006	3,112	3,189	3,243	3,283	3,314	3,346	3,375	3,407	3,444	1.7%
%				1.0%	2.9%	3.5%	2.5%	1.7%	1.2%	0.9%	1.0%	0.9%	0.9%	1.1%	
PECO	7,993	8,009	8,590	8,528	8,700	8,991	9,175	9,327	9,447	9,519	9,601	9,680	9,751	9,821	1.4%
%				-0.7%	2.0%	3.3%	2.0%	1.7%	1.3%	0.8%	0.9%	0.8%	0.7%	0.7%	
PENLC	2,810	2,817	2,810	2,843	2,908	2,994	3,063	3,119	3,176	3,223	3,273	3,310	3,365	3,420	1.9%
%				1.2%	2.3%	3.0%	2.3%	1.8%	1.8%	1.5%	1.6%	1.1%	1.7%	1.6%	
PEPCO	6,325	6,325	6,960	7,048	7,144	7,273	7,371	7,457	7,538	7,591	7,668	7,740	7,822	7,909	1.2%
%				1.3%	1.4%	1.8%	1.3%	1.2%	1.1%	0.7%	1.0%	0.9%	1.1%	1.1%	
PL	6,845	6,853	7,140	7,161	7,345	7,554	7,727	7,835	7,924	7,986	8,044	8,096	8,155	8,213	1.4%
%				0.3%	2.6%	2.8%	2.3%	1.4%	1.1%	0.8%	0.7%	0.6%	0.7%	0.7%	
PS	9,687	9,687	10,740	10,921	11,147	11,427	11,621	11,771	11,907	12,006	12,105	12,194	12,305	12,428	1.3%
%				1.7%	2.1%	2.5%	1.7%	1.3%	1.2%	0.8%	0.8%	0.7%	0.9%	1.0%	
RECO	371	371	430	435	444	452	462	468	473	477	481	483	489	493	1.3%
%				1.2%	2.1%	1.8%	2.2%	1.3%	1.1%	0.8%	0.8%	0.4%	1.2%	0.8%	
UGI	181	181	190	190	194	199	202	204	206	207	208	208	209	210	1.0%
%				0.0%	2.1%	2.6%	1.5%	1.0%	1.0%	0.5%	0.5%	0.0%	0.5%	0.5%	
DIVERSITY - MID-ATLANTIC (-)				530	488	599	498	512	514	380	367	373	322	385	
PJM MID-ATLANTIC	55,436	55,548	59,480	60,169	61,667	63,212	64,593	65,580	66,480	67,288	67,987	68,633	69,419	70,127	1.5%
%				1.2%	2.5%	2.5%	2.2%	1.5%	1.4%	1.2%	1.0%	1.0%	1.1%	1.0%	
FE/GPU	11,256	11,262	11,850	12,038	12,389	12,814	13,124	13,339	13,526	13,699	13,862	14,021	14,182	14,326	1.8%
%				1.6%	2.9%	3.4%	2.4%	1.6%	1.4%	1.3%	1.2%	1.1%	1.1%	1.0%	
PLGRP	7,025	7,034	7,300	7,314	7,510	7,721	7,896	8,006	8,092	8,167	8,220	8,277	8,337	8,388	1.4%
%				0.2%	2.7%	2.8%	2.3%	1.4%	1.1%	0.9%	0.6%	0.7%	0.7%	0.6%	

Note:
Normal 2009 and all forecast values are non-coincident as estimated by PJM staff.
Normal 2009 and all forecast values represent unrestricted peaks.
All average growth rates are calculated from the first year of the forecast.

Table B-1 (Continued)

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2021-2025

		2021	2022	2023	2024	2025	Annual Growth Rate (15 yr)
AE		3,470	3,500	3,535	3,565	3,601	1.9%
	%	0.8%	0.9%	1.0%	0.8%	1.0%	
BGE		9,025	9,137	9,267	9,394	9,523	1.6%
	%	1.2%	1.2%	1.4%	1.4%	1.4%	
DPL		4,651	4,703	4,769	4,827	4,888	1.3%
	%	1.1%	1.1%	1.4%	1.2%	1.3%	
JCPL		7,658	7,790	7,794	7,877	7,967	1.4%
	%	0.6%	1.7%	0.1%	1.1%	1.1%	
METED		3,468	3,495	3,523	3,550	3,590	1.4%
	%	0.7%	0.8%	0.8%	0.8%	1.1%	
PECO		9,861	9,894	9,943	9,985	10,045	1.1%
	%	0.4%	0.3%	0.5%	0.4%	0.6%	
PENLC		3,459	3,499	3,543	3,578	3,623	1.6%
	%	1.1%	1.2%	1.3%	1.0%	1.3%	
PEPCO		7,968	8,033	8,108	8,177	8,257	1.1%
	%	0.7%	0.8%	0.9%	0.9%	1.0%	
PL		8,241	8,282	8,314	8,350	8,410	1.1%
	%	0.3%	0.5%	0.4%	0.4%	0.7%	
PS		12,498	12,575	12,645	12,722	12,848	1.1%
	%	0.6%	0.6%	0.6%	0.6%	1.0%	
RECO		496	499	503	505	509	1.1%
	%	0.6%	0.6%	0.8%	0.4%	0.8%	
UGI		210	210	211	211	212	0.7%
	%	0.0%	0.0%	0.5%	0.0%	0.5%	
DIVERSITY - MID-ATLANTIC (-)		240	250	222	201	235	
PJM MID-ATLANTIC		70,765	71,367	71,933	72,540	73,238	1.3%
	%	0.9%	0.9%	0.8%	0.8%	1.0%	
FE/GPU		14,465	14,604	14,732	14,888	15,055	1.5%
	%	1.0%	1.0%	0.9%	1.1%	1.1%	
PLGRP		8,432	8,472	8,498	8,542	8,598	1.1%
	%	0.5%	0.5%	0.3%	0.5%	0.7%	

Table B-1

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGIONS AND RTO
2010-2020

	METERED 2009	UNRESTRICTED 2009	NORMAL 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Growth Rate (10 yr)
AEP	21,887	21,887	23,470	23,287	23,856	24,649	25,136	25,448	25,735	25,897	26,106	26,270	26,439	26,631	1.4%
%				-0.8%	2.4%	3.3%	2.0%	1.2%	1.1%	0.6%	0.8%	0.6%	0.6%	0.7%	
APS	7,860	7,871	8,490	8,661	8,872	9,057	9,223	9,338	9,449	9,511	9,599	9,682	9,789	9,909	1.4%
%				2.0%	2.4%	2.1%	1.8%	1.2%	1.2%	0.7%	0.9%	0.9%	1.1%	1.2%	
ATSI	12,310	12,310		13,040	13,338	13,801	14,089	14,269	14,430	14,508	14,614	14,692	14,781	14,888	1.3%
%					2.3%	3.5%	2.1%	1.3%	1.1%	0.5%	0.7%	0.5%	0.6%	0.7%	
COMED	21,218	21,218	22,180	22,536	23,372	24,460	25,217	25,699	26,205	26,542	26,878	27,191	27,582	27,965	2.2%
%				1.6%	3.7%	4.7%	3.1%	1.9%	2.0%	1.3%	1.3%	1.2%	1.4%	1.4%	
DAY	3,327	3,327	3,310	3,368	3,479	3,628	3,707	3,745	3,779	3,791	3,804	3,811	3,825	3,835	1.3%
%				1.8%	3.3%	4.3%	2.2%	1.0%	0.9%	0.3%	0.3%	0.2%	0.4%	0.3%	
DLCO	2,732	2,732	2,890	2,883	2,921	2,995	3,054	3,099	3,142	3,171	3,209	3,245	3,280	3,318	1.4%
%				-0.2%	1.3%	2.5%	2.0%	1.5%	1.4%	0.9%	1.2%	1.1%	1.1%	1.2%	
DIVERSITY - WESTERN (-)				1,684	1,739	1,936	1,923	1,955	2,011	1,973	2,011	2,080	2,082	2,192	
PJM WESTERN (with ATSI)				72,091	74,099	76,654	78,503	79,643	80,729	81,447	82,199	82,811	83,614	84,354	1.6%
%					2.8%	3.4%	2.4%	1.5%	1.4%	0.9%	0.9%	0.7%	1.0%	0.9%	
DIVERSITY - WESTERN (-)				1,409	1,377	1,466	1,551	1,672	1,681	1,610	1,679	1,712	1,766	1,807	
PJM WESTERN (without ATSI)	55,149	55,168	59,010	59,326	61,123	63,323	64,786	65,657	66,629	67,302	67,917	68,487	69,149	69,851	1.6%
%				0.5%	3.0%	3.6%	2.3%	1.3%	1.5%	1.0%	0.9%	0.8%	1.0%	1.0%	
DOM	18,137	18,153	19,010	19,779	20,488	21,365	21,958	22,476	22,982	23,353	23,843	24,316	24,830	25,387	2.5%
%				4.0%	3.6%	4.3%	2.8%	2.4%	2.3%	1.6%	2.1%	2.0%	2.1%	2.2%	
DIVERSITY - INTERREGIONAL (-)				4,248	4,226	4,064	4,423	4,606	4,789	4,685	4,732	4,679	4,994	5,144	
PJM RTO (with ATSI)				147,791	152,028	157,167	160,631	163,093	165,402	167,403	169,297	171,081	172,869	174,724	1.7%
%					2.9%	3.4%	2.2%	1.5%	1.4%	1.2%	1.1%	1.1%	1.0%	1.1%	
DIVERSITY - INTERREGIONAL (-)				3,524	3,624	3,474	3,651	3,725	3,972	3,929	3,902	3,917	4,087	4,318	
PJM RTO (without ATSI)	126,805	126,944	133,780	135,750	139,654	144,426	147,686	149,988	152,119	154,014	155,845	157,519	159,311	161,047	1.7%
%				1.5%	2.9%	3.4%	2.3%	1.6%	1.4%	1.2%	1.2%	1.1%	1.1%	1.1%	

Note:
Normal 2009 and all forecast values are non-coincident as estimated by PJM staff.
Normal 2009 and all forecast values represent unrestricted peaks.
All average growth rates are calculated from the first year of the forecast.

Table B-1 (Continued)

SUMMER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGIONS AND RTO
2021-2025

		2021	2022	2023	2024	2025	Annual Growth Rate (15 yr)
AEP		26,745	26,874	27,023	27,173	27,340	1.1%
	%	0.4%	0.5%	0.6%	0.6%	0.6%	
APS		9,985	10,065	10,156	10,243	10,361	1.2%
	%	0.8%	0.8%	0.9%	0.9%	1.2%	
ATSI		14,904	14,940	14,975	15,012	15,081	1.0%
	%	0.1%	0.2%	0.2%	0.2%	0.5%	
COMED		28,188	28,365	28,507	28,647	28,846	1.7%
	%	0.8%	0.6%	0.5%	0.5%	0.7%	
DAY		3,834	3,837	3,837	3,845	3,858	0.9%
	%	0.0%	0.1%	0.0%	0.2%	0.3%	
DLCO		3,340	3,360	3,387	3,412	3,448	1.2%
	%	0.7%	0.6%	0.8%	0.7%	1.1%	
DIVERSITY - WESTERN (-)		2,083	2,110	2,144	2,092	2,155	
PJM WESTERN (with ATSI)		84,913	85,331	85,741	86,240	86,779	1.2%
	%	0.7%	0.5%	0.5%	0.6%	0.6%	
DIVERSITY - WESTERN (-)		1,699	1,732	1,745	1,758	1,851	
PJM WESTERN (without ATSI)		70,393	70,769	71,165	71,562	72,002	1.3%
	%	0.8%	0.5%	0.6%	0.6%	0.6%	
DOM		25,861	26,359	26,912	27,436	28,013	2.3%
	%	1.9%	1.9%	2.1%	1.9%	2.1%	
DIVERSITY - INTERREGIONAL (-)		5,157	5,163	5,201	5,280	5,365	
PJM RTO (with ATSI)		176,382	177,894	179,385	180,936	182,665	1.4%
	%	0.9%	0.9%	0.8%	0.9%	1.0%	
DIVERSITY - INTERREGIONAL (-)		4,360	4,351	4,415	4,418	4,429	
PJM RTO (without ATSI)		162,659	164,144	165,595	167,120	168,824	1.5%
	%	1.0%	0.9%	0.9%	0.9%	1.0%	

Note:
Normal 2009 and all forecast values are non-coincident as estimated by PJM staff.
Normal 2009 and all forecast values represent unrestricted peaks.

Table B-2

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2009/10-2019/20

		METERED 08/09	UNRESTRICTED 08/09	NORMAL 08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	Annual Growth Rate (10 yr)
AE		1,776	1,776	1,750	1,773	1,817	1,915	1,977	2,017	2,046	2,073	2,093	2,110	2,131	2,142	1.9%
	%				1.3%	2.5%	5.4%	3.2%	2.0%	1.4%	1.3%	1.0%	0.8%	1.0%	0.5%	
BGE		6,083	6,083	5,970	6,022	6,116	6,195	6,252	6,320	6,388	6,461	6,529	6,590	6,655	6,714	1.1%
	%				0.9%	1.6%	1.3%	0.9%	1.1%	1.1%	1.1%	1.1%	0.9%	1.0%	0.9%	
DPL		3,493	3,493	3,310	3,301	3,339	3,382	3,425	3,458	3,499	3,538	3,573	3,606	3,639	3,663	1.0%
	%				-0.3%	1.2%	1.3%	1.3%	1.0%	1.2%	1.1%	1.0%	0.9%	0.9%	0.7%	
JCPL		3,937	3,937	3,930	3,986	4,066	4,183	4,285	4,337	4,405	4,462	4,506	4,543	4,584	4,606	1.5%
	%				1.4%	2.0%	2.9%	2.4%	1.2%	1.6%	1.3%	1.0%	0.8%	0.9%	0.5%	
METED		2,622	2,622	2,590	2,571	2,640	2,723	2,795	2,838	2,870	2,900	2,939	2,959	2,984	3,000	1.6%
	%				-0.7%	2.7%	3.1%	2.6%	1.5%	1.1%	1.0%	1.3%	0.7%	0.8%	0.5%	
PECO		6,777	6,777	6,620	6,503	6,587	6,775	6,928	7,035	7,113	7,187	7,262	7,308	7,361	7,389	1.3%
	%				-1.8%	1.3%	2.9%	2.3%	1.5%	1.1%	1.0%	1.0%	0.6%	0.7%	0.4%	
PENLC		2,866	2,866	2,820	2,796	2,863	2,952	3,030	3,086	3,139	3,192	3,252	3,301	3,351	3,390	1.9%
	%				-0.9%	2.4%	3.1%	2.6%	1.8%	1.7%	1.7%	1.9%	1.5%	1.5%	1.2%	
PEPCO		5,554	5,554	5,430	5,481	5,553	5,656	5,750	5,822	5,872	5,934	5,996	6,053	6,118	6,171	1.2%
	%				0.9%	1.3%	1.9%	1.7%	1.3%	0.9%	1.1%	1.0%	1.0%	1.1%	0.9%	
PL		7,414	7,414	7,210	7,169	7,284	7,447	7,588	7,680	7,758	7,814	7,882	7,919	7,956	7,980	1.1%
	%				-0.6%	1.6%	2.2%	1.9%	1.2%	1.0%	0.7%	0.9%	0.5%	0.5%	0.3%	
PS		6,848	6,848	6,940	6,982	7,091	7,248	7,389	7,454	7,534	7,603	7,680	7,731	7,782	7,818	1.1%
	%				0.6%	1.6%	2.2%	1.9%	0.9%	1.1%	0.9%	1.0%	0.7%	0.7%	0.5%	
RECO		255	255	235	235	237	239	241	243	245	247	248	250	252	254	0.8%
	%				0.0%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.4%	0.8%	0.8%	0.8%	
UGI		197	197	195	194	197	200	203	205	207	208	209	209	210	210	0.8%
	%				-0.5%	1.5%	1.5%	1.5%	1.0%	1.0%	0.5%	0.5%	0.0%	0.5%	0.0%	
DIVERSITY - MID-ATLANTIC (-)					603	487	488	569	574	599	613	580	580	595	563	
PJM MID-ATLANTIC		47,460	47,460	46,190	46,410	47,303	48,427	49,294	49,921	50,477	51,006	51,589	51,999	52,428	52,774	1.3%
	%				0.5%	1.9%	2.4%	1.8%	1.3%	1.1%	1.0%	1.1%	0.8%	0.8%	0.7%	
FE/GPU		9,381	9,381	9,220	9,282	9,508	9,794	10,034	10,190	10,341	10,482	10,612	10,723	10,831	10,916	1.6%
	%				0.7%	2.4%	3.0%	2.5%	1.6%	1.5%	1.4%	1.2%	1.0%	1.0%	0.8%	
PLGRP		7,609	7,609	7,350	7,342	7,466	7,632	7,768	7,854	7,939	7,996	8,056	8,099	8,128	8,159	1.1%
	%				-0.1%	1.7%	2.2%	1.8%	1.1%	1.1%	0.7%	0.8%	0.5%	0.4%	0.4%	

Note:
Normal 08/09 and all forecast values are non-coincident as estimated by PJM staff.
Normal 08/09 and all forecast values represent unrestricted peaks.
All average growth rates are calculated from the first year of the forecast.

Table B-2 (Continued)

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2020/21-2024/25

		20/21	21/22	22/23	23/24	24/25	Annual Growth Rate (15 yr)
AE		2,168	2,182	2,202	2,216	2,224	1.5%
	%	1.2%	0.6%	0.9%	0.6%	0.4%	
BGE		6,776	6,843	6,904	6,962	7,015	1.0%
	%	0.9%	1.0%	0.9%	0.8%	0.8%	
DPL		3,710	3,749	3,787	3,829	3,850	1.0%
	%	1.3%	1.1%	1.0%	1.1%	0.5%	
JCPL		4,666	4,698	4,738	4,772	4,791	1.2%
	%	1.3%	0.7%	0.9%	0.7%	0.4%	
METED		3,024	3,055	3,081	3,098	3,115	1.3%
	%	0.8%	1.0%	0.9%	0.6%	0.5%	
PECO		7,433	7,483	7,516	7,536	7,555	1.0%
	%	0.6%	0.7%	0.4%	0.3%	0.3%	
PENLC		3,437	3,488	3,535	3,574	3,608	1.7%
	%	1.4%	1.5%	1.3%	1.1%	1.0%	
PEPCO		6,225	6,290	6,350	6,406	6,458	1.1%
	%	0.9%	1.0%	1.0%	0.9%	0.8%	
PL		8,024	8,069	8,105	8,121	8,136	0.8%
	%	0.6%	0.6%	0.4%	0.2%	0.2%	
PS		7,888	7,933	7,994	8,032	8,053	1.0%
	%	0.9%	0.6%	0.8%	0.5%	0.3%	
RECO		257	259	261	263	265	0.8%
	%	1.2%	0.8%	0.8%	0.8%	0.8%	
UGI		211	211	212	211	212	0.6%
	%	0.5%	0.0%	0.5%	-0.5%	0.5%	
DIVERSITY - MID-ATLANTIC (-)		640	596	653	639	595	
PJM MID-ATLANTIC		53,179	53,664	54,032	54,381	54,687	1.1%
	%	0.8%	0.9%	0.7%	0.6%	0.6%	
FE/GPU		11,052	11,157	11,257	11,348	11,431	1.4%
	%	1.2%	1.0%	0.9%	0.8%	0.7%	
PLGRP		8,206	8,246	8,275	8,295	8,313	0.8%
	%	0.6%	0.5%	0.4%	0.2%	0.2%	

Table B-2

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2009/10-2019/20

		METERED 08/09	UNRESTRICTED 08/09	NORMAL 08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	Annual Growth Rate (10 yr)
AEP		24,434	24,434	22,930	22,310	22,597	23,115	23,441	23,657	23,832	24,005	24,253	24,310	24,355	24,410	0.9%
	%				-2.7%	1.3%	2.3%	1.4%	0.9%	0.7%	0.7%	1.0%	0.2%	0.2%	0.2%	
APS		8,527	8,527	8,300	8,449	8,646	8,840	8,995	9,123	9,225	9,307	9,396	9,477	9,558	9,639	1.3%
	%				1.8%	2.3%	2.2%	1.8%	1.4%	1.1%	0.9%	1.0%	0.9%	0.9%	0.8%	
ATSI		10,463	10,463	0	10,518	10,654	10,925	11,135	11,265	11,358	11,435	11,536	11,573	11,625	11,651	1.0%
	%					1.3%	2.5%	1.9%	1.2%	0.8%	0.7%	0.9%	0.3%	0.4%	0.2%	
COMED		16,328	16,328	15,750	15,588	15,862	16,567	17,142	17,400	17,749	18,047	18,329	18,512	18,719	18,851	1.9%
	%				-1.0%	1.8%	4.4%	3.5%	1.5%	2.0%	1.7%	1.6%	1.0%	1.1%	0.7%	
DAY		3,124	3,124	2,920	2,918	2,958	3,029	3,084	3,102	3,118	3,131	3,150	3,152	3,155	3,147	0.8%
	%				-0.1%	1.4%	2.4%	1.8%	0.6%	0.5%	0.4%	0.6%	0.1%	0.1%	-0.3%	
DLCO		2,245	2,245	2,160	2,137	2,149	2,182	2,206	2,218	2,233	2,255	2,281	2,292	2,311	2,305	0.8%
	%				-1.1%	0.6%	1.5%	1.1%	0.5%	0.7%	1.0%	1.2%	0.5%	0.8%	-0.3%	
DIVERSITY - WESTERN (-)					1,279	1,246	1,244	1,265	1,270	1,377	1,451	1,501	1,444	1,505	1,390	
PJM WESTERN (with ATSI)					60,641	61,620	63,414	64,738	65,495	66,138	66,729	67,444	67,872	68,218	68,613	1.2%
	%					1.6%	2.9%	2.1%	1.2%	1.0%	0.9%	1.1%	0.6%	0.5%	0.6%	
DIVERSITY - WESTERN (-)					1,137	1,121	1,158	1,107	1,122	1,205	1,269	1,369	1,334	1,325	1,260	
PJM WESTERN (without ATSI)		53,464	53,464	50,570	50,265	51,091	52,575	53,761	54,378	54,952	55,476	56,040	56,409	56,773	57,092	1.3%
	%				-0.6%	1.6%	2.9%	2.3%	1.1%	1.1%	1.0%	1.0%	0.7%	0.6%	0.6%	
DOM		17,904	17,904	16,710	17,169	17,540	18,154	18,683	19,075	19,391	19,751	20,091	20,422	20,778	21,104	2.1%
	%				2.7%	2.2%	3.5%	2.9%	2.1%	1.7%	1.9%	1.7%	1.6%	1.7%	1.6%	
DIVERSITY - INTERREGIONAL (-)					1,091	1,281	1,364	1,314	1,298	1,150	1,175	1,437	1,368	1,334	1,419	
PJM RTO (with ATSI)					123,129	125,182	128,631	131,401	133,193	134,856	136,311	137,687	138,925	140,090	141,072	1.4%
	%					1.7%	2.8%	2.2%	1.4%	1.2%	1.1%	1.0%	0.9%	0.8%	0.7%	
DIVERSITY - INTERREGIONAL (-)					1,102	1,188	1,244	1,242	1,226	1,116	1,191	1,364	1,325	1,372	1,245	
PJM RTO (without ATSI)		117,169	117,169	112,100	112,742	114,746	117,912	120,496	122,148	123,704	125,042	126,356	127,505	128,607	129,725	1.4%
	%				0.6%	1.8%	2.8%	2.2%	1.4%	1.3%	1.1%	1.1%	0.9%	0.9%	0.9%	

Note:
Normal 08/09 and all forecast values are non-coincident as estimated by PJM staff.
Normal 08/09 and all forecast values represent unrestricted peaks.
All average growth rates are calculated from the first year of the forecast.

Table B-2 (Continued)

WINTER PEAK LOAD (MW) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2020/21-2024/25

		20/21	21/22	22/23	23/24	24/25	Annual Growth Rate (15 yr)
AEP		24,550	24,721	24,868	24,897	24,883	0.7%
	%	0.6%	0.7%	0.6%	0.1%	-0.1%	
APS		9,738	9,843	9,926	10,004	10,076	1.2%
	%	1.0%	1.1%	0.8%	0.8%	0.7%	
ATSI		11,694	11,752	11,794	11,799	11,801	0.8%
	%	0.4%	0.5%	0.4%	0.0%	0.0%	
COMED		19,097	19,259	19,422	19,509	19,458	1.5%
	%	1.3%	0.8%	0.8%	0.4%	-0.3%	
DAY		3,155	3,168	3,173	3,171	3,161	0.5%
	%	0.3%	0.4%	0.2%	-0.1%	-0.3%	
DLCO		2,328	2,339	2,360	2,369	2,361	0.7%
	%	1.0%	0.5%	0.9%	0.4%	-0.3%	
DIVERSITY - WESTERN (-)		1,544	1,598	1,669	1,621	1,472	
PJM WESTERN (with ATSI)		69,018	69,484	69,874	70,128	70,268	1.0%
	%	0.6%	0.7%	0.6%	0.4%	0.2%	
DIVERSITY - WESTERN (-)		1,375	1,417	1,524	1,478	1,323	
PJM WESTERN (without ATSI)		57,493	57,913	58,225	58,472	58,616	1.0%
	%	0.7%	0.7%	0.5%	0.4%	0.2%	
DOM		21,470	21,845	22,235	22,625	23,008	2.0%
	%	1.7%	1.7%	1.8%	1.8%	1.7%	
DIVERSITY - INTERREGIONAL (-)		1,267	1,392	1,498	1,468	1,482	
PJM RTO (with ATSI)		142,400	143,601	144,643	145,666	146,481	1.2%
	%	0.9%	0.8%	0.7%	0.7%	0.6%	
DIVERSITY - INTERREGIONAL (-)		1,234	1,389	1,431	1,392	1,283	
PJM RTO (without ATSI)		130,908	132,033	133,061	134,086	135,028	1.2%
	%	0.9%	0.9%	0.8%	0.8%	0.7%	

Table B-3

SPRING (APRIL) PEAK LOAD (MW) FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE	1,505	1,588	1,693	1,757	1,812	1,848	1,865	1,882	1,914	1,938	1,980	1,991	1,994	2,012	2,051	2,073
BGE	4,955	5,044	5,081	5,159	5,312	5,458	5,494	5,505	5,617	5,673	5,882	5,986	5,951	6,038	6,083	6,198
DPL	2,611	2,611	2,634	2,667	2,712	2,755	2,762	2,779	2,812	2,835	2,892	2,927	2,914	2,958	3,005	3,047
JCPL	3,378	3,461	3,589	3,674	3,749	3,843	3,844	3,874	3,927	3,964	4,063	4,097	4,079	4,116	4,178	4,228
METED	2,252	2,298	2,372	2,430	2,482	2,521	2,522	2,537	2,570	2,592	2,635	2,653	2,647	2,673	2,699	2,734
PECO	5,583	5,619	5,833	5,958	6,089	6,226	6,193	6,208	6,296	6,333	6,476	6,526	6,435	6,464	6,496	6,561
PENLC	2,470	2,520	2,603	2,662	2,728	2,791	2,816	2,856	2,906	2,950	3,019	3,060	3,070	3,115	3,154	3,205
PEPCO	4,568	4,575	4,643	4,725	4,800	4,869	4,866	4,877	4,953	4,994	5,108	5,182	5,136	5,153	5,227	5,301
PL	5,784	5,884	6,064	6,191	6,307	6,399	6,412	6,433	6,495	6,524	6,620	6,657	6,627	6,661	6,695	6,759
PS	6,445	6,496	6,670	6,799	6,922	7,079	7,051	7,083	7,199	7,240	7,424	7,458	7,427	7,444	7,519	7,627
RECO	220	221	224	226	230	232	234	236	237	239	241	243	244	246	248	250
UGI	150	153	156	159	161	163	163	163	164	164	166	166	165	165	166	167
DIVERSITY - MID-ATLANTIC (-)	2,040	1,938	1,640	1,407	1,643	2,001	1,893	1,734	1,581	1,364	2,018	2,276	1,754	1,732	1,476	1,719
PJM MID-ATLANTIC	37,881	38,532	39,922	41,000	41,661	42,183	42,329	42,699	43,509	44,082	44,488	44,670	44,935	45,313	46,045	46,431
FE/GPU	7,773	7,930	8,277	8,536	8,720	8,869	8,915	9,018	9,169	9,311	9,469	9,575	9,596	9,674	9,826	9,988
PLGRP	5,750	5,883	6,084	6,242	6,334	6,393	6,448	6,492	6,552	6,598	6,636	6,667	6,702	6,719	6,779	6,824

Table B-3

SPRING (APRIL) PEAK LOAD (MW) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AEP	18,456	18,802	19,379	19,717	19,977	20,245	20,314	20,376	20,576	20,628	20,829	20,962	20,977	21,025	21,030	21,193
APS	6,911	7,049	7,208	7,331	7,449	7,546	7,563	7,610	7,703	7,770	7,902	7,966	7,960	8,047	8,134	8,231
ATSI	9,530	9,499	9,818	10,028	10,149	10,359	10,306	10,321	10,434	10,456	10,636	10,685	10,542	10,573	10,653	10,661
COMED	13,703	14,043	14,941	15,594	16,015	16,457	16,516	16,673	17,172	17,435	17,836	18,018	17,859	17,870	18,343	18,508
DAY	2,452	2,473	2,567	2,622	2,650	2,686	2,678	2,671	2,687	2,685	2,714	2,718	2,693	2,692	2,698	2,707
DLCO	1,953	1,953	1,989	2,036	2,073	2,116	2,111	2,104	2,157	2,180	2,226	2,251	2,216	2,235	2,281	2,297
DIVERSITY - WESTERN (-)	1,898	2,031	2,120	2,087	1,976	2,656	2,362	2,455	2,373	2,403	2,717	2,940	2,394	2,527	2,467	2,441
PJM WESTERN (with ATSI)	51,107	51,788	53,782	55,241	56,337	56,753	57,126	57,300	58,356	58,751	59,426	59,660	59,853	59,915	60,672	61,156
DIVERSITY - WESTERN (-)	1,697	1,891	1,981	2,013	2,214	2,439	2,330	2,155	2,373	2,321	2,466	2,505	2,467	2,230	2,262	2,529
PJM WESTERN (without ATSI)	41,778	42,429	44,103	45,287	45,950	46,611	46,852	47,279	47,922	48,377	49,041	49,410	49,238	49,639	50,224	50,407
DOM	13,628	13,918	14,439	14,833	15,202	15,631	15,789	16,041	16,424	16,736	17,137	17,513	17,675	18,068	18,489	18,926
DIVERSITY - INTERREGIONAL (-)	1,950	1,822	2,050	2,097	2,577	2,276	2,133	1,893	2,239	2,292	2,053	1,729	2,446	2,366	2,322	2,784
PJM RTO (with ATSI)	100,666	102,416	106,093	108,977	110,623	112,291	113,111	114,147	116,050	117,277	118,998	120,114	120,017	120,930	122,884	123,729
DIVERSITY - INTERREGIONAL (-)	1,707	1,838	1,919	1,807	2,174	1,822	1,704	1,895	2,234	2,361	1,755	1,799	2,261	2,523	2,438	2,252
PJM RTO (without ATSI)	91,580	93,041	96,545	99,313	100,639	102,603	103,266	104,124	105,621	106,834	108,911	109,794	109,587	110,497	112,320	113,512

Table B-4

FALL (OCTOBER) PEAK LOAD (MW) FOR
EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION
2010-2025

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
AE	1,581	1,711	1,826	1,891	1,927	1,955	1,981	2,019	2,063	2,088	2,096	2,111	2,137	2,173	2,206	2,228
BGE	4,748	4,880	5,037	5,102	5,195	5,242	5,309	5,436	5,584	5,670	5,688	5,728	5,830	5,962	6,079	6,146
DPL	2,525	2,573	2,648	2,679	2,701	2,716	2,740	2,781	2,842	2,871	2,871	2,890	2,928	2,992	3,042	3,072
JCPL	3,505	3,647	3,852	3,939	3,996	4,040	4,068	4,153	4,249	4,299	4,310	4,327	4,376	4,449	4,536	4,574
METED	2,141	2,222	2,316	2,365	2,394	2,410	2,434	2,468	2,505	2,528	2,529	2,538	2,568	2,605	2,639	2,659
PECO	5,525	5,710	6,022	6,129	6,184	6,239	6,273	6,372	6,496	6,532	6,518	6,520	6,550	6,630	6,715	6,731
PENLC	2,451	2,543	2,638	2,690	2,719	2,768	2,827	2,880	2,938	2,980	2,996	3,026	3,091	3,137	3,186	3,211
PEPCO	4,636	4,668	4,879	4,928	4,957	4,980	4,951	5,061	5,172	5,218	5,221	5,237	5,246	5,357	5,450	5,492
PL	5,595	5,770	5,956	6,054	6,100	6,149	6,192	6,266	6,320	6,371	6,360	6,369	6,422	6,477	6,531	6,533
PS	6,735	6,911	7,230	7,367	7,421	7,476	7,467	7,622	7,744	7,832	7,825	7,809	7,852	8,006	8,126	8,157
RECO	237	241	252	254	255	255	253	258	264	265	263	261	262	267	272	272
UGI	148	153	157	160	161	161	162	164	164	164	164	164	165	166	166	166
DIVERSITY - MID-ATLANTIC (-)	1,183	1,265	1,480	1,464	1,440	1,316	1,352	1,438	1,501	1,557	1,374	1,337	1,649	1,597	1,614	1,624
PJM MID-ATLANTIC	38,644	39,764	41,333	42,094	42,570	43,075	43,305	44,042	44,840	45,261	45,467	45,643	45,778	46,624	47,334	47,617
FE/GPU	7,935	8,210	8,549	8,732	8,871	8,993	9,092	9,242	9,379	9,497	9,569	9,629	9,736	9,869	10,039	10,145
PLGRP	5,727	5,904	6,069	6,173	6,225	6,282	6,341	6,403	6,447	6,494	6,499	6,525	6,574	6,610	6,653	6,660

Table B-4

FALL (OCTOBER) PEAK LOAD (MW) FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AEP	17,776	18,320	18,963	19,152	19,325	19,383	19,468	19,650	19,854	19,964	19,936	19,925	20,080	20,253	20,454	20,516
APS	6,635	6,826	7,028	7,099	7,183	7,219	7,282	7,371	7,481	7,529	7,570	7,614	7,697	7,801	7,893	7,967
ATSI	9,061	9,361	9,719	9,867	9,956	10,005	10,068	10,175	10,266	10,321	10,299	10,304	10,349	10,420	10,484	10,508
COMED	13,561	14,333	15,333	15,758	16,088	16,361	16,528	16,879	17,251	17,529	17,663	17,736	17,834	18,080	18,309	18,427
DAY	2,363	2,463	2,580	2,612	2,632	2,633	2,636	2,656	2,680	2,683	2,665	2,657	2,664	2,680	2,698	2,702
DLCO	1,888	1,923	1,992	2,024	2,049	2,065	2,074	2,111	2,147	2,169	2,175	2,175	2,193	2,227	2,256	2,273
DIVERSITY - WESTERN (-)	1,277	1,236	1,600	1,559	1,631	1,546	1,389	1,527	1,800	1,829	1,729	1,610	1,565	1,754	1,971	2,023
PJM WESTERN (with ATSI)	50,007	51,990	54,015	54,953	55,602	56,120	56,667	57,315	57,879	58,366	58,579	58,801	59,252	59,707	60,123	60,370
DIVERSITY - WESTERN (-)	1,048	1,050	1,408	1,328	1,418	1,301	1,198	1,304	1,519	1,581	1,459	1,425	1,357	1,518	1,711	1,759
PJM WESTERN (without ATSI)	41,175	42,815	44,488	45,317	45,859	46,360	46,790	47,363	47,894	48,293	48,550	48,682	49,111	49,523	49,899	50,126
DOM	13,646	14,234	14,938	15,269	15,549	15,801	16,079	16,444	16,853	17,180	17,403	17,680	18,057	18,472	18,913	19,257
DIVERSITY - INTERREGIONAL (-)	1,590	1,644	2,017	1,882	1,947	1,904	1,962	1,999	2,034	2,073	1,967	2,213	2,101	1,992	2,097	1,994
PJM RTO (with ATSI)	100,707	104,344	108,269	110,434	111,774	113,092	114,089	115,802	117,538	118,734	119,482	119,911	120,986	122,811	124,273	125,250
DIVERSITY - INTERREGIONAL (-)	1,426	1,535	1,678	1,670	1,639	1,716	1,896	1,734	1,891	1,824	1,734	1,760	1,798	1,777	1,854	1,876
PJM RTO (without ATSI)	92,039	95,278	99,081	101,010	102,339	103,520	104,278	106,115	107,696	108,910	109,686	110,245	111,148	112,842	114,292	115,124

Table B-5

MONTHLY PEAK FORECAST (MW) FOR EACH
PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC DIVERSITY	PJM MID-ATLANTIC
Jan 2010	1,773	6,022	3,301	3,981	2,571	6,503	2,796	5,481	7,169	6,982	228	194	591	46,410
Feb 2010	1,707	5,817	3,187	3,804	2,513	6,305	2,736	5,287	6,964	6,741	217	186	612	44,852
Mar 2010	1,576	5,297	2,884	3,583	2,390	5,903	2,598	4,729	6,338	6,441	214	169	1,350	40,772
Apr 2010	1,505	4,955	2,611	3,378	2,252	5,583	2,470	4,568	5,784	6,445	220	150	2,040	37,881
May 2010	1,812	5,737	2,979	4,489	2,399	6,542	2,379	5,585	5,779	8,303	325	144	1,821	44,652
Jun 2010	2,399	6,851	3,660	5,830	2,788	8,041	2,749	6,613	6,768	10,161	399	176	500	55,935
Jul 2010	2,734	7,456	4,023	6,440	2,920	8,528	2,843	7,048	7,161	10,921	435	190	530	60,169
Aug 2010	2,612	7,133	3,825	5,847	2,825	8,265	2,791	6,763	6,902	10,126	389	181	308	57,351
Sep 2010	2,197	6,373	3,309	5,064	2,507	7,151	2,602	6,058	6,297	9,026	337	163	735	50,349
Oct 2010	1,581	4,748	2,525	3,505	2,141	5,525	2,451	4,636	5,595	6,735	237	148	1,183	38,644
Nov 2010	1,562	4,927	2,675	3,568	2,275	5,712	2,589	4,533	6,117	6,461	219	167	446	40,359
Dec 2010	1,807	5,765	3,150	4,064	2,558	6,417	2,823	5,259	6,952	7,069	237	195	420	45,876

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	DIVERSITY	MID-ATLANTIC
Jan 2011	1,817	6,116	3,339	4,066	2,640	6,587	2,863	5,553	7,284	7,091	230	197	480	47,303
Feb 2011	1,746	5,873	3,218	3,875	2,573	6,354	2,793	5,347	7,071	6,834	219	188	256	45,835
Mar 2011	1,624	5,349	2,872	3,653	2,434	5,888	2,652	4,750	6,430	6,494	216	171	1,256	41,277
Apr 2011	1,588	5,044	2,611	3,461	2,298	5,619	2,520	4,575	5,884	6,496	221	153	1,938	38,532
May 2011	1,922	5,891	3,017	4,633	2,464	6,675	2,444	5,656	5,957	8,464	331	147	1,722	45,879
Jun 2011	2,518	7,042	3,713	5,985	2,863	8,161	2,807	6,710	6,927	10,365	410	179	272	57,408
Jul 2011	2,897	7,656	4,089	6,625	3,006	8,700	2,908	7,144	7,345	11,147	444	194	488	61,667
Aug 2011	2,768	7,321	3,882	6,041	2,901	8,428	2,860	6,883	7,083	10,358	399	185	122	58,987
Sep 2011	2,323	6,521	3,354	5,200	2,579	7,282	2,666	6,132	6,434	9,201	342	167	587	51,614
Oct 2011	1,711	4,880	2,573	3,647	2,222	5,710	2,543	4,668	5,770	6,911	241	153	1,265	39,764
Nov 2011	1,669	5,030	2,717	3,695	2,354	5,892	2,682	4,614	6,286	6,627	221	170	471	41,486
Dec 2011	1,907	5,853	3,199	4,183	2,637	6,576	2,908	5,353	7,108	7,230	239	197	444	46,946

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	DIVERSITY	MID-ATLANTIC
Jan 2012	1,915	6,195	3,382	4,183	2,723	6,775	2,952	5,656	7,447	7,248	232	200	481	48,427
Feb 2012	1,846	5,958	3,264	3,995	2,657	6,547	2,884	5,458	7,222	6,999	221	191	323	46,919
Mar 2012	1,719	5,348	2,874	3,747	2,488	6,021	2,728	4,800	6,584	6,604	217	173	1,111	42,192
Apr 2012	1,693	5,081	2,634	3,589	2,372	5,833	2,603	4,643	6,064	6,670	224	156	1,640	39,922
May 2012	2,059	6,003	3,054	4,839	2,551	6,943	2,535	5,773	6,185	8,719	339	152	1,495	47,657
Jun 2012	2,677	7,169	3,767	6,205	2,950	8,435	2,898	6,861	7,126	10,588	417	184	968	58,309
Jul 2012	3,032	7,781	4,153	6,843	3,112	8,991	2,994	7,273	7,554	11,427	452	199	599	63,212
Aug 2012	2,902	7,497	3,960	6,254	3,008	8,720	2,953	7,076	7,308	10,626	407	190	442	60,459
Sep 2012	2,442	6,620	3,398	5,373	2,665	7,517	2,743	6,222	6,612	9,368	348	171	733	52,746
Oct 2012	1,826	5,037	2,648	3,852	2,316	6,022	2,638	4,879	5,956	7,230	252	157	1,480	41,333
Nov 2012	1,749	5,101	2,764	3,828	2,436	6,094	2,767	4,706	6,442	6,805	223	174	523	42,566
Dec 2012	1,969	5,906	3,207	4,275	2,706	6,727	2,985	5,421	7,220	7,355	241	200	397	47,815

Table B-5

MONTHLY PEAK FORECAST (MW) FOR EACH
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO

	AEP	APS	ATSI	COMED	DAY	DLCO	WESTERN DIVERSITY (w ATSI)	PJM WESTERN (w ATSI)	WESTERN DIVERSITY (wo ATSI)	PJM WESTERN (wo ATSI)	DOM	INTERREGION DIVERSITY (w ATSI)	PJM RTO (w ATSI)	INTERREGION DIVERSITY (wo ATSI)	PJM RTO (wo ATSI)
Jan 2010	22,310	8,449	10,518	15,431	2,918	2,137	1,122	60,641	980	50,265	17,169	1,091	123,129	1,102	112,742
Feb 2010	21,645	8,183	10,311	14,977	2,805	2,069	1,135	58,855	1,008	48,671	16,562	1,621	118,648	1,477	108,608
Mar 2010	19,978	7,482	9,965	14,028	2,585	1,973	1,093	54,918	1,153	44,893	14,729	1,452	108,967	1,181	99,213
Apr 2010	18,456	6,911	9,530	13,703	2,452	1,953	1,898	51,107	1,697	41,778	13,628	1,950	100,666	1,707	91,580
May 2010	19,111	6,896	10,025	16,161	2,644	2,250	1,970	55,117	1,683	45,379	15,589	3,572	111,786	3,263	102,357
Jun 2010	22,415	8,295	12,482	20,721	3,179	2,757	2,104	67,745	1,704	55,663	18,493	4,263	137,910	3,457	126,634
Jul 2010	23,287	8,661	13,040	22,536	3,368	2,883	1,684	72,091	1,409	59,326	19,779	4,248	147,791	3,524	135,750
Aug 2010	22,851	8,366	12,489	21,527	3,283	2,774	1,766	69,524	1,053	57,748	19,159	4,943	141,091	4,561	129,697
Sep 2010	20,817	7,700	11,096	18,601	2,950	2,520	1,471	62,213	1,329	51,259	16,906	3,483	125,985	3,209	115,305
Oct 2010	17,776	6,635	9,061	13,561	2,363	1,888	1,277	50,007	1,048	41,175	13,646	1,590	100,707	1,426	92,039
Nov 2010	19,081	7,192	9,538	13,975	2,509	1,941	596	53,640	594	44,104	13,945	696	107,248	624	97,784
Dec 2010	21,607	8,271	10,616	15,862	2,843	2,146	1,133	60,212	998	49,731	16,436	1,307	121,217	1,202	110,841

	AEP	APS	ATSI	COMED	DAY	DLCO	DIVERSITY	WESTERN	DIVERSITY	WESTERN	DOM	DIVERSITY	PJM RTO	DIVERSITY	PJM RTO
Jan 2011	22,597	8,646	10,654	15,798	2,958	2,149	1,182	61,620	1,057	51,091	17,540	1,281	125,182	1,188	114,746
Feb 2011	21,857	8,347	10,408	15,282	2,841	2,075	1,171	59,639	1,020	49,382	16,927	1,951	120,450	1,789	110,355
Mar 2011	20,225	7,624	9,884	14,193	2,597	1,969	1,174	55,318	1,334	45,274	14,958	1,200	110,353	1,072	100,437
Apr 2011	18,802	7,049	9,499	14,043	2,473	1,953	2,031	51,788	1,891	42,429	13,918	1,822	102,416	1,838	93,041
May 2011	19,683	7,076	10,201	16,742	2,713	2,278	1,796	56,897	1,537	46,955	16,077	3,364	115,489	3,011	105,900
Jun 2011	22,989	8,486	12,686	21,379	3,269	2,786	2,027	69,568	1,697	57,212	19,081	4,473	141,584	3,742	129,959
Jul 2011	23,856	8,872	13,338	23,372	3,479	2,921	1,739	74,099	1,377	61,123	20,488	4,226	152,028	3,624	139,654
Aug 2011	23,487	8,570	12,789	22,396	3,391	2,814	1,750	71,697	892	59,766	19,867	5,123	145,428	5,041	133,579
Sep 2011	21,289	7,824	11,337	19,338	3,044	2,548	1,397	63,983	1,316	52,727	17,506	3,770	129,333	3,390	118,457
Oct 2011	18,320	6,826	9,361	14,333	2,463	1,923	1,236	51,990	1,050	42,815	14,234	1,644	104,344	1,535	95,278
Nov 2011	19,588	7,381	9,817	14,711	2,595	1,977	697	55,372	661	45,591	14,466	713	110,611	718	100,825
Dec 2011	22,133	8,460	10,898	16,567	2,922	2,182	1,131	62,031	1,016	51,248	17,032	1,460	124,549	1,354	113,872

	AEP	APS	ATSI	COMED	DAY	DLCO	DIVERSITY	WESTERN	DIVERSITY	WESTERN	DOM	DIVERSITY	PJM RTO	DIVERSITY	PJM RTO
Jan 2012	23,115	8,840	10,925	16,491	3,029	2,176	1,162	63,414	1,076	52,575	18,154	1,364	128,631	1,244	117,912
Feb 2012	22,411	8,542	10,692	15,999	2,920	2,109	1,229	61,444	1,095	50,886	17,549	1,948	123,964	1,802	113,552
Mar 2012	20,710	7,773	10,130	14,864	2,676	1,986	1,249	56,890	1,315	46,694	15,302	1,683	112,701	1,364	102,824
Apr 2012	19,379	7,208	9,818	14,941	2,567	1,989	2,120	53,782	1,981	44,103	14,439	2,050	106,093	1,919	96,545
May 2012	20,448	7,251	10,603	17,765	2,844	2,339	1,999	59,251	1,574	49,073	16,790	3,928	119,770	3,631	109,889
Jun 2012	23,716	8,631	13,089	22,634	3,412	2,867	2,488	71,861	1,918	59,342	19,885	3,846	146,209	3,741	133,795
Jul 2012	24,649	9,057	13,801	24,460	3,628	2,995	1,936	76,654	1,466	63,323	21,365	4,064	157,167	3,474	144,426
Aug 2012	24,299	8,756	13,284	23,680	3,540	2,907	2,134	74,332	1,266	61,916	20,727	5,128	150,390	4,931	138,171
Sep 2012	21,671	7,981	11,598	20,304	3,155	2,592	1,769	65,532	1,518	54,185	18,211	4,339	132,150	3,841	121,301
Oct 2012	18,963	7,028	9,719	15,333	2,580	1,992	1,600	54,015	1,408	44,488	14,938	2,017	108,269	1,678	99,081
Nov 2012	20,143	7,565	10,138	15,463	2,683	2,021	863	57,150	880	46,995	15,042	860	113,898	783	103,820
Dec 2012	22,392	8,598	11,122	17,142	2,997	2,206	867	63,590	761	52,574	17,534	1,455	127,484	1,297	116,626

Table B-6

MONTHLY PEAK FORECAST (MW)
FOR FE/GPU AND PLGRP

	FE/GPU	PLGRP
Jan 2010	9,282	7,342
Feb 2010	8,987	7,135
Mar 2010	8,311	6,367
Apr 2010	7,773	5,750
May 2010	8,937	5,804
Jun 2010	11,062	6,909
Jul 2010	12,038	7,314
Aug 2010	11,291	7,083
Sep 2010	10,023	6,459
Oct 2010	7,935	5,727
Nov 2010	8,363	6,279
Dec 2010	9,417	7,131

	FE/GPU	PLGRP
Jan 2011	9,508	7,466
Feb 2011	9,215	7,258
Mar 2011	8,459	6,489
Apr 2011	7,930	5,883
May 2011	9,253	6,015
Jun 2011	11,422	7,103
Jul 2011	12,389	7,510
Aug 2011	11,663	7,267
Sep 2011	10,311	6,600
Oct 2011	8,210	5,904
Nov 2011	8,652	6,449
Dec 2011	9,695	7,291

	FE/GPU	PLGRP
Jan 2012	9,794	7,632
Feb 2012	9,493	7,413
Mar 2012	8,726	6,665
Apr 2012	8,277	6,084
May 2012	9,647	6,249
Jun 2012	11,797	7,266
Jul 2012	12,814	7,721
Aug 2012	12,070	7,498
Sep 2012	10,592	6,771
Oct 2012	8,549	6,069
Nov 2012	8,938	6,598
Dec 2012	9,950	7,417

Note: FE/GPU contains JCPL, METED, and PENLC zones; PLGRP contains PL and UGI zones.

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TABLE B-7

PJM MID-ATLANTIC REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE																
CONTRACTUALLY INTERRUPTIBLE	40	25	73	73	73	73	73	73	73	73	73	73	73	73	73	73
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	40	25	73	73	73	73	73	73	73	73	73	73	73	73	73	73
BGE																
CONTRACTUALLY INTERRUPTIBLE	485	591	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029	1,029
DIRECT CONTROL	242	242	242	242	242	242	242	242	242	242	242	242	242	242	242	242
TOTAL LOAD MANAGEMENT	727	833	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271
DPL																
CONTRACTUALLY INTERRUPTIBLE	73	89	248	248	248	248	248	248	248	248	248	248	248	248	248	248
DIRECT CONTROL	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
TOTAL LOAD MANAGEMENT	99	115	274	274	274	274	274	274	274	274	274	274	274	274	274	274
JCPL																
CONTRACTUALLY INTERRUPTIBLE	131	102	288	288	288	288	288	288	288	288	288	288	288	288	288	288
DIRECT CONTROL	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
TOTAL LOAD MANAGEMENT	155	126	312	312	312	312	312	312	312	312	312	312	312	312	312	312
METED																
CONTRACTUALLY INTERRUPTIBLE	132	116	242	242	242	242	242	242	242	242	242	242	242	242	242	242
DIRECT CONTROL	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL LOAD MANAGEMENT	134	118	244	244	244	244	244	244	244	244	244	244	244	244	244	244
PECO																
CONTRACTUALLY INTERRUPTIBLE	284	283	481	481	481	481	481	481	481	481	481	481	481	481	481	481
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	284	283	481	481	481	481	481	481	481	481	481	481	481	481	481	481
PENLC																
CONTRACTUALLY INTERRUPTIBLE	83	67	260	260	260	260	260	260	260	260	260	260	260	260	260	260
DIRECT CONTROL	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
TOTAL LOAD MANAGEMENT	91	75	268	268	268	268	268	268	268	268	268	268	268	268	268	268
PEPCO																
CONTRACTUALLY INTERRUPTIBLE	50	158	433	433	433	433	433	433	433	433	433	433	433	433	433	433
DIRECT CONTROL	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
TOTAL LOAD MANAGEMENT	63	171	446	446	446	446	446	446	446	446	446	446	446	446	446	446
PL																
CONTRACTUALLY INTERRUPTIBLE	357	379	758	758	758	758	758	758	758	758	758	758	758	758	758	758
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	357	379	758	758	758	758	758	758	758	758	758	758	758	758	758	758
PS																
CONTRACTUALLY INTERRUPTIBLE	166	123	383	383	383	383	383	383	383	383	383	383	383	383	383	383
DIRECT CONTROL	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
TOTAL LOAD MANAGEMENT	228	185	445	445	445	445	445	445	445	445	445	445	445	445	445	445
RECO																
CONTRACTUALLY INTERRUPTIBLE	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
UGI																
CONTRACTUALLY INTERRUPTIBLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM MID-ATLANTIC																
CONTRACTUALLY INTERRUPTIBLE	1,802	1,934	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197	4,197
DIRECT CONTROL	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377	377
TOTAL LOAD MANAGEMENT	2,179	2,311	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574

Notes: Forecast represents the amount of Demand Resources cleared in RPM auctions plus the 5-year average of Interruptible Load for Reliability/Active Load Management.
Winter load management is equal to Contractually Interruptible.

TABLE B-7

PJM WESTERN REGION AND PJM SOUTHERN REGION LOAD MANAGEMENT
PLACED UNDER PJM COORDINATION - SUMMER (MW)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AEP																
CONTRACTUALLY INTERRUPTIBLE	638	653	664	664	664	664	664	664	664	664	664	664	664	664	664	664
DIRECT CONTROL	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
TOTAL LOAD MANAGEMENT	662	677	688	688	688	688	688	688	688	688	688	688	688	688	688	688
APS																
CONTRACTUALLY INTERRUPTIBLE	187	232	263	263	263	263	263	263	263	263	263	263	263	263	263	263
DIRECT CONTROL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL LOAD MANAGEMENT	188	233	264	264	264	264	264	264	264	264	264	264	264	264	264	264
ATSI																
CONTRACTUALLY INTERRUPTIBLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMED																
CONTRACTUALLY INTERRUPTIBLE	614	717	571	571	571	571	571	571	571	571	571	571	571	571	571	571
DIRECT CONTROL	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
TOTAL LOAD MANAGEMENT	680	783	637	637	637	637	637	637	637	637	637	637	637	637	637	637
DAY																
CONTRACTUALLY INTERRUPTIBLE	51	65	106	106	106	106	106	106	106	106	106	106	106	106	106	106
DIRECT CONTROL	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
TOTAL LOAD MANAGEMENT	54	68	109	109	109	109	109	109	109	109	109	109	109	109	109	109
DLCO																
CONTRACTUALLY INTERRUPTIBLE	40	40	72	72	72	72	72	72	72	72	72	72	72	72	72	72
DIRECT CONTROL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL LOAD MANAGEMENT	40	40	72	72	72	72	72	72	72	72	72	72	72	72	72	72
PJM WESTERN																
CONTRACTUALLY INTERRUPTIBLE	1,530	1,707	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676
DIRECT CONTROL	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94
TOTAL LOAD MANAGEMENT	1,624	1,801	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770
DOM																
CONTRACTUALLY INTERRUPTIBLE	109	211	468	468	468	468	468	468	468	468	468	468	468	468	468	468
DIRECT CONTROL	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
TOTAL LOAD MANAGEMENT	120	222	479	479	479	479	479	479	479	479	479	479	479	479	479	479
PJM RTO																
CONTRACTUALLY INTERRUPTIBLE	3,441	3,852	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341	6,341
DIRECT CONTROL	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482	482
TOTAL LOAD MANAGEMENT	3,923	4,334	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823

Notes: Forecast represents the amount of Demand Resources cleared in RPM auctions plus the 5-year average of Interruptible Load for Reliability/Active Load Management.
Winter load management is equal to Contractually Interruptible.

TABLE B-8

PJM MID-ATLANTIC REGION ENERGY EFFICIENCY PROGRAMS
AND SUM OF ENERGY EFFICIENCY AND LOAD MANAGEMENT - SUMMER (MW)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE																
ENERGY EFFICIENCY	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LOAD MANAGEMENT	40	25	73	73	73	73	73	73	73	73	73	73	73	73	73	73
TOTAL	40	25	74	74	74	74	74	74	74	74	74	74	74	74	74	74
BGE																
ENERGY EFFICIENCY	0	0	100	100	100	100	100	100	100	100	100	100	100	100	100	100
LOAD MANAGEMENT	727	833	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271
TOTAL	727	833	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371	1,371
DPL																
ENERGY EFFICIENCY	0	0	12	12	12	12	12	12	12	12	12	12	12	12	12	12
LOAD MANAGEMENT	99	115	274	274	274	274	274	274	274	274	274	274	274	274	274	274
TOTAL	99	115	286	286	286	286	286	286	286	286	286	286	286	286	286	286
JCPL																
ENERGY EFFICIENCY	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LOAD MANAGEMENT	155	126	312	312	312	312	312	312	312	312	312	312	312	312	312	312
TOTAL	155	126	314	314	314	314	314	314	314	314	314	314	314	314	314	314
METED																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	134	118	244	244	244	244	244	244	244	244	244	244	244	244	244	244
TOTAL	134	118	244	244	244	244	244	244	244	244	244	244	244	244	244	244
PECO																
ENERGY EFFICIENCY	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2
LOAD MANAGEMENT	284	283	481	481	481	481	481	481	481	481	481	481	481	481	481	481
TOTAL	284	283	483	483	483	483	483	483	483	483	483	483	483	483	483	483
PENLC																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	91	75	268	268	268	268	268	268	268	268	268	268	268	268	268	268
TOTAL	91	75	268	268	268	268	268	268	268	268	268	268	268	268	268	268
PEPCO																
ENERGY EFFICIENCY	0	0	55	55	55	55	55	55	55	55	55	55	55	55	55	55
LOAD MANAGEMENT	63	171	446	446	446	446	446	446	446	446	446	446	446	446	446	446
TOTAL	63	171	501	501	501	501	501	501	501	501	501	501	501	501	501	501
PL																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	357	379	758	758	758	758	758	758	758	758	758	758	758	758	758	758
TOTAL	357	379	758	758	758	758	758	758	758	758	758	758	758	758	758	758
PS																
ENERGY EFFICIENCY	0	0	3	3	3	3	3	3	3	3	3	3	3	3	3	3
LOAD MANAGEMENT	228	185	445	445	445	445	445	445	445	445	445	445	445	445	445	445
TOTAL	228	185	448	448	448	448	448	448	448	448	448	448	448	448	448	448
RECO																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TOTAL	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
UGI																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM MID-ATLANTIC																
ENERGY EFFICIENCY	0	0	175	175	175	175	175	175	175	175	175	175	175	175	175	175
LOAD MANAGEMENT	2,179	2,311	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574	4,574
TOTAL	2,179	2,311	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749	4,749

Notes: Energy Efficiency values are impacts approved for use in PJM Reliability Pricing Model.
Load Management detail appears in Table B-7.

TABLE B-8

PJM WESTERN REGION AND PJM SOUTHERN REGION ENERGY EFFICIENCY PROGRAMS AND SUM OF ENERGY EFFICIENCY AND LOAD MANAGEMENT - SUMMER (MW)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AEP																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	662	677	688	688	688	688	688	688	688	688	688	688	688	688	688	688
TOTAL	662	677	688	688	688	688	688	688	688	688	688	688	688	688	688	688
APS																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	188	233	264	264	264	264	264	264	264	264	264	264	264	264	264	264
TOTAL	188	233	264	264	264	264	264	264	264	264	264	264	264	264	264	264
ATSI																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMED																
ENERGY EFFICIENCY	0	0	374	374	374	374	374	374	374	374	374	374	374	374	374	374
LOAD MANAGEMENT	680	783	637	637	637	637	637	637	637	637	637	637	637	637	637	637
TOTAL	680	783	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011	1,011
DAY																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	54	68	109	109	109	109	109	109	109	109	109	109	109	109	109	109
TOTAL	54	68	109	109	109	109	109	109	109	109	109	109	109	109	109	109
DLCO																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	40	40	72	72	72	72	72	72	72	72	72	72	72	72	72	72
TOTAL	40	40	72	72	72	72	72	72	72	72	72	72	72	72	72	72
PJM WESTERN																
ENERGY EFFICIENCY	0	0	374	374	374	374	374	374	374	374	374	374	374	374	374	374
LOAD MANAGEMENT	1,624	1,801	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770	1,770
TOTAL	1,624	1,801	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144	2,144
DOM																
ENERGY EFFICIENCY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOAD MANAGEMENT	120	222	479	479	479	479	479	479	479	479	479	479	479	479	479	479
TOTAL	120	222	479	479	479	479	479	479	479	479	479	479	479	479	479	479
PJM RTO																
ENERGY EFFICIENCY	0	0	549	549	549	549	549	549	549	549	549	549	549	549	549	549
LOAD MANAGEMENT	3,923	4,334	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823
TOTAL	3,923	4,334	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372	7,372

Notes: Energy Efficiency values are impacts approved for use in PJM Reliability Pricing Model.
Load Management detail appears in Table B-7.

Table B-9

ADJUSTMENTS TO SUMMER PEAK LOAD (MW) FOR EACH PJM ZONE AND RTO 2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JCPL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
METED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENLC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEPCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RECO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UGI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AEP	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600
APS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATSI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COMED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DLCO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PJM RTO	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600	-600

Notes: Adjustment values presented here are reflected in Tables B-1 through B-6 and Table B-10.
Adjustments are large, unanticipated load changes deemed by PJM to not be captured in the forecast model.

Table B-10

SUMMER COINCIDENT PEAK LOAD (MW) FOR
EACH PJM ZONE, LOCATIONAL DELIVERABILITY AREA AND RTO
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE	2,628	2,788	2,920	3,019	3,076	3,123	3,167	3,208	3,249	3,278	3,308	3,341	3,370	3,404	3,433	3,466
BGE	7,173	7,363	7,488	7,621	7,762	7,918	8,043	8,174	8,294	8,433	8,571	8,689	8,798	8,923	9,048	9,166
DPL	3,873	3,935	3,998	4,059	4,113	4,166	4,219	4,270	4,322	4,367	4,421	4,477	4,528	4,592	4,648	4,704
JCPL	6,203	6,376	6,593	6,733	6,841	6,931	7,039	7,096	7,178	7,247	7,312	7,373	7,493	7,503	7,587	7,668
METED	2,803	2,886	2,990	3,064	3,111	3,149	3,186	3,218	3,248	3,276	3,309	3,337	3,365	3,390	3,418	3,454
PECO	8,212	8,368	8,656	8,830	8,963	9,068	9,158	9,242	9,321	9,379	9,432	9,483	9,518	9,564	9,610	9,662
PENLC	2,710	2,779	2,863	2,929	2,980	3,035	3,089	3,138	3,175	3,227	3,275	3,322	3,362	3,404	3,439	3,482
PEPCO	6,787	6,872	7,001	7,094	7,173	7,244	7,310	7,383	7,455	7,529	7,601	7,671	7,734	7,807	7,876	7,947
PL	6,883	7,055	7,275	7,433	7,527	7,607	7,680	7,738	7,798	7,846	7,893	7,934	7,973	8,002	8,043	8,094
PS	10,523	10,736	11,010	11,188	11,322	11,443	11,562	11,657	11,748	11,845	11,943	12,032	12,107	12,176	12,253	12,365
RECO	417	425	435	444	450	454	459	463	466	470	474	478	481	484	486	490
UGI	182	186	190	194	196	197	198	200	200	201	201	202	202	203	203	204
AEP	22,358	22,894	23,671	24,084	24,372	24,625	24,832	25,026	25,193	25,334	25,469	25,624	25,755	25,894	26,041	26,187
APS	8,328	8,523	8,700	8,859	8,961	9,061	9,146	9,234	9,309	9,408	9,506	9,595	9,671	9,764	9,858	9,954
ATSI	-	12,634	13,068	13,364	13,521	13,664	13,774	13,874	13,959	14,021	14,084	14,140	14,172	14,218	14,253	14,310
COMED	21,652	22,389	23,442	24,138	24,587	25,040	25,425	25,742	26,031	26,379	26,723	26,974	27,138	27,257	27,390	27,578
DAY	3,207	3,307	3,447	3,521	3,557	3,584	3,602	3,615	3,622	3,632	3,638	3,645	3,648	3,649	3,655	3,666
DLCO	2,757	2,793	2,869	2,922	2,963	3,007	3,038	3,077	3,114	3,146	3,176	3,203	3,224	3,252	3,279	3,307
DOM	19,056	19,721	20,551	21,138	21,619	22,085	22,478	22,943	23,399	23,853	24,389	24,863	25,355	25,898	26,416	26,961
PJM RTO	135,750	152,028	157,167	160,631	163,093	165,402	167,403	169,297	171,081	172,869	174,724	176,382	177,894	179,385	180,936	182,665
MAAC	58,394	59,769	61,419	62,608	63,514	64,335	65,110	65,787	66,454	67,098	67,740	68,339	68,931	69,452	70,044	70,702
Eastern MAAC	31,856	32,628	33,612	34,273	34,765	35,185	35,604	35,936	36,284	36,586	36,890	37,184	37,497	37,723	38,017	38,355
Southwest MAAC	13,960	14,235	14,489	14,715	14,935	15,162	15,353	15,557	15,749	15,962	16,172	16,360	16,532	16,730	16,924	17,113
MAAC and APS	66,722	68,292	70,119	71,467	72,475	73,396	74,256	75,021	75,763	76,506	77,246	77,934	78,602	79,216	79,902	80,656

Notes: Load values for Zones and Locational Deliverability Areas are coincident with the PJM RTO peak.
Assumes integration of ATSI zone into PJM RTO on June 1, 2011.
This table will be used for the Reliability Pricing Model.

TABLE C-1

PJM LOCATIONAL DELIVERABILITY AREAS
CENTRAL MID-ATLANTIC: BGE, METED, PEPCO, PL AND UGI
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	17,111	24,505	16,714	21,299
2011	17,454	25,094	17,146	21,684
2012	17,882	25,696	17,757	22,088
2013	18,221	26,184	18,069	22,449
2014	18,511	26,558	18,303	22,711
2015	18,706	26,914	18,395	22,944
2016	18,902	27,219	18,528	23,174
2017	19,084	27,521	18,888	23,374
2018	19,271	27,819	19,187	23,567
2019	19,343	28,132	19,377	23,747
2020	19,613	28,436	19,377	23,922
2021	19,798	28,680	19,447	24,118
2022	19,905	28,944	19,627	24,304
2023	20,074	29,187	19,943	24,448
2024	20,106	29,480	20,235	24,611
2025	20,456	29,778	20,386	24,773

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	18,821	25,777	18,812	22,442
2011	19,035	26,393	19,281	22,850
2012	19,742	26,994	19,816	23,310
2013	20,162	27,503	20,120	23,596
2014	20,464	27,916	20,349	23,849
2015	20,887	28,277	20,638	24,153
2016	20,909	28,616	20,819	24,324
2017	21,100	28,912	21,106	24,599
2018	21,528	29,231	21,412	24,725
2019	21,634	29,563	21,637	24,914
2020	22,082	29,888	21,826	25,062
2021	22,298	30,178	21,987	25,270
2022	22,252	30,443	22,168	25,512
2023	22,467	30,690	22,372	25,682
2024	22,853	30,998	22,693	25,789
2025	23,060	31,333	22,858	25,922

TABLE C-2

PJM LOCATIONAL DELIVERABILITY AREAS
WESTERN MID-ATLANTIC: METED, PENLC, PL AND UGI
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	10,296	12,992	10,247	12,652
2011	10,529	13,327	10,571	12,920
2012	10,906	13,750	10,947	13,246
2013	11,213	14,068	11,123	13,536
2014	11,378	14,289	11,258	13,728
2015	11,529	14,468	11,409	13,886
2016	11,655	14,614	11,511	14,035
2017	11,790	14,762	11,651	14,198
2018	11,937	14,898	11,815	14,296
2019	12,044	15,043	11,877	14,414
2020	12,135	15,168	11,975	14,495
2021	12,235	15,277	12,028	14,618
2022	12,325	15,382	12,136	14,745
2023	12,410	15,486	12,251	14,839
2024	12,541	15,612	12,349	14,904
2025	12,655	15,745	12,432	14,984

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	10,761	13,587	10,403	13,298
2011	10,951	13,927	10,719	13,566
2012	11,420	14,349	11,130	13,909
2013	11,722	14,688	11,334	14,221
2014	11,953	14,914	11,459	14,371
2015	12,164	15,105	11,609	14,558
2016	12,166	15,238	11,721	14,694
2017	12,271	15,360	11,891	14,869
2018	12,503	15,507	12,038	14,955
2019	12,608	15,661	12,142	15,109
2020	12,825	15,829	12,215	15,169
2021	12,840	15,930	12,277	15,278
2022	12,878	16,021	12,402	15,396
2023	12,967	16,098	12,513	15,515
2024	13,160	16,240	12,642	15,569
2025	13,269	16,412	12,719	15,663

TABLE C-3

PJM LOCATIONAL DELIVERABILITY AREAS
EASTERN MID-ATLANTIC: AE, DPL, JCPL, PECO, PS AND RECO
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	18,716	32,801	19,868	22,522
2011	19,181	33,697	20,468	22,906
2012	19,842	34,686	21,649	23,502
2013	20,304	35,444	22,068	23,975
2014	20,769	35,971	22,192	24,308
2015	21,033	36,432	22,368	24,583
2016	21,192	36,839	22,404	24,836
2017	21,362	37,214	22,845	25,064
2018	21,604	37,461	23,487	25,263
2019	21,770	37,910	23,688	25,453
2020	22,154	38,244	23,572	25,613
2021	22,338	38,546	23,608	25,814
2022	22,342	38,845	23,768	26,018
2023	22,484	39,142	24,092	26,159
2024	22,677	39,435	24,721	26,317
2025	22,907	39,774	24,678	26,454

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	22,030	34,827	23,368	23,618
2011	22,350	35,756	24,171	23,921
2012	23,199	36,539	25,113	24,519
2013	23,988	37,476	25,563	24,973
2014	24,463	38,181	25,875	25,170
2015	24,935	38,628	26,191	25,632
2016	24,891	39,025	26,436	25,893
2017	25,171	39,410	26,872	26,122
2018	25,492	39,607	27,201	26,304
2019	25,771	40,017	27,438	26,468
2020	26,371	40,530	27,592	26,486
2021	26,463	40,835	27,703	26,883
2022	26,420	41,118	28,029	27,050
2023	26,639	41,413	28,331	27,215
2024	27,147	41,615	28,591	27,356
2025	27,372	42,152	28,772	27,314

TABLE C-4

PJM LOCATIONAL DELIVERABILITY AREAS
SOUTHERN MID-ATLANTIC: BGE AND PEPCO
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	9,144	14,433	9,302	11,459
2011	9,293	14,742	9,475	11,637
2012	9,441	14,956	9,810	11,818
2013	9,665	15,244	9,940	11,954
2014	9,818	15,466	10,066	12,088
2015	9,966	15,711	10,165	12,208
2016	10,044	15,872	10,196	12,352
2017	10,088	16,073	10,472	12,466
2018	10,314	16,253	10,659	12,592
2019	10,505	16,529	10,761	12,704
2020	10,658	16,764	10,850	12,828
2021	10,784	16,945	10,881	12,946
2022	10,837	17,081	11,003	13,062
2023	10,861	17,287	11,242	13,177
2024	11,179	17,536	11,435	13,298
2025	11,269	17,741	11,516	13,405

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	10,655	15,120	10,824	12,100
2011	10,825	15,461	11,057	12,281
2012	11,113	15,722	11,266	12,468
2013	11,273	15,963	11,418	12,631
2014	11,476	16,210	11,564	12,729
2015	11,678	16,444	11,755	12,886
2016	11,823	16,689	11,872	13,009
2017	11,907	16,902	12,039	13,133
2018	12,155	17,123	12,246	13,249
2019	12,302	17,355	12,412	13,389
2020	12,495	17,579	12,565	13,507
2021	12,652	17,801	12,694	13,627
2022	12,788	18,009	12,808	13,745
2023	12,910	18,213	12,934	13,862
2024	13,113	18,426	13,169	13,979
2025	13,266	18,646	13,290	14,095

TABLE C-5

PJM LOCATIONAL DELIVERABILITY AREAS
MID-ATLANTIC and APS: AE, APS, BGE, DPL, JCPL, METED, PECO, PENLC, PEPCO, PL, PS, RECO, and UGI
SEASONAL PEAKS - MW

BASE (50/50) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	44,590	68,465	44,944	54,675
2011	45,357	70,221	46,299	55,837
2012	46,664	72,141	47,961	57,142
2013	47,865	73,697	48,858	58,110
2014	48,843	74,865	49,342	58,797
2015	49,498	75,833	49,847	59,466
2016	49,739	76,722	50,242	60,074
2017	50,287	77,505	51,016	60,826
2018	50,692	78,230	51,781	61,300
2019	51,290	79,122	52,220	61,787
2020	52,174	79,918	52,523	62,155
2021	52,582	80,636	52,814	62,657
2022	52,780	81,323	53,197	63,284
2023	53,174	81,897	53,964	63,735
2024	53,661	82,690	54,535	64,177
2025	54,466	83,430	54,982	64,485

EXTREME WEATHER (90/10) FORECAST

YEAR	SPRING (WK 14-19)	SUMMER (WK 20-39)	FALL (WK 40-45)	WINTER (WK 46-13)
2010	49,349	71,933	51,294	57,651
2011	49,868	73,832	52,840	58,574
2012	51,551	75,360	54,604	59,963
2013	53,411	77,275	55,518	61,002
2014	54,369	78,793	56,159	61,730
2015	55,818	79,622	56,838	62,553
2016	55,023	80,470	57,391	63,140
2017	55,625	81,345	58,271	63,897
2018	56,372	81,498	59,058	64,213
2019	56,987	82,895	59,645	64,769
2020	59,132	83,843	60,016	65,118
2021	58,826	84,586	60,356	65,766
2022	58,660	85,310	61,046	66,229
2023	59,185	86,067	61,684	66,931
2024	60,432	86,694	62,423	67,144
2025	61,081	87,789	62,847	67,507

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Table D-1

SUMMER EXTREME WEATHER (90/10) PEAK LOAD
FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION (MW)
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AE	2,900	3,073	3,213	3,322	3,386	3,436	3,481	3,522	3,569	3,601	3,638	3,672	3,704	3,733	3,769	3,810
BGE	7,738	7,962	8,104	8,232	8,388	8,549	8,711	8,849	8,992	9,142	9,284	9,428	9,559	9,690	9,824	9,960
DPL	4,146	4,223	4,286	4,359	4,421	4,475	4,532	4,583	4,644	4,693	4,753	4,813	4,869	4,937	5,000	5,065
JCPL	6,855	7,065	7,239	7,434	7,607	7,710	7,807	7,897	7,903	8,020	8,149	8,219	8,295	8,365	8,397	8,535
METED	3,030	3,125	3,236	3,315	3,365	3,404	3,441	3,476	3,509	3,538	3,572	3,601	3,631	3,658	3,691	3,732
PECO	9,009	9,218	9,480	9,701	9,856	9,961	10,046	10,128	10,175	10,279	10,351	10,403	10,438	10,479	10,532	10,601
PENLC	2,942	3,007	3,091	3,149	3,209	3,273	3,313	3,351	3,407	3,453	3,521	3,557	3,587	3,621	3,668	3,725
PEPCO	7,383	7,499	7,619	7,732	7,822	7,896	7,978	8,053	8,132	8,213	8,296	8,374	8,451	8,523	8,602	8,686
PL	7,428	7,604	7,828	8,013	8,127	8,214	8,270	8,317	8,381	8,451	8,517	8,555	8,584	8,599	8,660	8,733
PS	11,456	11,707	11,908	12,169	12,414	12,543	12,651	12,767	12,800	12,903	13,114	13,200	13,279	13,365	13,378	13,598
RECO	462	471	482	491	498	503	508	513	517	522	526	529	533	536	540	544
UGI	199	203	207	212	214	216	216	217	217	219	220	220	220	220	221	223
DIVERSITY - MID-ATLANTIC(-)	330	270	554	186	1	89	113	48	596	74	100	89	30	0	16	1
PJM MID-ATLANTIC	63,218	64,887	66,139	67,943	69,306	70,091	70,841	71,625	71,650	72,960	73,841	74,482	75,120	75,726	76,266	77,211
FE/GPU	12,815	13,184	13,466	13,885	14,180	14,386	14,559	14,722	14,773	14,997	15,241	15,374	15,512	15,644	15,742	15,991
PLGRP	7,626	7,807	8,035	8,224	8,341	8,429	8,485	8,534	8,598	8,670	8,737	8,774	8,803	8,819	8,881	8,956

Table D-1

SUMMER EXTREME WEATHER (90/10) PEAK LOAD
FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2010-2025

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
AEP	24,432	25,092	25,798	26,323	26,681	26,829	27,151	27,318	27,435	27,680	27,775	27,980	28,156	28,240	28,408	28,657
APS	8,988	9,220	9,432	9,576	9,689	9,791	9,890	9,981	10,077	10,164	10,270	10,367	10,463	10,557	10,650	10,751
ATSI	13,411	13,731	14,261	14,578	14,779	14,956	14,974	15,091	15,204	15,305	15,421	15,409	15,437	15,477	15,556	15,650
COMED	24,069	25,033	26,194	26,913	27,350	27,796	28,239	28,576	28,918	29,272	29,568	29,845	30,051	30,189	30,364	30,508
DAY	3,502	3,619	3,773	3,847	3,883	3,912	3,936	3,951	3,964	3,966	3,972	3,982	3,985	3,986	3,991	4,004
DLCO	3,048	3,099	3,181	3,237	3,280	3,322	3,365	3,405	3,446	3,477	3,509	3,539	3,566	3,592	3,620	3,653
DIVERSITY - WESTERN (-)	828	839	753	694	752	643	684	625	606	621	616	615	621	538	539	655
PJM WESTERN (with ATSI)	76,622	78,955	81,886	83,780	84,910	85,963	86,871	87,697	88,438	89,243	89,899	90,507	91,037	91,503	92,050	92,568
DIVERSITY - WESTERN (-)	803	846	710	642	676	526	676	598	559	562	502	567	599	519	497	578
PJM WESTERN (without ATSI)	63,236	65,217	67,668	69,254	70,207	71,124	71,905	72,633	73,281	73,997	74,592	75,146	75,622	76,045	76,536	76,995
DOM	20,240	21,006	21,912	22,523	23,001	23,477	23,971	24,468	24,951	25,450	25,941	26,476	27,005	27,562	28,126	28,693
DIVERSITY - INTERREGIONAL (-)	2,481	2,611	2,275	2,949	3,248	3,182	3,207	3,311	2,742	3,377	3,514	3,666	3,619	3,661	3,670	3,873
PJM RTO (with ATSI)	157,599	162,237	167,662	171,297	173,969	176,349	178,476	180,479	182,297	184,276	186,167	187,799	189,543	191,130	192,772	194,599
DIVERSITY - INTERREGIONAL (-)	2,082	2,117	1,789	2,297	2,657	2,574	2,613	2,731	2,063	2,737	2,879	2,965	3,023	3,033	2,972	3,247
PJM RTO (without ATSI)	144,612	148,993	153,930	157,423	159,857	162,118	164,104	165,995	167,819	169,670	171,495	173,139	174,724	176,300	177,956	179,652

Table D-2

WINTER EXTREME WEATHER (90/10) PEAK LOAD
FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION (MW)
2009/10- 2024/25

	09/10	**10/11**	**11/12**	**12/13**	**13/14**	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	**24/25**
AE	1,851	1,894	1,988	2,046	2,074	2,105	2,120	2,156	2,162	2,198	2,206	2,218	2,244	2,261	2,266	2,284
BGE	6,331	6,425	6,516	6,579	6,615	6,705	6,762	6,843	6,874	6,967	7,026	7,077	7,147	7,203	7,236	7,314
DPL	3,543	3,588	3,637	3,686	3,712	3,764	3,794	3,839	3,857	3,908	3,945	3,979	4,024	4,061	4,089	4,144
JCPL	4,117	4,205	4,325	4,428	4,454	4,540	4,580	4,629	4,649	4,724	4,747	4,779	4,819	4,852	4,868	4,922
METED	2,672	2,744	2,835	2,915	2,945	2,988	3,006	3,056	3,057	3,104	3,122	3,134	3,169	3,199	3,198	3,239
PECO	6,769	6,852	7,057	7,207	7,242	7,361	7,450	7,544	7,559	7,643	7,632	7,699	7,756	7,794	7,784	7,795
PENLC	2,887	2,958	3,052	3,139	3,179	3,242	3,292	3,362	3,397	3,467	3,498	3,546	3,601	3,647	3,674	3,717
PEPCO	5,770	5,862	5,977	6,086	6,114	6,196	6,248	6,345	6,375	6,471	6,511	6,562	6,656	6,718	6,747	6,809
PL	7,535	7,659	7,828	7,988	8,033	8,141	8,179	8,273	8,282	8,349	8,366	8,395	8,468	8,496	8,484	8,517
PS	7,150	7,255	7,415	7,573	7,597	7,715	7,743	7,822	7,863	7,970	7,994	8,009	8,083	8,123	8,140	8,221
RECO	240	242	244	245	247	249	251	253	255	258	260	262	264	266	268	270
UGI	204	206	211	214	214	216	217	219	219	220	220	220	221	222	221	222
DIVERSITY - MID-ATLANTIC(-)	253	343	271	585	254	381	194	280	303	567	407	243	437	284	327	407
PJM MID-ATLANTIC	48,816	49,547	50,814	51,521	52,172	52,841	53,448	54,061	54,246	54,712	55,120	55,637	56,015	56,558	56,648	57,047
FE/GPU	9,644	9,871	10,166	10,426	10,545	10,729	10,852	11,016	11,102	11,238	11,317	11,423	11,544	11,665	11,731	11,834
PLGRP	7,739	7,865	8,038	8,193	8,247	8,353	8,396	8,485	8,500	8,550	8,577	8,615	8,676	8,704	8,704	8,730

Table D-2

WINTER EXTREME WEATHER (90/10) PEAK LOAD
FOR EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO (MW)
2009/10- 2024/25

	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25
AEP	24,126	24,326	24,816	25,352	25,470	25,738	25,824	26,019	26,006	26,256	26,329	26,394	26,533	26,629	26,582	26,790
APS	8,990	9,179	9,417	9,606	9,674	9,850	9,924	10,043	10,067	10,211	10,280	10,379	10,493	10,595	10,624	10,733
ATSI	10,990	11,116	11,390	11,634	11,694	11,819	11,864	11,941	11,971	12,090	12,098	12,116	12,146	12,177	12,160	12,235
COMED	16,170	16,433	17,121	17,745	17,895	18,271	18,464	18,763	18,909	19,247	19,353	19,453	19,685	19,816	19,815	19,943
DAY	3,150	3,162	3,245	3,282	3,298	3,340	3,332	3,344	3,334	3,350	3,353	3,358	3,359	3,363	3,349	3,365
DLCO	2,225	2,236	2,265	2,295	2,293	2,325	2,327	2,344	2,351	2,383	2,378	2,389	2,399	2,411	2,413	2,429
DIVERSITY - WESTERN (-)	1,143	1,015	1,152	1,365	969	1,311	1,115	1,297	1,176	1,522	1,320	1,180	1,341	1,399	1,237	1,338
PJM WESTERN (with ATSI)	64,508	65,437	67,102	68,549	69,355	70,032	70,620	71,157	71,462	72,015	72,471	72,909	73,274	73,592	73,706	74,157
DIVERSITY - WESTERN (-)	942	1,036	1,141	1,300	1,015	1,292	1,026	1,354	1,128	1,470	1,348	1,087	1,391	1,469	1,165	1,366
PJM WESTERN (without ATSI)	53,719	54,300	55,723	56,980	57,615	58,232	58,845	59,159	59,539	59,977	60,345	60,886	61,078	61,345	61,618	61,894
DOM	18,467	18,873	19,568	20,125	20,364	20,861	21,200	21,615	21,860	22,312	22,671	23,031	23,474	23,884	24,192	24,715
DIVERSITY - INTERREGIONAL (-)	942	1,024	1,447	1,077	1,050	1,087	1,201	1,417	917	1,153	1,460	1,227	1,120	1,470	950	1,660
PJM RTO (with ATSI)	130,849	132,833	136,037	139,118	140,841	142,647	144,067	145,416	146,651	147,886	148,802	150,350	151,643	152,564	153,596	154,259
DIVERSITY - INTERREGIONAL (-)	748	818	1,198	863	1,035	920	1,098	919	654	836	1,221	1,146	768	978	826	1,326
PJM RTO (without ATSI)	120,254	121,902	124,907	127,763	129,116	131,014	132,395	133,916	134,991	136,165	136,915	138,408	139,799	140,809	141,632	142,330

Table E-1

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2010-2020

		ESTIMATED 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Growth Rate (10 yr)
AE		11,238	11,574	12,180	12,845	13,259	13,543	13,752	13,978	14,117	14,287	14,426	14,611	2.4%
	%		3.0%	5.2%	5.5%	3.2%	2.1%	1.5%	1.6%	1.0%	1.2%	1.0%	1.3%	
BGE		34,158	35,504	36,413	37,106	37,496	38,115	38,763	39,503	39,977	40,533	41,083	41,788	1.6%
	%		3.9%	2.6%	1.9%	1.1%	1.7%	1.7%	1.9%	1.2%	1.4%	1.4%	1.7%	
DPL		18,782	19,050	19,326	19,617	19,800	20,036	20,251	20,517	20,652	20,856	21,031	21,327	1.1%
	%		1.4%	1.4%	1.5%	0.9%	1.2%	1.1%	1.3%	0.7%	1.0%	0.8%	1.4%	
JCPL		24,045	25,157	25,965	26,987	27,590	28,097	28,525	29,004	29,281	29,628	29,919	30,324	1.9%
	%		4.6%	3.2%	3.9%	2.2%	1.8%	1.5%	1.7%	1.0%	1.2%	1.0%	1.4%	
METED		15,672	16,167	16,690	17,320	17,706	18,013	18,254	18,518	18,651	18,841	18,983	19,238	1.8%
	%		3.2%	3.2%	3.8%	2.2%	1.7%	1.3%	1.4%	0.7%	1.0%	0.8%	1.3%	
PECO		41,204	41,360	42,402	44,042	44,952	45,759	46,372	47,010	47,333	47,751	48,081	48,592	1.6%
	%		0.4%	2.5%	3.9%	2.1%	1.8%	1.3%	1.4%	0.7%	0.9%	0.7%	1.1%	
PENLC		17,670	18,391	18,970	19,707	20,184	20,648	21,089	21,574	21,904	22,296	22,660	23,135	2.3%
	%		4.1%	3.1%	3.9%	2.4%	2.3%	2.1%	2.3%	1.5%	1.8%	1.6%	2.1%	
PEPCO		32,384	33,422	33,955	34,661	35,058	35,464	35,816	36,283	36,542	36,900	37,250	37,737	1.2%
	%		3.2%	1.6%	2.1%	1.1%	1.2%	1.0%	1.3%	0.7%	1.0%	0.9%	1.3%	
PL		40,958	41,829	42,928	44,403	45,269	45,988	46,533	47,100	47,357	47,729	47,987	48,487	1.5%
	%		2.1%	2.6%	3.4%	2.0%	1.6%	1.2%	1.2%	0.5%	0.8%	0.5%	1.0%	
PS		46,644	48,576	49,778	51,262	52,091	52,857	53,504	54,250	54,646	55,142	55,570	56,239	1.5%
	%		4.1%	2.5%	3.0%	1.6%	1.5%	1.2%	1.4%	0.7%	0.9%	0.8%	1.2%	
RECO		1,521	1,581	1,616	1,663	1,685	1,706	1,727	1,751	1,763	1,781	1,793	1,814	1.4%
	%		4.0%	2.2%	2.9%	1.3%	1.2%	1.2%	1.4%	0.7%	1.0%	0.7%	1.2%	
UGI		1,037	1,049	1,075	1,108	1,124	1,138	1,147	1,159	1,161	1,166	1,167	1,175	1.1%
	%		1.2%	2.5%	3.1%	1.4%	1.2%	0.8%	1.0%	0.2%	0.4%	0.1%	0.7%	
PJM MID-ATLANTIC		285,314	293,660	301,298	310,721	316,214	321,364	325,733	330,647	333,384	336,910	339,950	344,467	1.6%
	%		2.9%	2.6%	3.1%	1.8%	1.6%	1.4%	1.5%	0.8%	1.1%	0.9%	1.3%	
FE/GPU		57,387	59,715	61,625	64,014	65,480	66,758	67,868	69,096	69,836	70,765	71,562	72,697	2.0%
	%		4.1%	3.2%	3.9%	2.3%	2.0%	1.7%	1.8%	1.1%	1.3%	1.1%	1.6%	
PLGRP		41,995	42,878	44,003	45,511	46,393	47,126	47,680	48,259	48,518	48,895	49,154	49,662	1.5%
	%		2.1%	2.6%	3.4%	1.9%	1.6%	1.2%	1.2%	0.5%	0.8%	0.5%	1.0%	

Note: Estimated 2009 includes weather-normalized data through August.
All average growth rates are calculated from the first year of the forecast.

Table E-1 (Continued)

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION 2021-2025

		2021	2022	2023	2024	2025	Annual Growth Rate (15 yr)
AE		14,711	14,844	14,971	15,140	15,243	1.9%
	%	0.7%	0.9%	0.9%	1.1%	0.7%	
BGE		42,231	42,785	43,325	43,953	44,364	1.5%
	%	1.1%	1.3%	1.3%	1.4%	0.9%	
DPL		21,485	21,697	21,933	22,217	22,384	1.1%
	%	0.7%	1.0%	1.1%	1.3%	0.8%	
JCPL		30,548	30,850	31,124	31,486	31,733	1.6%
	%	0.7%	1.0%	0.9%	1.2%	0.8%	
METED		19,356	19,521	19,670	19,884	20,038	1.4%
	%	0.6%	0.9%	0.8%	1.1%	0.8%	
PECO		48,747	49,002	49,214	49,561	49,745	1.2%
	%	0.3%	0.5%	0.4%	0.7%	0.4%	
PENLC		23,429	23,776	24,101	24,496	24,787	2.0%
	%	1.3%	1.5%	1.4%	1.6%	1.2%	
PEPCO		37,985	38,348	38,689	39,125	39,377	1.1%
	%	0.7%	1.0%	0.9%	1.1%	0.6%	
PL		48,608	48,860	49,058	49,403	49,587	1.1%
	%	0.2%	0.5%	0.4%	0.7%	0.4%	
PS		56,525	56,973	57,363	57,876	58,218	1.2%
	%	0.5%	0.8%	0.7%	0.9%	0.6%	
RECO		1,821	1,834	1,847	1,862	1,870	1.1%
	%	0.4%	0.7%	0.7%	0.8%	0.4%	
UGI		1,174	1,179	1,179	1,186	1,188	0.8%
	%	-0.1%	0.4%	0.0%	0.6%	0.2%	
PJM MID-ATLANTIC		346,620	349,669	352,474	356,189	358,534	1.3%
	%	0.6%	0.9%	0.8%	1.1%	0.7%	
FE/GPU		73,333	74,147	74,895	75,866	76,558	1.7%
	%	0.9%	1.1%	1.0%	1.3%	0.9%	
PLGRP		49,782	50,039	50,237	50,589	50,775	1.1%
	%	0.2%	0.5%	0.4%	0.7%	0.4%	

Table E-1

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2010-2020

		ESTIMATED 2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Annual Growth Rate (10 yr)
AEP		134,618	137,640	140,545	144,746	146,711	148,337	149,735	151,306	151,796	152,662	153,232	154,656	1.2%
	%		2.2%	2.1%	3.0%	1.4%	1.1%	0.9%	1.0%	0.3%	0.6%	0.4%	0.9%	
APS		47,545	50,221	51,488	52,783	53,459	54,150	54,721	55,414	55,749	56,260	56,714	57,488	1.4%
	%		5.6%	2.5%	2.5%	1.3%	1.3%	1.1%	1.3%	0.6%	0.9%	0.8%	1.4%	
ATSI		65,838	69,726	71,466	74,097	75,440	76,581	77,441	78,361	78,698	79,172	79,455	80,226	1.4%
	%		5.9%	2.5%	3.7%	1.8%	1.5%	1.1%	1.2%	0.4%	0.6%	0.4%	1.0%	
COMED		100,825	103,204	107,578	113,770	117,526	120,183	122,684	125,253	126,780	128,537	130,288	132,545	2.5%
	%		2.4%	4.2%	5.8%	3.3%	2.3%	2.1%	2.1%	1.2%	1.4%	1.4%	1.7%	
DAY		17,570	17,842	18,455	19,281	19,641	19,873	20,057	20,240	20,257	20,305	20,296	20,426	1.4%
	%		1.5%	3.4%	4.5%	1.9%	1.2%	0.9%	0.9%	0.1%	0.2%	0.0%	0.6%	
DLCO		14,278	14,677	14,908	15,305	15,529	15,760	15,973	16,215	16,360	16,538	16,683	16,902	1.4%
	%		2.8%	1.6%	2.7%	1.5%	1.5%	1.4%	1.5%	0.9%	1.1%	0.9%	1.3%	
PJM WESTERN (with ATSI)		380,674	393,310	404,440	419,982	428,306	434,884	440,611	446,789	449,640	453,474	456,668	462,243	1.6%
	%		3.3%	2.8%	3.8%	2.0%	1.5%	1.3%	1.4%	0.6%	0.9%	0.7%	1.2%	
PJM WESTERN (without ATSI)		314,836	323,584	332,974	345,885	352,866	358,303	363,170	368,428	370,942	374,302	377,213	382,017	1.7%
	%		2.8%	2.9%	3.9%	2.0%	1.5%	1.4%	1.4%	0.7%	0.9%	0.8%	1.3%	
DOM		94,091	97,196	100,466	104,758	107,335	109,664	111,879	114,406	116,289	118,487	120,663	123,368	2.4%
	%		3.3%	3.4%	4.3%	2.5%	2.2%	2.0%	2.3%	1.6%	1.9%	1.8%	2.2%	
PJM RTO (with ATSI)		760,079	784,166	806,204	835,461	851,855	865,912	878,223	891,842	899,313	908,871	917,281	930,078	1.7%
	%		3.2%	2.8%	3.6%	2.0%	1.7%	1.4%	1.6%	0.8%	1.1%	0.9%	1.4%	
PJM RTO (without ATSI)		694,241	714,440	734,738	761,364	776,415	789,331	800,782	813,481	820,615	829,699	837,826	849,852	1.8%
	%		2.9%	2.8%	3.6%	2.0%	1.7%	1.5%	1.6%	0.9%	1.1%	1.0%	1.4%	

Note: Estimated 2009 includes weather-normalized data through August.
All average growth rates are calculated from the first year of the forecast.

Table E-1 (Continued)

ANNUAL NET ENERGY (GWh) AND GROWTH RATES FOR
EACH PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO
2021-2025

		2021	2022	2023	2024	2025	Annual Growth Rate (15 yr)
AEP		154,993	155,769	156,366	157,419	157,800	0.9%
	%	0.2%	0.5%	0.4%	0.7%	0.2%	
APS		57,865	58,408	58,914	59,573	59,951	1.2%
	%	0.7%	0.9%	0.9%	1.1%	0.6%	
ATSI		80,334	80,623	80,769	81,099	81,259	1.0%
	%	0.1%	0.4%	0.2%	0.4%	0.2%	
COMED		133,596	134,696	135,489	136,620	137,081	1.9%
	%	0.8%	0.8%	0.6%	0.8%	0.3%	
DAY		20,418	20,455	20,448	20,490	20,499	0.9%
	%	0.0%	0.2%	0.0%	0.2%	0.0%	
DLCO		16,998	17,131	17,252	17,410	17,516	1.2%
	%	0.6%	0.8%	0.7%	0.9%	0.6%	
PJM WESTERN (with ATSI)		464,204	467,082	469,238	472,611	474,106	1.3%
	%	0.4%	0.6%	0.5%	0.7%	0.3%	
PJM WESTERN (without AT		383,870	386,459	388,469	391,512	392,847	1.3%
	%	0.5%	0.7%	0.5%	0.8%	0.3%	
DOM		125,393	127,828	130,301	133,153	135,408	2.2%
	%	1.6%	1.9%	1.9%	2.2%	1.7%	
PJM RTO (with ATSI)		936,217	944,579	952,013	961,953	968,048	1.4%
	%	0.7%	0.9%	0.8%	1.0%	0.6%	
PJM RTO (without ATSI)		855,883	863,956	871,244	880,854	886,789	1.5%
	%	0.7%	0.9%	0.8%	1.1%	0.7%	

Table E-2

MONTHLY NET ENERGY FORECAST (GWh) FOR EACH PJM MID-ATLANTIC ZONE AND GEOGRAPHIC REGION

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	PJM MID-ATLANTIC
Jan 2010	975	3,263	1,757	2,161	1,470	3,662	1,673	2,971	3,977	4,055	129	104	26,197
Feb 2010	861	2,857	1,544	1,898	1,307	3,237	1,496	2,615	3,516	3,609	113	92	23,145
Mar 2010	890	2,844	1,517	1,976	1,355	3,351	1,578	2,613	3,597	3,833	122	92	23,768
Apr 2010	816	2,521	1,339	1,804	1,219	3,043	1,428	2,377	3,150	3,586	114	78	21,475
May 2010	861	2,616	1,399	1,893	1,255	3,153	1,461	2,507	3,197	3,760	123	77	22,302
Jun 2010	1,010	3,090	1,638	2,219	1,331	3,557	1,458	3,020	3,323	4,325	145	80	25,196
Jul 2010	1,270	3,568	1,936	2,666	1,479	4,109	1,563	3,436	3,680	5,014	171	91	28,983
Aug 2010	1,240	3,483	1,893	2,555	1,461	4,010	1,580	3,335	3,647	4,865	163	89	28,321
Sep 2010	939	2,805	1,508	1,989	1,254	3,252	1,461	2,721	3,216	3,928	127	77	23,277
Oct 2010	878	2,637	1,414	1,931	1,289	3,212	1,518	2,481	3,282	3,825	123	80	22,670
Nov 2010	857	2,669	1,424	1,902	1,285	3,179	1,506	2,471	3,355	3,715	120	86	22,569
Dec 2010	977	3,151	1,681	2,163	1,462	3,595	1,669	2,875	3,889	4,061	131	103	25,757

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC
Jan 2011	1,006	3,345	1,786	2,222	1,521	3,730	1,728	3,024	4,079	4,155	131	107	26,834
Feb 2011	886	2,922	1,565	1,949	1,345	3,285	1,538	2,652	3,590	3,682	115	93	23,622
Mar 2011	920	2,914	1,537	2,031	1,396	3,403	1,624	2,648	3,679	3,913	124	94	24,283
Apr 2011	858	2,591	1,357	1,861	1,258	3,114	1,470	2,410	3,225	3,672	117	80	22,013
May 2011	909	2,695	1,421	1,957	1,298	3,233	1,509	2,550	3,290	3,855	126	80	22,923
Jun 2011	1,061	3,179	1,664	2,290	1,374	3,641	1,503	3,063	3,412	4,431	149	82	25,849
Jul 2011	1,338	3,648	1,958	2,736	1,515	4,195	1,601	3,472	3,755	5,107	174	93	29,592
Aug 2011	1,311	3,581	1,926	2,643	1,515	4,130	1,637	3,396	3,763	5,003	167	91	29,163
Sep 2011	999	2,879	1,528	2,056	1,292	3,342	1,504	2,764	3,299	4,026	130	79	23,898
Oct 2011	941	2,705	1,433	2,006	1,335	3,328	1,573	2,529	3,387	3,935	126	83	23,381
Nov 2011	917	2,737	1,446	1,976	1,332	3,292	1,560	2,521	3,457	3,826	123	88	23,275
Dec 2011	1,034	3,217	1,705	2,238	1,509	3,709	1,723	2,926	3,992	4,173	134	105	26,465

	AE	BGE	DPL	JCPL	METED	PECO	PENLC	PEPCO	PL	PS	RECO	UGI	MID-ATLANTIC
Jan 2012	1,064	3,408	1,810	2,301	1,573	3,863	1,789	3,087	4,200	4,270	135	109	27,609
Feb 2012	974	3,082	1,643	2,092	1,444	3,527	1,653	2,802	3,831	3,925	122	99	25,194
Mar 2012	978	2,963	1,551	2,101	1,440	3,517	1,676	2,689	3,777	4,013	127	96	24,928
Apr 2012	913	2,640	1,375	1,939	1,305	3,243	1,528	2,460	3,340	3,784	120	82	22,729
May 2012	968	2,749	1,441	2,041	1,350	3,371	1,573	2,604	3,416	3,982	130	82	23,707
Jun 2012	1,123	3,228	1,682	2,375	1,420	3,771	1,557	3,110	3,516	4,549	153	85	26,569
Jun 2012	1,394	3,703	1,980	2,831	1,572	4,347	1,661	3,529	3,883	5,244	179	96	30,419
Jul 2012	1,367	3,633	1,948	2,735	1,568	4,273	1,696	3,450	3,883	5,137	172	94	29,956
Sep 2012	1,045	2,917	1,540	2,128	1,334	3,456	1,557	2,800	3,398	4,121	133	81	24,510
Oct 2012	987	2,752	1,456	2,085	1,388	3,455	1,636	2,583	3,512	4,056	130	86	24,126
Nov 2012	959	2,779	1,469	2,053	1,381	3,409	1,618	2,577	3,567	3,939	126	91	23,968
Dec 2012	1,073	3,252	1,722	2,306	1,545	3,810	1,763	2,970	4,080	4,242	136	107	27,006

Table E-2

MONTHLY NET ENERGY FORECAST (GWh) FOR EACH
PJM WESTERN AND PJM SOUTHERN ZONE, GEOGRAPHIC REGION AND RTO

	AEP	APS	ATSI	COMED	DAY	DLCO	PJM WESTERN (w ATSI)	PJM WESTERN (wo ATSI)	DOM	PJM RTO (w ATSI)	PJM RTO (wo ATSI)
Jan 2010	12,838	4,791	6,204	8,958	1,598	1,268	35,657	29,453	9,039	70,893	64,689
Feb 2010	11,321	4,235	5,569	7,969	1,412	1,129	31,635	26,066	7,865	62,645	57,076
Mar 2010	11,590	4,306	5,836	8,342	1,471	1,193	32,738	26,902	7,694	64,200	58,364
Apr 2010	10,354	3,775	5,375	7,706	1,333	1,106	29,649	24,274	6,830	57,954	52,579
May 2010	10,672	3,834	5,549	7,996	1,379	1,165	30,595	25,046	7,158	60,055	54,506
Jun 2010	11,203	4,004	5,702	8,726	1,506	1,258	32,399	26,697	8,524	66,119	60,417
Jul 2010	12,302	4,408	6,296	10,212	1,680	1,420	36,318	30,022	9,640	74,941	68,645
Aug 2010	12,257	4,384	6,276	9,864	1,672	1,392	35,845	29,569	9,394	73,560	67,284
Sep 2010	10,668	3,836	5,543	8,155	1,389	1,175	30,766	25,223	7,731	61,774	56,231
Oct 2010	10,886	3,920	5,670	8,183	1,414	1,167	31,240	25,570	7,206	61,116	55,446
Nov 2010	10,995	4,036	5,568	8,067	1,412	1,146	31,224	25,656	7,370	61,163	55,595
Dec 2010	12,554	4,692	6,138	9,026	1,576	1,258	35,244	29,106	8,745	69,746	63,608

	AEP	APS	ATSI	COMED	DAY	DLCO	WESTERN	WESTERN	DOM	PJM RTO	PJM RTO
Jan 2011	13,084	4,928	6,334	9,210	1,639	1,286	36,481	30,147	9,304	72,619	66,285
Feb 2011	11,485	4,337	5,653	8,166	1,442	1,140	32,223	26,570	8,071	63,916	58,263
Mar 2011	11,763	4,411	5,929	8,560	1,508	1,205	33,376	27,447	7,908	65,567	59,638
Apr 2011	10,528	3,861	5,488	8,011	1,375	1,120	30,383	24,895	7,051	59,447	53,959
May 2011	10,895	3,939	5,684	8,334	1,431	1,183	31,466	25,782	7,409	61,798	56,114
Jun 2011	11,428	4,104	5,833	9,059	1,556	1,276	33,256	27,423	8,789	67,894	62,061
Jul 2011	12,517	4,490	6,431	10,612	1,730	1,436	37,216	30,785	9,934	76,742	70,311
Aug 2011	12,591	4,505	6,477	10,365	1,745	1,420	37,103	30,626	9,738	76,004	69,527
Sep 2011	10,896	3,927	5,685	8,554	1,441	1,194	31,697	26,012	8,004	63,599	57,914
Oct 2011	11,182	4,024	5,868	8,667	1,481	1,193	32,415	26,547	7,502	63,298	57,430
Nov 2011	11,299	4,147	5,762	8,543	1,474	1,172	32,397	26,635	7,676	63,348	57,586
Dec 2011	12,877	4,815	6,322	9,497	1,633	1,283	36,427	30,105	9,080	71,972	65,650

	AEP	APS	ATSI	COMED	DAY	DLCO	WESTERN	WESTERN	DOM	PJM RTO	PJM RTO
Jan 2012	13,431	5,054	6,707	9,708	1,699	1,314	37,913	31,206	9,685	75,034	68,327
Feb 2012	12,230	4,610	5,995	8,930	1,552	1,209	34,526	28,531	8,701	68,482	62,487
Mar 2012	12,043	4,508	6,241	9,028	1,564	1,228	34,612	28,371	8,222	67,627	61,386
Apr 2012	10,846	3,953	5,872	8,510	1,444	1,150	31,775	25,903	7,365	61,699	55,827
May 2012	11,237	4,039	6,066	8,880	1,507	1,217	32,946	26,880	7,742	64,246	58,180
Jun 2012	11,738	4,180	6,161	9,567	1,624	1,306	34,576	28,415	9,134	70,152	63,991
Jul 2012	12,882	4,586	6,859	11,151	1,810	1,475	38,763	31,904	10,312	79,316	72,457
Aug 2012	12,944	4,595	6,827	10,916	1,821	1,456	38,559	31,732	10,101	78,503	71,676
Sep 2012	11,165	3,995	6,019	9,016	1,505	1,222	32,922	26,903	8,298	65,593	59,574
Oct 2012	11,507	4,127	6,200	9,171	1,550	1,225	33,780	27,580	7,816	65,609	59,409
Nov 2012	11,608	4,241	6,039	9,021	1,531	1,203	33,643	27,604	7,982	65,523	59,484
Dec 2012	13,115	4,895	6,454	9,872	1,674	1,300	37,310	30,856	9,400	73,677	67,223

Table E-3

MONTHLY NET ENERGY FORECAST (GWh)
FOR FE/GPU AND PLGRP

	FE/GPU	PLGRP
Jan 2010	5,304	4,081
Feb 2010	4,701	3,608
Mar 2010	4,909	3,689
Apr 2010	4,451	3,228
May 2010	4,609	3,274
Jun 2010	5,008	3,403
Jul 2010	5,708	3,771
Aug 2010	5,596	3,736
Sep 2010	4,704	3,293
Oct 2010	4,738	3,362
Nov 2010	4,693	3,441
Dec 2010	5,294	3,992

	FE/GPU	PLGRP
Jan 2011	5,471	4,186
Feb 2011	4,832	3,683
Mar 2011	5,051	3,773
Apr 2011	4,589	3,305
May 2011	4,764	3,370
Jun 2011	5,167	3,494
Jul 2011	5,852	3,848
Aug 2011	5,795	3,854
Sep 2011	4,852	3,378
Oct 2011	4,914	3,470
Nov 2011	4,868	3,545
Dec 2011	5,470	4,097

	FE/GPU	PLGRP
Jan 2012	5,663	4,309
Feb 2012	5,189	3,930
Mar 2012	5,217	3,873
Apr 2012	4,772	3,422
May 2012	4,964	3,498
Jun 2012	5,352	3,601
Jul 2012	6,064	3,979
Aug 2012	5,999	3,977
Sep 2012	5,019	3,479
Oct 2012	5,109	3,598
Nov 2012	5,052	3,658
Dec 2012	5,614	4,187

Note: FE/GPU contains JCPL, METED, and PENLC zones; PLGRP contains PL and UGI zones.

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TABLE F-1

PJM RTO HISTORICAL PEAKS
(MW)

SUMMER

YEAR	NORMALIZED BASE	NORMALIZED COOLING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE/TIME	
1998	72,950	38,170	111,120	114,996	Tuesday	07/21/1998 17:00
1999	73,990	42,980	116,970	121,655	Tuesday	07/06/1999 17:00
2000	76,300	40,080	116,380	114,178	Wednesday	08/09/2000 17:00
2001	75,990	45,080	121,070	131,116	Thursday	08/09/2001 16:00
2002	77,140	48,120	125,260	130,360	Thursday	08/01/2002 17:00
2003	77,650	46,700	124,350	126,332	Thursday	08/21/2003 17:00
2004			130,645	120,235	Wednesday	06/09/2004 17:00
2005			133,550	134,219	Tuesday	07/26/2005 16:00
2006			134,905	145,951	Wednesday	08/02/2006 17:00
2007			136,095	140,948	Wednesday	08/08/2007 16:00
2008			136,315	130,792	Monday	06/09/2008 17:00
2009			133,780	126,944	Monday	08/10/2009 17:00

WINTER

YEAR	NORMALIZED BASE	NORMALIZED HEATING	NORMALIZED TOTAL	UNRESTRICTED PEAK	PEAK DATE/TIME	
97/98				88,970	Wednesday	01/14/1998 19:00
98/99				99,982	Tuesday	01/05/1999 19:00
99/00				102,359	Thursday	01/27/2000 20:00
00/01				101,717	Wednesday	12/20/2000 19:00
01/02				97,294	Thursday	01/03/2002 19:00
02/03				112,755	Thursday	01/23/2003 19:00
03/04			108,110	106,760	Monday	01/26/2004 19:00
04/05			110,250	114,061	Monday	12/20/2004 19:00
05/06			111,745	110,415	Wednesday	12/14/2005 19:00
06/07			112,455	118,800	Monday	02/05/2007 20:00
07/08			113,185	111,724	Thursday	01/03/2008 19:00
08/09			113,150	117,169	Friday	01/16/2009 19:00

Notes: Normalized values for 1998 - 2003 are calculated by PJM staff using the bottom-up coincident peak weather-normalization methodology.
Normalized values for 2004 - 2009 are calculated by PJM staff using a methodology consistent with the PJM Load Forecast Model.
All times are shown in hour ending Eastern Prevailing Time.
All historic peak values reflect the membership of the PJM RTO as of December 31, 2009.

TABLE F-2

PJM RTO HISTORICAL NET ENERGY
(GWH)

YEAR	ENERGY	GROWTH RATE
1998	620,061	0.8%
1999	636,404	2.6%
2000	651,190	2.3%
2001	651,319	0.0%
2002	673,526	3.4%
2003	674,471	0.1%
2004	689,008	2.2%
2005	682,441	-1.0%
2006	694,989	1.8%
2007	724,541	4.3%
2008	713,910	-1.5%

Note: All historic net energy values reflect the membership of the PJM RTO as of December 31, 2009.

Table G-1

ANNUALIZED AVERAGE GROWTH OF GROSS METROPOLITAN PRODUCT FOR EACH PJM ZONE AND RTO

	5-Year (2010-15)	10-Year (2010-20)	15 Year (2010-25)
AE	3.9%	2.5%	2.0%
BGE	3.3%	2.9%	2.6%
DPL	2.5%	2.2%	2.1%
JCPL	3.2%	2.3%	1.9%
METED	2.8%	1.9%	1.6%
PECO	2.6%	1.8%	1.4%
PENLC	2.5%	2.1%	1.8%
PEPCO	3.3%	2.7%	2.4%
PL	2.5%	1.7%	1.3%
PS	3.2%	2.3%	1.9%
RECO	3.3%	2.4%	2.0%
UGI	2.2%	1.4%	1.0%
AEP	3.9%	2.5%	2.0%
APS	2.9%	1.9%	1.5%
ATSI	2.7%	1.7%	1.3%
COMED	3.4%	2.4%	1.8%
DAY	2.5%	1.4%	1.0%
DLCO	2.8%	2.3%	1.9%
DOM	3.8%	3.2%	2.9%
PJM RTO (with ATSI)	3.2%	2.4%	2.0%
PJM RTO (without ATSI)	3.2%	2.4%	2.1%

Source: Moody's Economy.com, November, 2009

Note: Values presented are annualized compound average growth rates.

In the
United States Court of Appeals
For the Seventh Circuit

Nos. 08-1306, 08-1780, 08-2071, 08-2124, 08-2239

ILLINOIS COMMERCE COMMISSION, *et al.*,

Petitioners,

v.

FEDERAL ENERGY REGULATORY COMMISSION, *et al.*,

Respondents.

Petitions to Review Orders of the
Federal Energy Regulatory Commission.

ARGUED APRIL 13, 2009—DECIDED AUGUST 6, 2009

Before CUDAHY, POSNER, and TINDER, *Circuit Judges*.

POSNER, *Circuit Judge*. We have before us challenges to a decision by the Federal Energy Regulatory Commission concerning the reasonableness of rates for the transmission of electricity over facilities owned by utilities that belong to a Regional Transmission Organization (that is, a power pool) called PJM Interconnection. *PJM Interconnection, L.L.C.*, 119 F.E.R.C. ¶ 61,063 (2007), rehearing denied, 122 F.E.R.C. ¶ 61,082 (2008); see 16 U.S.C. § 824e; *Atlantic City Electric Co. v. FERC*, 295 F.3d 1, 10 (D.C. Cir. 2002). ("PJM"

stands for "Pennsylvania-New Jersey-Maryland," but the full name is not used any more.) "RTOs are voluntary associations in which each of the owners of transmission lines that comprise an integrated regional grid cedes to the RTO complete operational control over its transmission lines." Richard J. Pierce, Jr., "Regional Transmission Organizations: Federal Limitations Needed for Tort Liability," 23 *Energy L.J.* 63, 64 (2002); see also *Regional Transmission Organizations*, 65 Fed. Reg. 810-01, 2000 WL 4557 (FERC Jan. 6, 2000); *Morgan Stanley Capital Group Inc. v. Public Utility District No. 1*, 128 S. Ct. 2733, 2741 (2008). PJM's region stretches east and south from the Chicago area, primarily to western Michigan and eastern Indiana, Ohio, Pennsylvania, New Jersey, Delaware, Maryland, the District of Columbia, and Virginia. *PJM Interconnection, L.L.C., supra,* p. 3, see *FPL Energy Marcus Hook, L.P. v. FERC*, 430 F.3d 441, 442-43 (D.C. Cir. 2005). The region is home to more than 50 million consumers of electricity.

Two issues are presented. The first, raised by American Electric Power Service Corporation and the Public Utilities Commission of Ohio (participation by state commissions in rate proceedings before FERC is authorized by 16 U.S.C. § 825g(a); see also § 825*l*(a)), involves the pricing of electricity transmitted from the Midwest to the East through Ohio. PJM wants that transmission to be priced on the basis of the cost to American Electric of transmitting one more unit of electricity, that is, the marginal cost; and FERC agrees. Such a price excludes the cost that the company incurred when it built the transmission facilities. That cost—which American

Electric wants to be permitted to reflect in its rates—is what economists call a "sunk" cost, that is, a cost that has already been incurred. So while its financial burden can be shifted (from American Electric to the eastern utilities), the cost itself cannot be shifted, and therefore shifting the financial burden created by the cost from one set of shoulders to another will have no direct effect on service or investment.

Had FERC decided that American Electric would not be permitted to charge a price that covered the cost of building a new transmission facility or upgrading an existing one, its decision would have affected the allocation of resources and not just of money. It would have deterred the building of new facilities that benefited customers outside American Electric's service area, because building them would become an unprofitable venture. FERC emphasizes, however, that the company's existing facilities, which are all that are involved in this case, were built before 2001 when PJM became a Regional Transmission Organization, and were intended to serve American Electric's customers only. So even if the facilities had not been fully paid for, there would be no economic basis for shifting any part of their costs to other members, because American Electric did not expect when it built the facilities that any part of their cost would be defrayed by anyone besides its customers. PJM and FERC have made clear that American Electric *will* be allowed to charge a price that covers its costs for transmission to other utilities over new or upgraded facilities.

American Electric points out that some of its existing facilities are not fully depreciated. But it can continue to depreciate them over their remaining useful life in order to create an accounting reserve or obtain a tax benefit. And when it builds a new facility it will be allowed, as we said, to recover the full costs of that facility in its prices.

The company may be trying to extract a monopoly price for the use of its facilities. It stands between western sellers of electricity and their eastern customers and would like to extract a toll for giving the former passage to the latter, a toll that has no relation to its costs of rendering that service. It charged its customers for the costs of building its existing facilities and recovered those costs fully and now wants to recover them all over again from another group of consumers. And it's not as if American Electric were being required to provide transmission to the east at zero price. It is permitted to charge for the service—just not to include in the charge its sunk costs.

The second issue relates to the financing of new transmission facilities. Here the Ohio commission joins its Illinois counterpart, representing the interests of the midwestern utilities in PJM's region, in objecting to PJM's proposed method, approved by FERC, for pricing new transmission facilities that have a capacity of 500 kilovolts or more. Heretofore all new facilities in PJM's region have been financed by contributions from the region's electrical utilities calculated on the basis of the benefits that each utility receives from the facilities. This will continue to be the rule for facilities with capacities of

less than 500 kV. But for the higher-voltage facilities FERC has decided that all the utilities in PJM's region should contribute pro rata; that is, their rates should be raised by a uniform amount sufficient to defray the facilities' costs.

FERC's stated reasons are that some of PJM's members entered into similar pro rata sharing agreements with each other more than forty years ago and would like to follow that precedent, that figuring out who benefits from a new transmission facility and by how much is very difficult and so generates litigation, and that everyone benefits from high-capacity transmission facilities because they increase the reliability of the entire network. Despite the stakes in the dispute—the new policy might, for example, force Commonwealth Edison to contribute hundreds of millions of dollars to an above-500 kV eastern project called "Project Mountaineer," when it would not have had to pay a dime under the benefits-based system applicable to lower-voltage transmission facilities—no data are referred to in FERC's two opinions (the original opinion and the opinion on rehearing). No lawsuits are mentioned. No specifics concerning difficulties in assessing benefits are offered. No particulars are presented concerning the contribution that very high-voltage facilities are likely to make to the reliability of PJM's network. Not even the roughest estimate of likely benefits to the objecting utilities is presented. The first sentence in this paragraph is an adequate summary of the Commission's reasoning, minus recourse to metaphor, as in the Commission's repeated references to very high-voltage facilities as the "backbone" of PJM's network. The Commission's insouciance about the basis for its ruling

is mirrored by its lawyers: their brief devotes only five pages to the 500 kV pricing issue.

The objections to the Commission's ruling pivot on an asymmetry between the eastern and western portions of PJM's region. In the west the electrical generating plants usually are close to the customers—Chicago for example is ringed by power plants. As a result, relatively low-voltage transmission facilities—mainly 345 kV—are preferred. In the east, where the power plants generally are farther away from the customers, 500 kV and even higher-voltage transmission facilities are preferred, because high voltage is more efficient than low for transmitting electricity over long distances. So far as appears, few if any such facilities will be built in the objectors' service areas, that is, in the Midwest, within the foreseeable future. FERC seems not to care whether any will ever be built, because the reasons it gave for approving PJM's new pricing method are independent of where the facilities are located.

The first two reasons the Commission gave can be dispatched briefly. The fact that some of the same members of PJM who agreed to share the costs of such facilities with each other many years ago would like contributions from midwestern utilities carries no weight. The eastern utilities that created PJM refer to themselves revealingly as the "classic" PJM utilities, and the fact that these utilities thought it appropriate to share costs in 1967 says nothing about the advantages and disadvantages of such an arrangement in the larger, modern PJM network.

The Commission said that it would be inclined to defer to "regional consensus," but acknowledged there was none; the midwestern utilities are part of PJM's region but did not agree to the eastern utilities' cost-sharing proposal. As we shall see, the fact that one group of utilities desires to be subsidized by another is no reason in itself for giving them their way.

The second reason the Commission gave for approving PJM's pricing scheme—the difficulty of measuring benefits and the resulting likelihood of litigation over them—fails because of the absence of any indication that the difficulty exceeds that of measuring the benefits to particular utilities of a smaller-capacity transmission line. Like the D.C. Circuit in *Sithe/Independence Power Partners, L.P. v. FERC*, 285 F.3d 1, 5 (D.C. Cir. 2002) (citation omitted), we acknowledge "that feasibility concerns play a role in approving rates, indicating that FERC is not bound to reject any rate mechanism that tracks the cost-causation principle less than perfectly." But we also agree that "the Commission's cursory response simply will not do. At no point did the Commission explain how these considerations [that the tariffs and refund mechanism produced 'efficient price signals,' and that petitioner's requested refunds would somehow disrupt that price signaling, would be 'infeasible,' and a matter of 'unending controversy'] applied. Why, we wonder, would a different method of refunds, based more closely on cost-causation principles, jeopardize desirable price signaling or be infeasible?" *Id*.

No doubt the more a transmission facility costs, and therefore the greater the stakes in a dispute between

potential contributors to that cost, the more litigation there is likely to be. But how much more (at least approximately) is the critical consideration and the Commission ignored it.

That leaves for consideration the benefits that the midwestern utilities might derive from the greater reliability that the larger-capacity transmission facilities might confer on the network as a whole. The reason for building such facilities is to satisfy the demand of eastern consumers for electricity, but the more transmission capacity there is, the less likely are blackouts or brownouts caused by surges of demand for electricity on hot summer days or by accidents that shut down a part of the electrical grid. Because the transmission lines in PJM's service region are interconnected, a failure in one part of the region can affect the supply of electricity in other parts of the network. So utilities and their customers in the western part of the region could benefit from higher-voltage transmission lines in the east, but nothing in FERC's opinions in this case enables even the roughest of ballpark estimates of those benefits.

At argument FERC's counsel reluctantly conceded that if Commonwealth Edison would derive only $1 million in expected benefits from Project Mountaineer, for which it is being asked to chip in (by its estimate) $480 million, the disparity between benefit and cost would be unreasonable. The concession was prudent. *Algonquin Gas Transportation Co. v. FERC*, 948 F.2d 1305, 1313 (D.C. Cir. 1991); *Pacific Gas & Electric Co. v. FERC*, 373 F.3d 1315, 1320-21 (D.C. Cir. 2004). As FERC itself explained in *Trans-*

continental Gas Pipe Line Corp., 112 F.E.R.C. ¶ 61,170, 61,924-61,925 (2005), "a claim of generalized system benefits is not enough to justify requiring the existing shippers to subsidize the uncontested increase in electric costs caused by the Cherokee project. . . . The rehearing applicants suggest that the use of the Cherokee shippers' transportation quantities in deriving the fuel retention percentages and their payment of such charges reduce the fuel costs borne by the existing shippers. However, they point to no evidence in the record that seeks to quantify this benefit, or even shows that such a benefit has occurred . . . . The Commission concludes that all these alleged benefits are simply too speculative and unsupported to be taken into account."

FERC is not authorized to approve a pricing scheme that requires a group of utilities to pay for facilities from which its members derive no benefits, or benefits that are trivial in relation to the costs sought to be shifted to its members. "'[A]ll approved rates [must] reflect to some degree the costs actually caused by the customer who must pay them.' *KN Energy, Inc. v. FERC*, 968 F.2d 1295, 1300 (D.C. Cir. 1992); *Transmission Access Policy Study Group v. FERC*, 225 F.3d 667, 708 (D.C. Cir. 2000); *Pacific Gas & Elec. Co. v. FERC*, No. 03-1025, 373 F.3d 1315, 1320-21 (D.C. Cir. 2004). Not surprisingly, we evaluate compliance with this unremarkable principle by comparing the costs assessed against a party to the burdens imposed or benefits drawn by that party." *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004); see also *Alcoa Inc. v. FERC*, 564 F.3d 1342, 1346-47 (D.C. Cir. 2009); *Sithe/Independence Power Partners, L.P. v. FERC*, *supra*,

285 F.3d at 4-5; Federal Power Act, 16 U.S.C. § 824d. To the extent that a utility benefits from the costs of new facilities, it may be said to have "caused" a part of those costs to be incurred, as without the expectation of its contributions the facilities might not have been built, or might have been delayed. But as far as one can tell from the Commission's opinions in this case, the likely benefit to Commonwealth Edison from new 500 kV projects is zero. The opinion on rehearing attributes the need for new transmission capacity in PJM to the threat of "degraded reliability in *Eastern* PJM," 122 F.E.R.C. ¶ 61,082, p. 13 (emphasis added), and nowhere do the Commission's opinions suggest that degraded reliability is a danger in Midwestern PJM.

No doubt there will be *some* benefit to the midwestern utilities just because the network *is* a network, and there have been outages in the Midwest. But enough of a benefit to justify the costs that FERC wants shifted to those utilities? Nothing in the Commission's opinions enables an answer to that question. Although the Commission did say that a 500 kV transmission line has twice the capacity of a 345 kV line, it added that "the *reliability* of 500 kV and above circuits in terms of momentary and sustained interruptions is 70 percent more reliable than 138 kV circuits and 60 percent more than 230 kV circuits on a per mile basis," *PJM Interconnection, L.L.C.*, *supra*, 119 F.E.R.C. ¶ 61,063, p. 23; 122 F.E.R.C. ¶ 61,082, p. 16 (emphasis added)—but did not compare the reliability of a 500 kV line to that of a 345 kV line, even though network reliability is the benefit that the Commission

thinks the midwestern utilities will obtain from new 500 kV lines in the East.

Rather desperately FERC's lawyer, and the lawyer for the eastern utilities that intervened in support of its ruling, reminded us at argument that Commission has a great deal of experience with issues of reliability and network needs, and they asked us therefore (in effect) to take the soundness of its decision on faith. But we cannot do that because we are not authorized to uphold a regulatory decision that is not supported by substantial evidence on the record as a whole, or to supply reasons for the decision that did not occur to the regulators. E.g., 5 U.S.C. § 706; *Bethany v. FERC*, 276 F.3d 934, 940 (7th Cir. 2002); *Central Illinois Public Service Co. v. FERC*, 941 F.2d 622, 627 (7th Cir. 1991); *Pacific Gas & Electric Co. v. FERC*, *supra*, 373 F.3d at 1319. The reasons that did occur to FERC are inadequate.

We do not suggest that the Commission has to calculate benefits to the last penny, or for that matter to the last million or ten million or perhaps hundred million dollars. *Midwest ISO Transmission Owners v. FERC*, *supra*, 373 F.3d at 1369 ("we have never required a ratemaking agency to allocate costs with exacting precision"); *Sithe/Independence Power Partners, L.P. v. FERC*, *supra*, 285 F.3d at 5. If it cannot quantify the benefits to the midwestern utilities from new 500 kV lines in the East, even though it does so for 345 kV lines, but it has an articulable and plausible reason to believe that the benefits are at least roughly commensurate with those utilities' share of total electricity sales in PJM's region, then fine;

the Commission can approve PJM's proposed pricing scheme on that basis. For that matter it can presume that new transmission lines benefit the entire network by reducing the likelihood or severity of outages. E.g., *Western Massachusetts Elec. Co. v. FERC*, 165 F.3d 922, 927 (D.C. Cir. 1999). But it cannot use the presumption to avoid the duty of "comparing the costs assessed against a party to the burdens imposed or benefits drawn by that party." *Midwest ISO Transmission Owners v. FERC, supra*, 373 F.3d at 1368. Nor did it in the *Western Massachusetts* case.

In *Midwest ISO*, where the objecting utilities contended that they were being asked to pay far more than their share of the benefits—which they said was a measly 5 percent—the court found that they were misrepresenting the record. 373 F.3d at 1370. There is no comparable basis on which to affirm the Commission's decision in this case. Our review of decisions by FERC is deferential, e.g., *Town of Norwood v. FERC*, 962 F.2d 20, 22 (D.C. Cir. 1992); "we require only that the agency have made a reasoned decision based upon substantial evidence in the record." *Id.* But the Commission failed to do that, and so the case must be remanded for further proceedings; we intimate no view on their outcome.

To summarize, the petitions for review that concern the pricing of existing transmission facilities are denied, but the petitions concerning the pricing of new facilities that have a capacity of 500 kilovolts or more are granted.

CUDAHY, *Circuit Judge*, concurring in part and dissenting in part. I concur fully in the majority's approval of FERC's rate design for existing facilities' transmission costs. I write separately to express my concerns over the majority's disapproval of the proposed rate design for new transmission lines operating at voltages at or in excess of 500,000 volts.

The United States is now engaged in an urgent project to upgrade its electric transmission grid, which for years has been generally regarded as inadequate,[1] and may become more deficient with the addition of major new anticipated loads.[2] The existing transmission system originally served vertically integrated utilities that built their own generation relatively close to their customers. The system was not designed for long-distance power

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[1] *E.g.*, *House Report on the Energy Policy Act of 2005*, H.R. Rep. No. 109-215(I), at 171 ("Investment in electric transmission expansion has not kept pace with electricity demand. Moreover, transmission system reliability is suspect as demonstrated by the blackout that hit the Northeast and Midwest in August of 2003. Legislation is needed to address the issues of transmission capacity, operation, and reliability. In addition, state regulatory approval delays siting of new transmission lines by many years. Even if a project is completed, there is uncertainty as to whether utilities will be able to recover all of their investment, which hinders new transmission construction.").

[2] *See, e.g.*, Argonne, *Impact of Plug-in Hybrid Electric Vehicles on the Electricity Market in Illinois*, available at http://www.dis.anl.gov/news/Illinois_PluginHybrids.html (visited 7/27/09).

transfers between different parts of the country. The inadequacy of the present network and the urgency of the need for its improvement has only been exacerbated by the additional burdens imposed by deregulation (or restructuring), which "unbundled" generation and transmission and created a need to bring power from distant generators.[3] Additional challenges have been posed by the demand for power from renewable generation sources (such as wind farms) that are often located in places remote from centers of electric consumption.[4]

Long-distance transmission, which inherently presents challenges to reliability, is accomplished most efficiently by the highest levels of voltage—500 kV and above. According to FERC, "500 kV and above circuits . . . [are] 70 percent more reliable than 138 kV circuits and 60 percent more than 230 kV circuits on a per mile basis." *PJM Interconnection LLC*, 122 FERC ¶ 61,082, 2008 WL 276596, at *16 (Jan. 31, 2008) (order on rehearing). Further, because power transfer capability increases with the square of voltage,[5] extra-high voltage transmission also

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[3] *See* Mark Cooper, *Electricity Deregulation Puts Pressure on the Transmission Network and Increases its Cost*, available at http://www.consumersunion.org/Transmission%20brief%208.27.pdf (visited 7/27/09).

[4] *See* Matthew L. Wald, *Debate on Clean Energy Leads to Regional Divide*, N.Y. Times, July 14, 2009, at A13.

[5] *See generally* Peter W. Sauer, *Reactive Power and Voltage Control Issues in Electric Power Systems*, Applied Mathematics for

(continued...)

facilitates enormous transfers of power: "the maximum transfer capability at 500 kV and above is approximately 6 times greater than a similar transmission line operated at 230 kV and more than twice that at 345 kV . . . ." *Id*. In light of its unique contributions to reliability and transfer capability, extra-high voltage transmission is especially fitted to be financed equally by all utilities that benefit from its role as the "backbone" of the system.[6] Pro rata rates for extra-high voltage transmission, through their simplicity of application, also provide a strong incentive to build transmission undeterred by fruitless controversy over the allocation of costs.

It is significant that FERC's conclusion that the costs of extra-high voltage transmission facilities should be shared is consistent with the proposals of fifteen of PJM's seventeen members. In the course of this proceeding,

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[5] (...continued)
Restructured Electric Power Systems: Optimization, Control, and Computational Intelligence (Joe H. Chow, Felix F. Wu & James A. Momoh, eds.) (2005).

[6] These are "backbone" facilities because they "integrate major system resources," *Pacific Gas & Elec. Co.*, 53 FERC ¶ 61146, 61520-21 & n.65, 1990 WL 319356, at *10 (Oct. 31, 1990), by facilitating major transfers of power between and among regions. To my knowledge, no court prior to ours has objected to the metaphor. *See Public Serv. Co. of Ind., Inc. v. FERC*, 575 F.2d 1204, 1217 (7th Cir. 1978); *see also Cal. Dep't of Water Res. v. FERC*, 489 F.3d 1029, 1035 (9th Cir. 2007); *Boston Edison Co. v. FERC*, 441 F.3d 10, 11 (1st Cir. 2006); *Cajun Elec. Power Coop., Inc. v. FERC*, 924 F.2d 1132, 1134 (D.C. Cir. 1991).

various parties proposed voltages lower than 500 kV as the threshold above which proportional cost-sharing should apply. Although PJM's members were unable to agree on a specific voltage cutoff, they were broadly in agreement that the rate structure should be designed to share the costs of facilities providing general systemic benefits. There was thus an effort by many parties to broaden the area of rate-simplification by enlarging the set of new transmission facilities to be governed by cost-sharing, not to narrow or eliminate it. I think these efforts illustrate the value of simplification and the difficulties in the design of a transmission rate structure that attempts rigidly and in all circumstances to trace benefits to specific utilities.

However theoretically attractive may be the principle of "beneficiary pays," an unbending devotion to this rule in every instance can only ignite controversy, sustain arguments and discourage construction while the nation suffers from inadequate and unreliable transmission. Unsurprisingly, it is not possible to realistically determine for each utility and with reference to each major project the likelihood that rate-simplification will reduce litigation, or to calculate the precise value of not having to cover the costs of power failures and of not paying costs associated with congestion, and all this over the next forty to fifty years. Concerns about the real value to individual utilities of the stability and efficiency provided by improvements to the backbone grid are answered by their voluntary participation in the power pool and its collaborative "RTEP" (or regional transmission expansion planning) process. Rate-making based on cost

causation is assured by this process, since universal cost-sharing is recommended only when developments are found to benefit the integrated system as a whole.[7]

Contrary to the majority's suggestion, FERC did not violate principles of "cost causation" by failing to propose a number that would represent the specific monetary benefits to each utility of a more reliable network. Cost causation requires that "approved rates reflect to some degree the costs actually caused by the customer who must pay them." *Midwest ISO Transmission Owners v. FERC*, 373 F.3d 1361, 1368 (D.C. Cir. 2004) (Roberts, J.) (quoting *KN Energy, Inc. v. FERC*, 968 F.2d 1294, 1300 (D.C. Cir. 1992)) (internal quotation marks omitted). However, until today, no court has found that cost causation requires FERC to monetize the benefits of reliability improvements in

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[7] "Project Mountaineer," with which the majority seems particularly concerned, is no exception. Project Mountaineer is a plan to construct hundreds of miles of 500 and 765 kV linkages between eastern and western PJM. The PJM literature, to which Commonwealth Edison could have objected but did not, indicates that Project Mountaineer was a response to the nearly 200% increase in congestion costs from 2004 to 2005. Ventyx, *Major Transmission Constraints in PJM*, at *3 n.4 (2007), available at http://www.ventyx.com/pdf/wp07-transmission-constraints.pdf (visited 7/14/09). These increased congestion costs were partly due to the expansion of PJM's footprint. *Id.* As part of its cost allocation process, PJM determined that Project Mountaineer "would bring about substantial congestion relief and reliability improvements increasing Midwest-to-east transfers by 5,000 MW." *Id.* at *3.

order to share the costs. Indeed, the cases the majority cites support the opposite conclusion. Most notably, in *Midwest ISO*, the panel was quite clear that utilities that draw benefits from being a part of a power pool should share the cost of *having* a power pool. *Id.* at 1371. As then-Judge Roberts explained, "upgrades designed to preserve the grid's reliability constitute system enhancements that *are presumed to benefit the entire system*." *Id.* at 1369 (internal quotation marks, citations and alterations omitted, and emphasis added); *see also Entergy Servs., Inc. v. FERC*, 319 F.3d 536, 543 (D.C. Cir. 2003); *Western Massachusetts Elec. Co. v. FERC*, 165 F.3d 922, 927 (D.C. Cir. 1999). Since there is a *presumption* that enhanced reliability benefits all of the systems members, Commonwealth Edison (ComEd) can be required to bear a proportional share of an improvement's costs even where it is not possible to determine precisely how much it benefits. Put otherwise, the burden is on ComEd to show that it would *not* benefit from the newly planned transmission facilities; the burden is not on FERC to estimate how much ComEd would benefit from a more reliable grid.

Indeed, in *Midwest ISO*, the panel *rejected* the objecting utility's argument that it could not be made to pay sixty to seventy percent of an investment's costs because it would obtain only five percent of the benefits. 373 F.3d at 1370. As the majority notes, the panel found no record support for the utility's claim that its benefits would be so low. (Maj. Op. at 12.) However, the panel also held that cost causation principles do not require the costs of a new facility to be apportioned based on the objecting utility's actual *use* of that facility. To the

contrary, the "benefits" of system enhancements must be understood more broadly than this. Again, then-Judge Roberts:

> even if they are not in some sense *using* the ISO [roughly a term for a power pool], the MISO Owners still benefit from *having* an ISO. In this sense, MISO is somewhat like the federal court system. It costs a considerable amount to set up and maintain a court system, and these costs—the costs of *having* a court system—are borne by the taxpayers, even though the vast majority of them will have no contact with that system (will not *use* that system) in any given year . . . The MISO Owners' position is tantamount to saying that if they are not a litigant, they should not be made to pay for any of the costs of *having* a court system. Since the MISO Owners do, in fact, draw benefits from being a part of the MISO regional transmission system, FERC correctly determined that they should share the cost of *having* an ISO.

Id. at 1371. I fear that the majority has lost sight of this basic principle.[8]

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[8] The other cases on which the majority relies also do not hold that FERC is required to explain the benefits of reliability. For instance, in *Algonquin Gas Transmission Co. v. FERC*, 948 F.2d 1305 (D.C. Cir. 1991), the court rejected FERC's proposal to share the costs of a new gas pipeline because FERC had not provided *any* evidence that the pipeline would provide system-wide benefits. *Id.* at 1313. In the present case, by contrast, there

(continued...)

Because the majority's decision is based on an unusually narrow conception of cost-causation, its characterizations of FERC's and the intervenor's arguments as "insouciant" (Maj. Op. at 5) and "desperate" (Maj. Op. at 11) strike me as conspicuously misplaced. FERC responded to ComEd's objections by indicating that the proposed projects would improve reliability and reduce congestion. *See PJM Interconnection*, 2008 WL 276596, at *16. It did not explain how PJM's members benefit from a reliable network because no court had hitherto required it to do so. Until now, it went without saying that network reliability benefits the network's members. This is not insouciance; "[e]xplanations come to an end somewhere." Ludwig Wittgenstein, *Philosophical Investigations* §1 (G.E.M. Anscombe trans., 1968).

The big picture here is that FERC's proposal to spread the cost of very high voltage transmission on a uniform

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[8] (...continued)
is no dispute that the transmission facilities at issue would increase network transfer capacity and improve network reliability.

Along the same lines, *Alcoa Inc. v. FERC*, 564 F.3d 1342 (D.C. Cir. 2009), provides no support at all for the majority's robust understanding of the requirements of cost causation. In that case, the D.C. Circuit *rejected* Alcoa's claim that it was being asked to pay more than its fair share of the costs of maintaining network reliability, holding instead that because rate design rests on technical issues and policy judgments that lie at the core of the regulatory mission, FERC's explanation for its rate scheme "although admittedly spare, is nonetheless adequate." *Id.* at 1347-48.

basis seems to me in the interest of efficient, high-capacity transfer capability and of the closely linked improvement of reliability, which affects the system generally.[9] Deregulation created a demand for competitive sources of power, often at a distance. Because 500 kV and above lines satisfy these new systemic needs, their separate treatment for rate-making purposes is both sensible and innovative. While an effort to identify specific benefits to

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[9] Indeed, the majority concedes that reliability problems affect all of the system's users when it acknowledges that failures in one part of an integrated network can affect the supply of electricity in other parts of the network. (Maj. Op. at 8). So-called "cascading outages" have occurred on a number of occasions in the recent past. Most notably, in 2003 a power failure that started in Ohio spread through eight states, including parts of PJM's footprint, leaving 50 million people without power and causing an estimated $12 billion in economic losses. *E.g.*, Peter Fox-Penner, *A Year Later, Lessons From the Blackout*, N.Y. Times, Aug. 15, 2004, at 14WC. As the majority notes, FERC has not estimated the probability that degraded reliability in Eastern PJM could affect Midwestern PJM. However, even if this probability is vanishingly small, a very low number multiplied by billions of dollars may still yield a very high number. Further, there is no reason to suppose that ComEd's customers are unaffected by problems with the reliability of the PJM grid. By one estimate, power outages and disturbances cause $4 to $7 billion in damages per year in Illinois alone. *See* Primen, *The Cost of Power Disturbances to Industrial & Digital Economy Companies* (June 29, 2001), at D-1, available at http://www.onpower.com/pdf/EPRICostOfPowerProblems.pdf (visited 7/8/09).

specific utilities is a traditional rate design approach and may be appropriate for most electric plant facilities, it may miss the forest and focus on the trees when applied to very high voltage "backbone" facilities having a generalized role in supporting reliability and high capacity power transfer. Perhaps as important in this picture is the urgency of the need to build transmission and the need for incentives to that end. Pro rata assignment of costs eliminates not only lawsuits but nitpicking controversies of every sort and delays standing in the path of action. From that point of view, I think FERC may be in a better position to implement a policy leading to prompt improvement in a deficient transmission grid than this court, focused as it is on the inevitable complaints of utilities demanding more for their money. I therefore respectfully dissent from the majority's unfortunate rejection of FERC's rate scheme for new transmission lines carrying 500 kV or higher.