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Integrated Resource Plan

4 CSR 240-22.030

Load Analysis and Forecasting

Volume 2

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4 CSR 240-22.030 (5)

(5) Base-Case Load Forecast. The utility's base-case load forecast shall be based on projections of the major economic and demographic driver variables that utility decision-makers believe to be most likely. All components of the base-case forecast shall be based on the assumption of normal weather conditions. The load impacts of implemented demand-side programs shall be incorporated in the base-case load forecast but the load impacts of proposed demand-side programs shall not be included in the base-case forecast.

AmerenUE uses Economy.com's projections of the major economic and demographic driver variables for AmerenUE's service territory.

[redacted]

Employment Growth (Year-to-year percent change)

Source: Bureau of Labor Statistics

[redacted]

[redacted]

[redacted]

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AmerenUE's energy forecast results are based on normal weather conditions. The models are estimated using actual energy usage and actual weather conditions for the history and for the forecast period, normal weather is used. Historical sales are simulated with normal weather to evaluate forecast growth rates using the "Simulation" object in MetrixND. As part of the Stipulation and Agreement, AmerenUE also did the energy forecast using the weather-normalized sales and normal weather conditions. The difference between the results from using weather-normalized sales and using actual sales is insignificant as can be seen in Table (5)-1. Furthermore, using weather normalized sales in forecasting is more time consuming but does not improve the model performance; a comparison of the model statistics can be found in Table (5)-2. AmerenUE has the tools to model actual sales with actual weather and to forecast with normal weather and the results from those models are used in resource planning.

Table (5)-1: Forecast difference between models with weather-normalized sales and actual sales (GWh)

Year	WNRes	Res	Diff	WNCom	Com	Diff	WNInd	Ind	Diff_Ind	WNWhl	Whl	Diff	WNTotal	Total	Diff_Total	%Diff_Total
2007	13,644	13,659	-15	14,381	14,397	-16	5,571	5,591	-20	642	638	4	34,238	34,286	(47)	-0.14%
2008	13,878	13,892	-14	14,704	14,722	-19	5,549	5,558	-9	657	652	5	34,788	34,825	(37)	-0.11%
2009	14,110	14,122	-12	15,057	15,076	-19	5,564	5,564	0				34,731	34,762	(31)	-0.09%
2010	14,333	14,344	-11	15,395	15,415	-20	5,574	5,565	9				35,302	35,324	(22)	-0.06%
2011	14,559	14,569	-10	15,739	15,759	-20	5,580	5,564	16				35,878	35,892	(14)	-0.04%
2012	14,787	14,797	-10	16,095	16,114	-19	5,583	5,561	23				36,465	36,472	(7)	-0.02%
2013	15,008	15,019	-11	16,441	16,459	-19	5,578	5,550	28				37,027	37,029	(2)	0.00%
2014	15,235	15,248	-13	16,788	16,806	-18	5,575	5,542	33				37,598	37,595	3	0.01%
2015	15,471	15,484	-13	17,128	17,146	-18	5,570	5,532	38				38,169	38,162	7	0.02%
2016	15,715	15,729	-14	17,456	17,474	-18	5,567	5,525	42				38,739	38,728	10	0.03%
2017	15,963	15,977	-14	17,796	17,814	-17	5,565	5,519	45				39,324	39,310	14	0.04%
2018	16,218	16,233	-14	18,141	18,157	-16	5,561	5,512	49				39,920	39,902	18	0.05%
2019	16,480	16,494	-15	18,481	18,496	-15	5,556	5,504	52				40,516	40,495	22	0.05%
2020	16,747	16,763	-16	18,832	18,845	-14	5,547	5,492	54				41,125	41,100	25	0.06%
2021	17,019	17,035	-17	19,158	19,171	-12	5,535	5,478	57				41,711	41,684	28	0.07%
2022	17,300	17,317	-18	19,493	19,504	-11	5,517	5,458	59				42,310	42,280	30	0.07%
2023	17,587	17,607	-19	19,835	19,843	-8	5,498	5,437	61				42,920	42,887	33	0.08%
2024	17,887	17,908	-20	20,175	20,181	-6	5,475	5,412	63				43,537	43,501	37	0.08%
2025	18,194	18,215	-21	20,529	20,531	-2	5,452	5,387	65				44,175	44,133	42	0.09%
2026	18,511	18,533	-21	20,880	20,878	2	5,426	5,359	67				44,817	44,770	47	0.10%
2027	18,836	18,858	-22	21,231	21,226	6	5,397	5,329	68				45,465	45,412	52	0.12%
2028	19,166	19,189	-23	21,617	21,606	11	5,365	5,295	70				46,149	46,090	59	0.13%
2029	19,497	19,521	-24	22,013	21,995	18	5,328	5,256	72				46,838	46,773	65	0.14%
2030	19,833	19,860	-26	22,369	22,347	23	5,288	5,214	74				47,491	47,420	70	0.15%

Table (5)-2: Weather-normalized and actual model forecast performance

Model	R-Sq	Adj R-Sq	F Stat	F-Stat Prob	DW Stat	MAD	MAPE	Std Err	Adj Obs
ResUPC	0.989	0.988	847.47	0.00	1.95	0.02	1.95%	0.03	137
WNResUPC	0.988	0.988	1829.03	0.00	1.90	0.02	1.90%	0.02	137
ComSGS	0.972	0.964	113.16	0.00	2.07	4845	1.83%	7323	137
WNSGS	0.953	0.942	85.26	0.00	2.09	4762	1.77%	7850	136
ComLGS	0.916	0.909	125.11	0.00	1.87	15138	3.14%	20713	138
WNLGS	0.916	0.909	137.96	0.00	1.84	13860	2.91%	18586	138
ComSPS	0.938	0.926	75.65	0.00	2.15	4080	1.88%	5673	61
WNSPS	0.920	0.902	51.05	0.00	2.04	4045	1.88%	5753	61
ComLPS	0.922	0.908	58.40	0.00	2.02	2949	3.26%	3910	65
WNLPS	0.915	0.897	47.47	0.00	1.99	2959	3.28%	4124	65
IndSales	0.836	0.808	28.20	0.00	2.08	10646	2.16%	15676	137
WNInd	0.816	0.790	29.12	0.00	2.13	10517	2.15%	14268	136
Whls	0.944	0.936	118.03	0.00	1.97	1349	2.63%	2064	89
WNWhls	0.926	0.915	88.60	0.00	2.01	1417	2.84%	2056	90

There were no implemented demand-side programs at the time this forecast was prepared; therefore, no demand-side impact has been incorporated in the base-case load forecast.

CSR 240-22.030 (5) (A)

(A) Customer Class and Total Load Detail. The utility shall produce forecasts of monthly energy usage and demands at the time of the summer and winter system peaks by major class for each year of the planning horizon. Where the utility anticipates that jurisdictional levels of forecasts will be required to meet the requirements of a specific state, then the utility shall determine a procedure by which the major class forecasts can be separated by jurisdictional component.

Forecasts of monthly energy usage and demands at the time of monthly system peaks by major class for each year of the planning horizon were produced and provided in the latter sections.

CSR 240-22.030 (5) (B) 1

(B) Load Component Detail. For each major class, the utility shall produce separate forecasts of the number of units and use per unit components based on the analysis described in sections (2) and (3) of this rule.

1. Number of units forecast. The utility's forecast of number of units for each major class shall be based on the analysis of the relationship between number of units and driver variables described in section (2). Where judgment has been applied to modify the results of a statistical or mathematical model, the utility shall specify the factors which caused the modification and shall explain how those factors were quantified.

All number of units forecast model specifications are provided in 22.030 (2) (B).

CSR 240-22.030 (5) (B) 1.A

A. The forecasts of the driver variables shall be specified and clearly documented. These forecasts shall be compared to historical trends and significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

Data for the economic and driver variables are provided below.

Table (5) (B)-1: Total employment

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
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Table (5) (B)-2: Manufacturing employment

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996	[redacted]													
1997	[redacted]													
1998	[redacted]													
1999	[redacted]													
2000	[redacted]													
2001	[redacted]													
2002	[redacted]													
2003	[redacted]													
2004	[redacted]													
2005	[redacted]													
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-3: Non-manufacturing employment

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996	[redacted]													
1997	[redacted]													
1998	[redacted]													
1999	[redacted]													
2000	[redacted]													
2001	[redacted]													
2002	[redacted]													
2003	[redacted]													
2004	[redacted]													
2005	[redacted]													
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-4: Retail trade employment

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
1998														
1999														
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Table (5) (B)-5: Total GDP

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
1998														
1999														
2000														
2001														
2002														
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Table (5) (B)-6: Manufacturing GDP

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
1998														
1999														
2000														
2001														
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Table (5) (B)-7: Non-manufacturing GDP

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
1998														
1999														
2000														
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Table (5) (B)-8: Retail trade GDP

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996	[redacted]													
1997	[redacted]													
1998	[redacted]													
1999	[redacted]													
2000	[redacted]													
2001	[redacted]													
2002	[redacted]													
2003	[redacted]													
2004	[redacted]													
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2011	[redacted]													
2012	[redacted]													
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2016	[redacted]													
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2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-9: Personal income

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996	[redacted]													
1997	[redacted]													
1998	[redacted]													
1999	[redacted]													
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2003	[redacted]													
2004	[redacted]													
2005	[redacted]													
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
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2013	[redacted]													
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2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
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2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
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Table (5) (B)-10: Population

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
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Table (5) (B)-11: Households

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996	[redacted]													
1997	[redacted]													
1998	[redacted]													
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2003	[redacted]													
2004	[redacted]													
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2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
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2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
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2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-12: Household size

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
1996														
1997														
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Table (5) (B)-13: Household income

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
1995	[redacted]													
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CSR 240-22.030 (5) (B) 1.B

B. The forecasts of the number of units for each major class shall be compared to historical trends. Significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

Forecasts of the number of units for each subclass are provided below. It should be noted that DtD customer counts should be excluded in calculating total number of customers for AmerenUE as it would result in double-counting.

Table (5) (B)-14: Residential customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-15: Commercial SGS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-16: Commercial LGS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-17: Commercial SPS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-18: Commercial LPS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-19: Industrial SGS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-20: Industrial LGS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-21: Industrial SPS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-22: Industrial LPS customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-23: DtD customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-24: SLPA customer forecast

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Change
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

CSR 240-22.030 (5) (B) 2.A

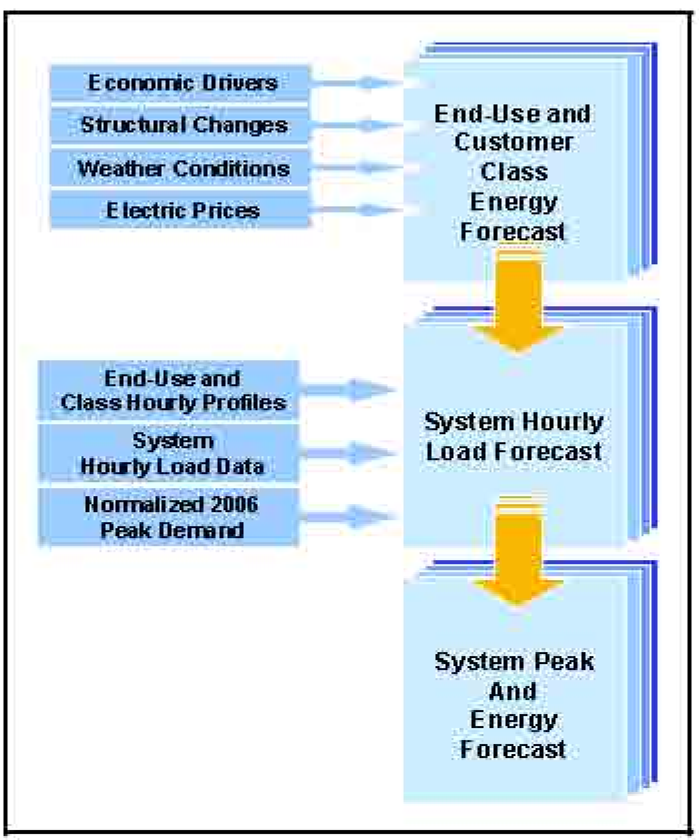
2. Use per unit forecast. The utility's forecast of monthly energy usage per unit and seasonal peak demands per unit for each major class shall be based on the analysis described in section (3).

A. The forecasts of the driver variables used in the utility's sales and customer forecast models shall be specified. AmerenUE will perform the residential analysis on a use per unit and the non-residential analyses on a total monthly class kWh basis. AmerenUE will document how the forecast has taken into account the effects of real prices of electricity, real prices of competitive energy sources, real incomes and other relevant economic and demographic factors.

The forecasts of the driver variables are provided in 22.030 (5) (B) 1.A.

The forecast approach AmerenUE employs is designed to capture the impact of structural, economic conditions, and prices on long-term system load and peak demand. The energy forecast is derived using monthly historical billed sales, converted into calendar month forecast and fed into the peak forecasting process. The peak demand forecast is developed using a bottom-up approach. This entails calculating a long-term system hourly load forecast by adding up underlying customer class and end-use hourly load forecasts. Customer class and end-use (for the residential class only) hourly load forecasts are generated by combining customer class and end-use energy forecasts with customer class and end-use hourly load profiles. The hourly class profiles are estimated from historical hourly load research data. MetrixLT, Itron's load modeling software application, is used for constructing the long-term hourly load forecast.

The build-up approach allows us to capture the impact of class load diversity and underlying differences in class energy growth on system demand. The residential hourly load is developed from the end-use level; forecasted heating, cooling, and other use energy is combined with estimated heating, cooling, and other use hourly load profile.



Energy Forecasting Methodology

Residential SAE Model

Residential sales have been modeled on a use-per-unit basis using SAE modeling approach. An SAE modeling approach entails constructing end-use variables that include end-use saturation and efficiency trends as well as economic, price, and weather impacts. The SAE specification allows us to directly capture the impact of improving end-use efficiency and end-use saturation trends on class sales. The process entails constructing end-use variables (i.e., XHeat, XCool, and XOther) and using these variables in estimated average use regression models as shown below:

$$AvgUse_m = a + b_1 \times XHeat_m + b_2 \times XCool_m + b_3 \times XOther_m + \varepsilon_m$$

The objective is to construct generalized end-use variables that approximate monthly end-use kWh requirements. The constructed end-use variables have two components – an index variable that captures change in end-use saturation, stock efficiency, and improvements in thermal shell integrity (e.g., HeatIndex), and a variable that reflects short-term utilization of this stock (e.g., HeatUse). [redacted] XHeat, for example, is calculated as:

[redacted]

The heat index is a variable that captures heating end-use efficiency and saturation trends, thermal shell improvement trends, and housing square footage trends.

The index is constructed from the EIA annual end-use residential forecast for the West North Central census region. In this expression, *base* corresponds to a base year for normalizing the index. The ratio on the right is equal to 1.0 in the base year. In other years, it will be greater than one if equipment saturation levels are above their base year level. This will be counteracted by higher efficiency levels, which will drive the index downward.

The weights are defined by the estimated heating energy use per household for each equipment type in the base year.

[redacted]

With these weights, the *HeatIndex* value in the base year will be equal to the estimated annual heating energy use per household in that year. Variations from this value in other years will be proportional to saturation and efficiency variations around their base year values.

[redacted]

The economic and price drivers are incorporated into the HeatUse variable. This index value changes through time and across months in response to changes in weather conditions, prices, household size, and household income.

The heat index (HeatIndex) and heat use variable (HeatUse) are combined to generate the monthly heating variable XHeat. The constructed XHeat variable is an estimate of monthly heating requirement (kWh). Similar variables are constructed for cooling (*XCool*) and other end-uses (*XOther*). The monthly variation in the XOther variable is driven by variation in the number of billing days, lighting requirements and electricity usage for water heating and other miscellaneous electric equipment.

Residential indices were constructed by Itron. AmerenUE forecasting staff adjusted the saturation levels according to the results from Missouri Statewide Residential Lighting and Appliance Saturation and Efficiency Study.

Table (5) (B)-25: Saturation comparison

Before Adjustment																
Year	EFurn	HPHeat	CAC	HPCool	RAC	EWHeat	ECook	Ref1	Ref2	Frz	Dish	CWash	EDry	TV	Light	Misc
2005	8.8%	2.6%	66.9%	2.6%	24.7%	29.2%	63.5%	100.0%	25.7%	48.7%	60.6%	86.5%	67.7%	459.1%	100.0%	100.0%
2006	8.9%	2.6%	67.7%	2.6%	24.4%	29.2%	63.6%	100.0%	25.8%	48.8%	61.4%	86.6%	67.8%	462.7%	100.0%	100.0%
2007	8.9%	2.7%	68.4%	2.7%	24.1%	29.2%	63.7%	100.0%	26.0%	48.8%	62.1%	86.7%	67.9%	466.4%	100.0%	100.0%
2008	8.9%	2.8%	69.2%	2.8%	23.8%	29.2%	63.8%	100.0%	26.2%	48.9%	62.9%	86.8%	68.0%	470.1%	100.0%	100.0%
2009	9.0%	2.8%	69.9%	2.8%	23.5%	29.1%	63.8%	100.0%	26.3%	48.9%	63.5%	86.9%	68.1%	473.9%	100.0%	100.0%
2010	9.0%	2.9%	70.6%	2.9%	23.2%	29.1%	63.9%	100.0%	26.4%	49.0%	64.2%	87.0%	68.2%	477.6%	100.0%	100.0%
After Adjustment																
Year	EFurn	HPHeat	CAC	HPCool	RAC	EWHeat	ECook	Ref1	Ref2	Frz	Dish	CWash	EDry	TV	Light	Misc
2005	11.7%	4.6%	83.2%	4.6%	8.3%	25.6%	63.5%	100.0%	28.4%	53.0%	74.7%	89.9%	84.5%	459.1%	100.0%	100.0%
2006	11.7%	4.7%	84.2%	4.7%	8.2%	25.6%	63.6%	100.0%	28.6%	53.1%	75.6%	90.0%	84.6%	462.7%	100.0%	100.0%
2007	11.8%	4.8%	85.2%	4.8%	8.1%	25.6%	63.7%	100.0%	28.8%	53.2%	76.6%	90.1%	84.8%	466.4%	100.0%	100.0%
2008	11.8%	5.0%	86.1%	5.0%	8.0%	25.6%	63.8%	100.0%	28.9%	53.2%	77.4%	90.2%	84.9%	470.1%	100.0%	100.0%
2009	11.9%	5.1%	87.0%	5.1%	7.9%	25.5%	63.8%	100.0%	29.1%	53.3%	78.2%	90.3%	85.0%	473.9%	100.0%	100.0%
2010	11.9%	5.2%	87.9%	5.2%	7.8%	25.5%	63.9%	100.0%	29.2%	53.3%	79.1%	90.4%	85.1%	477.6%	100.0%	100.0%

<u>Commercial SAE Model</u>

The SAE modeling framework defines energy use in commercial sector ($USE_{y,m}$) in year (y) and month (m) as the sum of energy used by heating equipment ($Heat_{y,m}$), cooling equipment ($Cool_{y,m}$) and other equipment ($Other_{y,m}$).

$$Use_{y,m} = a + b_1 \times XHeat_{y,m} + b_2 \times XCool_{y,m} + b_3 \times XOther_{y,m} + \varepsilon_{y,m}$$

As presented in the residential SAE model section, energy use by space heating systems depends on heating degree days, heating equipment share levels, heating equipment operating efficiencies, billing days, commercial output, and energy price. [redacted]

[redacted]

where $XHeat_{y,m}$ is estimated heating energy use in year (y) and month (m), $HeatIndex_y$ is the annual index of heating equipment, and $HeatUse_{y,m}$ is the monthly usage multiplier. The *HeatIndex* is composed of electric space heating saturation levels normalized by operating efficiency levels. The index will change over time with changes in equipment saturations (*Sat*) and operating efficiencies (*Eff*). Formally, the equipment index is defined as:

[redacted]

The ratio to the right of the equation will be greater than the base year value if equipment saturation levels are above their base level. This will be counteracted by higher efficiency levels, which will drive the index downward. The average space heating intensity is given in energy sales for space heating per square feet area.

Heating system usage levels are impacted on a monthly basis by several factors, including weather, commercial level economic activity, prices and billing days. Since the heating degree days used in these models are in revenue month cycle, billing degree days is not used as a variable. The estimates for space heating equipment usage levels are computed as follows:

[redacted]

By construction, the $HeatUse_{y,m}$ variable has an annual sum that is close to one in the base year. The *HDD* term serves to allocate annual values to months of the year. The remaining terms average to one in the base year. In other years, the values will reflect changes in the economic driver changes.

The explanatory variables for cooling and other loads are constructed in a similar manner. The difference in constructing XOther is that there is no degree-day in the equations; monthly variations are introduced by monthly multipliers for electric water-heating, lighting and number of billing days.

"Price" in the above equations is the 12-month moving average of the realized prices in real terms. For each subclass, total revenues for that class are divided by the total kWh used and, then, are deflated by the GDP deflator to get the real prices. Finally, average of 12 months is taken to get the price trend. Real prices of competitive resources have not been included in the models.

All classes other than wholesale and Noranda were modeled on a revenue month basis. Calendar month sales forecast were obtained by simulating the models with calendar month degree-days and calendar days. Wholesale and Noranda classes were modeled on a calendar month basis and revenue month sales forecasts were obtained by simulating the models with revenue month degree-days and/or number of billing-days. Energy forecast model specifications and results are shown below:

Residential SAE Model (UE_Res.NDM)

Residential sales were modeled on a use-per-customer basis, the resulting forecast was multiplied by the number of customers forecast to estimated the total

$ResUPC_{y,m} = C + b_1 \times XHeat_{y,m} + b_2 \times XCool + b_3 \times XOther + b_4 \times Jan + b_5 \times Mar + b_6 \times Apr + b_7 \times May + b_8 \times Jul + b_9 \times Aug + b_{10} \times Oct + b_{11} \times Nov + b_{12} \times Sep + b_{13} \times AR(1) + \varepsilon_{y,m}$

where $XHeat_{y,m}$ is the estimated heating use for year (y) and month (m)

$XCool_{y,m}$ is the estimated cooling use for year (y) and month (m)

$XOther_{y,m}$ is the estimated other use for year (y) and month (m)

Jan is a variable equal to 1 for only January

Mar is a variable equal to 1 for only March

Apr is a variable equal to 1 for only April

May is a variable equal to 1 for only May

July is a variable equal to 1 for only July

Aug is a variable equal to 1 for only August

Oct is a variable equal to 1 for only October

Nov is a variable equal to 1 for only November

Sep is a variable equal to 1 for only September

AR(1) is the first order autoregressive variable for the error term

Variable	Coefficien	StdErr	T-Stat	P-Value
CONST	0.0769	0.0468	1.64	10.30%
ResRevVars.XHeat	0.0017	0.0001	32.89	0.00%
ResRevVars.XCool	0.0008	0.0000	29.17	0.00%
ResRevVars.XOther	0.0003	0.0000	11.06	0.00%
BinaryVars.Jan	0.0235	0.0101	2.33	2.14%
BinaryVars.Mar	-0.0201	0.0087	-2.32	2.20%
BinaryVars.Apr	-0.0490	0.0102	-4.81	0.00%
BinaryVars.May	-0.0549	0.0103	-5.33	0.00%
BinaryVars.Jul	0.0762	0.0156	4.89	0.00%
BinaryVars.Aug	0.0930	0.0185	5.02	0.00%
BinaryVars.Oct	-0.0272	0.0111	-2.46	1.54%
BinaryVars.Nov	-0.0511	0.0104	-4.90	0.00%
BinaryVars.Sep	0.0587	0.0154	3.81	0.02%
AR(1)	0.3030	0.0848	3.57	0.05%

Regression Statistics	
Iterations	46
Adjusted Observations	137
Deg. of Freedom for Error	116
R-Squared	0.836
Adjusted R-Squared	0.808
Durbin-Watson Statistic	2.084
Durbin-H Statistic	#NA
AIC	19.46
BIC	19.91
F-Statistic	28.20
Prob (F-Statistic)	0.00
Log-Likelihood	-1495.4
Model Sum of Squares	1.46E+11
Sum of Squared Errors	2.85E+10
Mean Squared Error	2.46E+08
Std. Error of Regression	15675.67
Mean Abs. Dev. (MAD)	10646.06
Mean Abs. % Err. (MAPE)	2.16%
Ljung-Box Statistic	22.66
Prob (Ljung-Box)	0.5399

Commercial SGS SAE Model (UE_Com.NDM)

$SGSSales_{y,m} = C + b_1 \times XHeat_{y,m} + b_2 \times XCool + b_3 \times XOther + b_4 \times Feb + b_5 \times Mar + b_6 \times Apr + b_7 \times May + b_8 \times Jun + b_9 \times Jul + b_{10} \times Aug + b_{11} \times Sep + b_{12} \times Oct + b_{13} \times Nov + b_{14} \times Apr\_99 + b_{15} \times May\_99 + b_{16} \times Jan\_00 + b_{17} \times Mar\_00 + b_{18} \times Jun\_00 + b_{19} \times Aug\_01 + b_{20} \times May\_02 + b_{21} \times Jun\_02 + b_{22} \times Aug\_02 + b_{23} \times Nov\_02 + b_{24} \times Dec\_02 + b_{25} \times Jan\_03 + b_{26} \times Mar\_03 + b_{27} \times Mar\_96 + b_{28} \times Dec\_98 + b_{29} \times Jun\_99 + b_{30} \times Feb\_05 + b_{31} AR(1) + \varepsilon_{y,m}$

where $XHeat_{y,m}$ is the estimated heating use for year (y) and month (m)

$XCool_{y,m}$ is the estimated cooling use for year (y) and month (m)

$XOther_{y,m}$ is the estimated other use for year (y) and month (m)

Feb is a variable equal to 1 for only February

Mar is a variable equal to 1 for only March

Apr is a variable equal to 1 for only April

May is a variable equal to 1 for only May

Jun is a variable equal to 1 for only June

Jul is a variable equal to 1 for only July

Aug is a variable equal to 1 for only August

Sep is a variable equal to 1 for only September

Oct is a variable equal to 1 for only October

Nov is a variable equal to 1 for only November

Apr_99 is a variable equal to 1 for only April 1999

May_99 is a variable equal to 1 for only May 1999

Jan_00 is a variable equal to 1 for only January 2000

Mar_00 is a variable equal to 1 for only March 2000

Jun_00 is a variable equal to 1 for only June 2000

Aug_01 is a variable equal to 1 for only August 2001

May_02 is a variable equal to 1 for only May 2002

Jun_02 is a variable equal to 1 for only June 2002

Aug_02 is a variable equal to 1 for only August 2002

Nov_02 is a variable equal to 1 for only November 2002

Dec_02 is a variable equal to 1 for only December 2002

Jan_03 is a variable equal to 1 for only January 2003

Mar_03 is a variable equal to 1 for only March 2003

Mar_96 is a variable equal to 1 for only March 1996

Dec_98 is a variable equal to 1 for only December 1998

Jun_99 is a variable equal to 1 for only June 1999

Feb_05 is a variable equal to 1 for only February 2005

AR(1) is the first order autoregressive variable for the error term

Variable	Coefficient	StdErr	T-Stat	P-Value
Com_RevVars.XHeat_SGS	1.31	0.11	11.77	0.00%
Com_RevVars.XCool_SGS	0.55	0.04	12.74	0.00%
Com_RevVars.XOther_SGS	0.44	0.01	33.65	0.00%
BinaryVars.Feb	16,083	2,550	6.31	0.00%
BinaryVars.Mar	12,631	2,810	4.50	0.00%
BinaryVars.Apr	13,107	3,626	3.62	0.05%
BinaryVars.May	27,458	4,616	5.95	0.00%
BinaryVars.Jun	49,904	5,962	8.37	0.00%
BinaryVars.Jul	57,694	8,253	6.99	0.00%
BinaryVars.Aug	57,396	8,597	6.68	0.00%
BinaryVars.Sep	50,060	7,839	6.39	0.00%
BinaryVars.Oct	41,761	4,980	8.39	0.00%
BinaryVars.Nov	14,322	3,779	3.79	0.03%
BinaryVars.Apr_99	26,701	7,575	3.53	0.06%
BinaryVars.May_99	50,997	7,817	6.524	0.00%
BinaryVars.Jan_00	51,512	7,118	7.236	0.00%
BinaryVars.Mar_00	(21,720)	7,409	-2.932	0.42%
BinaryVars.Jun_00	16,606	7,316	2.27	2.53%
BinaryVars.Aug_01	(22,492)	7,514	-2.993	0.35%
BinaryVars.May_02	41,039	7,821	5.247	0.00%
BinaryVars.Jun_02	(73,123)	7,672	-9.531	0.00%
BinaryVars.Aug_02	39,558	7,527	5.255	0.00%
BinaryVars.Nov_02	113,311	7,642	14.828	0.00%
BinaryVars.Dec_02	(95,448)	7,724	-12.357	0.00%
BinaryVars.Jan_03	(51,489)	7,548	-6.822	0.00%
BinaryVars.Mar_03	33,267	7,379	4.508	0.00%
BinaryVars.Mar_96	30,844	7,397	4.17	0.01%
BinaryVars.Dec_98	29,984	7,488	4.004	0.01%
BinaryVars.Jun_99	15,176	7,630	1.989	4.94%
BinaryVars.Feb_05	20,621.80	7,269.66	2.837	0.55%
AR(1)	0.728	0.075	9.682	0.00%

Regression Statistics	
Iterations	19
Adjusted Observations	137
Deg. of Freedom for Error	105
R-Squared	0.972
Adjusted R-Squared	0.964
Durbin-Watson Statistic	2.074
Durbin-H Statistic	#NA
AIC	17.999
BIC	18.68
F-Statistic	113.17
Prob (F-Statistic)	0.00
Log-Likelihood	-1385.12
Model Sum of Squares	1.94E+11
Sum of Squared Errors	5.63E+09
Mean Squared Error	53624632
Std. Error of Regression	7322.88
Mean Abs. Dev. (MAD)	4844.94
Mean Abs. % Err. (MAPE)	1.83%
Ljung-Box Statistic	22.78
Prob (Ljung-Box)	0.5329

Commercial LGS SAE Model (UE_Com.NDM)

$LGSSales_{y,m} = C + b_1 \times XHeat_{y,m} + b_2 \times XCool + b_3 \times XOther + b_4 \times Dec\_98 + b_5 \times Apr + b_6 \times Nov + b_7 \times Aug\_01 + b_8 \times Jun\_01 + b_9 \times Oct\_03 + b_{10} \times TrendVar_{y,m} + b_{11} \times Mar\_02 + \varepsilon_{y,m}$

where $XHeat_{y,m}$ is the estimated heating use for year (y) and month (m)

$XCool_{y,m}$ is the estimated cooling use for year (y) and month (m)

$XOther_{y,m}$ is the estimated other use for year (y) and month (m)

Apr is a variable equal to 1 for only April

Nov is a variable equal to 1 for only November

Aug_01 is a variable equal to 1 for only August 2001

Jun_01 is a variable equal to 1 for only June 2001

Oct_03 is a variable equal to 1 for only October 2003

$TrendVar_{y,m}$ is a variable that captures positive or negative growth

Mar_02 is a variable equal to 1 for only March 2002

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	163,288.61	27,006	6.05	0.00%
Com_RevVars.XHeat_LGS	498.28	127	3.92	0.01%
Com_RevVars.XCool_LGS	593.46	32	18.38	0.00%
Com_RevVars.XOther_LGS	281	62	4.54	0.00%
BinaryVars.Dec_98	(133,327)	21,499	-6.20	0.00%
BinaryVars.Apr	(18,492)	6,696	-2.76	0.66%
BinaryVars.Nov	(16,956)	7,212	-2.35	2.03%
BinaryVars.Aug_01	37,088	21,300	1.74	8.41%
BinaryVars.Jun_01	35,525	20,919	1.70	9.20%
BinaryVars.Oct_03	50,019	21,124	2.37	1.94%
BinaryVars.TrendVar	10,541	760	13.86	0.00%
BinaryVars.Mar_02	(92,046)	21,003	-4.38	0.00%

Regression Statistics	
Iterations	1
Adjusted Observations	138
Deg. of Freedom for Error	126
R-Squared	0.916
Adjusted R-Squared	0.909
Durbin-Watson Statistic	1.874
Durbin-H Statistic	#NA
AIC	19.96
BIC	20.22
F-Statistic	125.11
Prob (F-Statistic)	0.00
Log-Likelihood	-1561.05
Model Sum of Squares	5.9E+11
Sum of Squared Errors	5.41E+10
Mean Squared Error	4.29E+08
Std. Error of Regression	20713.41
Mean Abs. Dev. (MAD)	15138.05
Mean Abs. % Err. (MAPE)	3.14%
Ljung-Box Statistic	44.29
Prob (Ljung-Box)	0.01

As part of the Stipulation and Agreement, AmerenUE agreed to show the weather impact on energy usage in a manner that can be separated from the non-heating, ventilation and air conditioning appliances used by the customers in its SAE models. Since the SAE indices are constructed by interacting weather, economic, saturation and efficiency data; the coefficients on the models do not directly tell the impact of weather per degree-day. However, it is possible to show the weather impact after the model is done through adding extra transformation tables. Below is the expected change in energy usage per heating/cooling degree-day for residential, commercial SGS and commercial LGS classes where SAE modeling approach was used.

Change in sales per degree-day

	Residential		ComSGS		ComLGS	
	HDD Impact	CDD Impact	HDD Impact	CDD Impact	HDD Impact	CDD Impact
1995	491	1620	67	200	36	303
1996	500	1633	69	208	37	314
1997	509	1649	75	225	40	338
1998	518	1664	77	230	40	339
1999	525	1672	79	235	40	343
2000	533	1685	80	239	41	349
2001	541	1698	80	241	41	353
2002	551	1707	80	240	41	354
2003	564	1736	80	240	41	354
2004	576	1742	80	240	41	355
2005	589	1788	81	246	42	360
2006	601	1802	83	251	42	366
2007	[redacted]					
2008	[redacted]					
2009	[redacted]					
2010	[redacted]					
2011	[redacted]					
2012	[redacted]					
2013	[redacted]					
2014	[redacted]					
2015	[redacted]					
2016	[redacted]					
2017	[redacted]					
2018	[redacted]					
2019	[redacted]					
2020	[redacted]					
2021	[redacted]					
2022	[redacted]					
2023	[redacted]					
2024	[redacted]					
2025	[redacted]					
2026	[redacted]					
2027	[redacted]					
2028	[redacted]					
2029	[redacted]					
2030	[redacted]					

Commercial SPS Model (UE_Com.NDM)

$SPSSales_{y,m} = C + b_1 \times CDD_{y,m} + b_2 \times Jan + b_3 \times Oct + b_4 \times Oct\_01 + b_5 \times Mar\_02 + b_6 \times Apr\_02 + b_7 \times Nov\_03 + b_8 \times Feb\_04 + b_9 \times TrendVar_{y,m} + b_{10} \times GDPRetailTrade_{y,m} + \varepsilon_{y,m}$

where $CDD_{y,m}$ is the number of cooling degree days based on 65° in year (y) and month (m)

Jan is a variable equal to 1 for only January

Oct is a variable equal to 1 for only October

Oct_01 is a variable equal to 1 for only October 2001

Mar_02 is a variable equal to 1 for only March 2002

Apr_02 is a variable equal to 1 for only April 2002

Nov_03 is a variable equal to 1 for only November 2003

Feb_04 is a variable equal to 1 for only February 2004

$TrendVar_{y,m}$ is a variable that captures positive or negative growth

$GDPRetailTrade_{y,m}$ is the retail trade output for AmerenUE service territory for year (y) and month (m)

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	78,166.86	27,552	2.84	0.67%
RevWthrVars.CDD	121.02	5	25.75	0.00%
BinaryVars.Jan	23,908.13	2,778	8.61	0.00%
BinaryVars.Oct	18,530	2,971	6.24	0.00%
BinaryVars.Oct_01	(14,346)	6,615	-2.17	3.51%
BinaryVars.Mar_02	23,769	5,911	4.02	0.02%
BinaryVars.Apr_02	(14,979)	5,872	-2.55	1.40%
BinaryVars.Nov_03	18,491	5,851	3.16	0.27%
BinaryVars.Feb_04	18,548	5,879	3.16	0.28%
BinaryVars.TrendVar	(4,264)	1,232	-3.46	0.11%
Economics.GDPRetailTrade	20	5	4.25	0.01%

Regression Statistics	
Iterations	1
Adjusted Observations	61
Deg. of Freedom for Error	50
R-Squared	0.938
Adjusted R-Squared	0.926
Durbin-Watson Statistic	2.153
Durbin-H Statistic	#NA
AIC	17.45
BIC	17.83
F-Statistic	75.65
Prob (F-Statistic)	0
Log-Likelihood	-597.78
Model Sum of Squares	2.43E+10
Sum of Squared Errors	1.61E+09
Mean Squared Error	32187970
Std. Error of Regression	5673.44
Mean Abs. Dev. (MAD)	4080
Mean Abs. % Err. (MAPE)	1.88%
Ljung-Box Statistic	30.75
Prob (Ljung-Box)	0.16

Commercial LPS Model (UE_Com.NDM)

$LPSSales_{y,m} = b_1 \times CDD_{y,m} + b_2 \times Summer05on + b_3 \times Mar + b_4 \times Sep + b_5 \times Oct + b_6 \times Nov + b_7 \times Jan + b_8 \times EmpRetailTrade_{y,m} + b_9 \times TrendVar_{y,m} + b_{10} \times AR(1) + b_{11} \times MA(1) + \varepsilon_{y,m}$

where $CDD_{y,m}$ is the number of cooling degree days based on 65° in year (y) and month (m)

Summer05on is a variable equal to 1 for summer months (Jun-Sep) in and after 2005

Mar is a variable equal to 1 for only March

Sep is a variable equal to 1 for only September

Oct is a variable equal to 1 for only October

Nov is a variable equal to 1 for only November

Jan is a variable equal to 1 for only January

$EmpRetailTrade_{y,m}$ is the retail trade employment for AmerenUE service territory for year (y) and month (m)

$TrendVar_{y,m}$ is a variable that captures positive or negative growth

AR(1) is the first order autoregressive variable for the error term

MA(1) is the first order moving average variable for the error term

Variable	Coefficient	StdErr	T-Stat	P-Value
RevWthrVars.CDD	36.68	4	9.38	0.00%
BinaryVars.Summer05on	9,684.18	2,204	4.39	0.01%
BinaryVars.Mar	(6,349.76)	1,814	-3.50	0.10%
BinaryVars.Sep	4,523	2,020	2.24	2.95%
BinaryVars.Oct	5,926	1,896	3.13	0.29%
BinaryVars.Nov	5,486	1,913	2.87	0.59%
BinaryVars.Jan	4,759	1,839	2.59	1.25%
Economics.EmpRetailTrade	66	26	2.58	1.29%
BinaryVars.TrendVar	5,140	353	14.55	0.00%
AR(1)	(0.76)	0	-4.40	0.01%
MA(1)	0.80	0	4.45	0.00%

Regression Statistics	
Iterations	30
Adjusted Observations	65
Deg. of Freedom for Error	54
R-Squared	0.922
Adjusted R-Squared	0.908
Durbin-Watson Statistic	2.018
Durbin-H Statistic	#NA
AIC	16.70
BIC	17.06
F-Statistic	58.40
Prob (F-Statistic)	0
Log-Likelihood	-614.24
Model Sum of Squares	9.82E+09
Sum of Squared Errors	8.25E+08
Mean Squared Error	15285320
Std. Error of Regression	3909.64
Mean Abs. Dev. (MAD)	2949
Mean Abs. % Err. (MAPE)	3.26%
Ljung-Box Statistic	19.62
Prob (Ljung-Box)	0.72

DtD Sales Model (UE_Com.NDM)

$DtDSales_{y,m} = C + b_1 \times Feb + b_2 \times Mar + b_3 \times Apr + b_4 \times May + b_5 \times Jun + b_6 \times Jul + b_7 \times Aug + b_8 \times Sep + b_9 \times Oct + b_{10} \times Nov + b_{11} \times May\_02 + b_{12} \times Jan + b_{13} \times GDPTotal_{y,m} + \varepsilon_{y,m}$

where Feb is a variable equal to 1 for only February

Mar is a variable equal to 1 for only March

Apr is a variable equal to 1 for only April

May is a variable equal to 1 for only May

Jun is a variable equal to 1 for only June

Jul is a variable equal to 1 for only July

Aug is a variable equal to 1 for only August

Sep is a variable equal to 1 for only September

Oct is a variable equal to 1 for only October

Nov is a variable equal to 1 for only November

May_02 is a variable equal to 1 for only May 2002

Jan is a variable equal to 1 for only January

$GDPTotal_{y,m}$ is the total GDP for AmerenUE service territory for year (y) and month (m)

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	8,502.11	621	13.70	0.00%
BinaryVars.Feb	(1,010.00)	80	-12.62	0.00%
BinaryVars.Mar	(1,670.42)	76	-22.00	0.00%
BinaryVars.Apr	(2,590)	76	-34.12	0.00%
BinaryVars.May	(3,396)	80	-42.36	0.00%
BinaryVars.Jun	(3,674)	76	-48.41	0.00%
BinaryVars.Jul	(3,839)	80	-47.88	0.00%
BinaryVars.Aug	(3,718)	80	-46.41	0.00%
BinaryVars.Sep	(2,858)	80	-35.70	0.00%
BinaryVars.Oct	(2,210.85)	80	-27.63	0.00%
BinaryVars.Nov	(1,382.15)	80	-17.28	0.00%
BinaryVars.May_02	(495)	130	-3.82	0.05%
BinaryVars.Jan	535	80	6.68	0.00%
Economics.GDPTotal	0	0	3.21	0.28%

Regression Statistics	
Iterations	1
Adjusted Observations	52
Deg. of Freedom for Error	38
R-Squared	0.995
Adjusted R-Squared	0.994
Durbin-Watson Statistic	1.469
Durbin-H Statistic	#NA
AIC	9.68
BIC	10.21
F-Statistic	610.78
Prob (F-Statistic)	0
Log-Likelihood	-311.52
Model Sum of Squares	1.02E+08
Sum of Squared Errors	486365
Mean Squared Error	12799.09
Std. Error of Regression	113.13
Mean Abs. Dev. (MAD)	69
Mean Abs. % Err. (MAPE)	0.84%
Ljung-Box Statistic	31.61
Prob (Ljung-Box)	0.14

SLPA Sales Model (UE_Com.NDM)

$SLPASales_{y,m} = b_{12}$ x Jan + b_1 x Feb + b_2 x Mar + b_3 x Apr + b_4 x May + b_5 x Jun + b_6 x Jul + b_7 x Aug + b_8 x Sep + b_9 x Oct + b_{10} x Nov + b_{11} x $GDPMult_{y,m}$ + b_{13} x Nov05 + b_{13} x Feb06 + $\varepsilon_{y,m}$

where Jan is a variable equal to 1 for only January

Feb is a variable equal to 1 for only February

Mar is a variable equal to 1 for only March

Apr is a variable equal to 1 for only April

May is a variable equal to 1 for only May

Jun is a variable equal to 1 for only June

Jul is a variable equal to 1 for only July

Aug is a variable equal to 1 for only August

Sep is a variable equal to 1 for only September

Oct is a variable equal to 1 for only October

Nov is a variable equal to 1 for only November

$GDPMult_{y,m}$ is the total GDP for AmerenUE service territory for year (y) and month (m)

transformed through income elasticity

Nov_05 is a variable equal to 1 for only November 2005

Feb_06 is a variable equal to 1 for only February 2006

Variable	Coefficient	StdErr	T-Stat	P-Value
BinaryVars.Jan	931.96	105	8.85	0.00%
BinaryVars.Feb	(304.36)	114	-2.68	1.13%
BinaryVars.Mar	(1,731.84)	105	-16.44	0.00%
BinaryVars.Apr	(2,306)	105	-21.87	0.00%
BinaryVars.May	(3,487)	100	-34.92	0.00%
BinaryVars.Jun	(4,084)	100	-40.88	0.00%
BinaryVars.Jul	(4,660)	105	-44.34	0.00%
BinaryVars.Aug	(4,302)	105	-40.92	0.00%
BinaryVars.Sep	(3,306)	105	-31.44	0.00%
BinaryVars.Oct	(2,446.53)	105	-23.26	0.00%
BinaryVars.Nov	(1,085.82)	113	-9.57	0.00%
EconVars.GDPMult	124	1	176.81	0.00%
BinaryVars.Nov05	5,802	172	33.74	0.00%
BinaryVars.Feb06	(6,173)	172	-35.90	0.00%

Regression Statistics	
Iterations	1
Adjusted Observations	50
Deg. of Freedom for Error	36
R-Squared	0.996
Adjusted R-Squared	0.995
Durbin-Watson Statistic	1.608
Durbin-H Statistic	#NA
AIC	10.24
BIC	10.77
F-Statistic	692.92
Prob (F-Statistic)	0
Log-Likelihood	-312.9
Model Sum of Squares	2.15E+08
Sum of Squared Errors	798377
Mean Squared Error	22177.15
Std. Error of Regression	148.92
Mean Abs. Dev. (MAD)	99
Mean Abs. % Err. (MAPE)	0.91%
Ljung-Box Statistic	45.86
Prob (Ljung-Box)	0.00

Industrial Model (UE_Ind.NDM)

Total industrial sales were modeled using an econometric approach. The shares of individual rate class sales within the industrial class were modeled using an exponential smoothing model for each rate class. Exponential smoothing models are like taking a moving average; however, in moving averages the past observations are weighted equally, whereas exponential smoothing models assign exponentially decreasing weights as the observations get older. In other words, recent observations are given relatively more weight in forecasting than the older observations.
Applying these shares to the modeled total industrial sales yields the final forecast for the individual rate classes.

$IndSales_{y,m} = b_1$ x Mar03_on + b_2 x Dec_98 + b_3 x Jan_99 + b_4 x May_99 + b_5 x Nov_99 + b_6 x Dec_99 + b_7 x Apr_00 + b_8 x Jan_01 + b_9 x Feb_01 + b_{10} x Sep_01 + b_{11} x Mar_02 + b_{12} x Jul_02 + b_{13} x $CDD_{y,m}$ + b_{14} x $EmpManu_{y,m}$ + b_{15} x $GDPMan_{y,m}$ + b_{16} x Feb + b_{17} x Mar + b_{18} x Apr + b_{19} x May + b_{20} x AR(1) + b_{21} x MA(1) + $\varepsilon_{y,m}$

where Mar03_on is a variable equal to 1 for only March in and after 2003

Dec_98 is a variable equal to 1 for only December 1998

Jan_99 is a variable equal to 1 for only January 1999

May_99 is a variable equal to 1 for only April 1999

Nov_99 is a variable equal to 1 for only April 1999

Dec_99 is a variable equal to 1 for only April 1999

Apr_00 is a variable equal to 1 for only April 1999

Jan_01 is a variable equal to 1 for only April 1999

Feb_01 is a variable equal to 1 for only April 1999

Sep_01 is a variable equal to 1 for only April 1999

Mar_02 is a variable equal to 1 for only April 1999

Jul_02 is a variable equal to 1 for only April 1999

$CDD_{y,m}$ is the estimated cooling use for year (y) and month (m)

$EmpManu_{y,m}$ is the manufacturing employment for AmerenUE service territory for year (y) and month (m)

$GDPMan_{y,m}$ is the manufacturing output for AmerenUE service territory for year (y) and month (m)

Feb is a variable equal to 1 for only March

Mar is a variable equal to 1 for only March

Apr is a variable equal to 1 for only April

May is a variable equal to 1 for only May

AR(1) is the first order autoregressive variable for the error term

MA(1) is the first order moving average variable for the error term

Variable	Coefficient	StdErr	T-Stat	P-Value
BinaryVars.Mar03_on	(27,382.10)	9,144	-2.99	0.34%
BinaryVars.Dec_98	(49,512.72)	14,910	-3.32	0.12%
BinaryVars.Jan_99	(46,926.00)	14,909	-3.15	0.21%
BinaryVars.May_99	86,781	15,271	5.68	0.00%
BinaryVars.Nov_99	(94,762)	14,799	-6.40	0.00%
BinaryVars.Dec_99	43,611	14,812	2.94	0.39%
BinaryVars.Apr_00	41,585	15,186	2.74	0.72%
BinaryVars.Jan_01	28,120	14,838	1.90	6.06%
BinaryVars.Feb_01	45,710	15,358	2.98	0.36%
BinaryVars.Sep_01	43,626.07	14,598	2.99	0.34%
BinaryVars.Mar_02	(27,478.09)	15,480	-1.78	7.86%
BinaryVars.Jul_02	(55,841)	14,683	-3.80	0.02%
RevWthrVars.CDD	117	10	11.90	0.00%
Economics.EmpManu	2,160	619	3.49	0.07%
Economics.GDPManu	3	4	0.611	54.25%
BinaryVars.Feb	(10,200)	4,767	-2.14	3.45%
BinaryVars.Mar	(11,437)	5,898	-1.939	5.50%
BinaryVars.Apr	(14,678)	4,859	-3.02	0.31%
BinaryVars.May	(25,436)	4,740	-5.366	0.00%
AR(1)	1	0	82.445	0.00%
MA(1)	(1)	0	-8.919	0.00%

Regression Statistics	
Iterations	46
Adjusted Observations	137
Deg. of Freedom for Error	116
R-Squared	0.836
Adjusted R-Squared	0.808
Durbin-Watson Statistic	2.084
Durbin-H Statistic	#NA
AIC	19.46
BIC	19.91
F-Statistic	28.20
Prob (F-Statistic)	0
Log-Likelihood	-1495.4
Model Sum of Squares	1.46E+11
Sum of Squared Errors	2.85E+10
Mean Squared Error	2.46E+08
Std. Error of Regression	15675.67
Mean Abs. Dev. (MAD)	10646
Mean Abs. % Err. (MAPE)	2.16%
Ljung-Box Statistic	22.66
Prob (Ljung-Box)	0.54

Industrial SGS Share Model

Variable	Coefficient
Simple	0.18
Seasonal	0.44

Industrial LGS Share Model

Variable	Coefficient
Simple	0.13
Seasonal	0.30

Industrial SPS Share Model

Variable	Coefficient
Simple	0.24
Seasonal	0.26

Industrial LPS Share Model

Variable	Coefficient
Simple	0.21
Seasonal	0.25

Regression Statistics	SGS	SPS	LGS	LPS
Iterations	1	1	1	1
Adjusted Observations	136	136	136	136
Deg. of Freedom for Error	134	134	134	134
R-Squared	0.753	0.803	0.591	0.821
Adjusted R-Squared	0.751	0.801	0.588	0.82
AIC	14.5	18.674	17.824	19.567
BIC	14.5	18.717	17.867	19.61
F-Statistic	203.89	272.50	96.68	308.18
Prob (F-Statistic)	0.00	0.00	0.00	0.00
Log-Likelihood	-1175.00	-1460.83	-1403.02	-1521.56
Mean Abs. Dev. (MAD)	921	7,866.94	4417.89	11,816.90
Mean Abs. % Err. (MAPE)	6.33%	5.19%	4.12%	5.31%

Noranda Model (UE_Ind.NDM)

$$Noranda_{y,m} = b_1 \times CalDays_{y,m} + b_2 \times AR(1) + \varepsilon_{y,m}$$

where $CalDays_{y,m}$ is the number of days in each calendar month

AR(1) is the first order autoregressive variable for the error term

Variable	Coefficient	StdErr	T-Stat	P-Value
CalWthrVars.CalDays	11,186.54	13	845.96	0.00%
AR(1)	0.45	0	7.32	0.19%

Regression Statistics	
Iterations	4
Adjusted Observations	8
Deg. of Freedom for Error	6
R-Squared	0.998
Adjusted R-Squared	0.998
Durbin-Watson Statistic	2.608
Durbin-H Statistic	#NA
AIC	12.66
BIC	12.68
F-Statistic	1856.42
Prob (F-Statistic)	0
Log-Likelihood	-60
Model Sum of Squares	949669891
Sum of Squared Errors	1534678
Mean Squared Error	255780
Std. Error of Regression	506
Mean Abs. Dev. (MAD)	304
Mean Abs. % Err. (MAPE)	0.09%
Ljung-Box Statistic	0.00
Prob (Ljung-Box)	1.00

Wholesale Model (UE_Wholesale.NDM)

$TotalWS_{y,m} = C + b_1 \times HDD_{y,m} + b_2 \times CDD_{y,m} + b_3 \times Feb + b_4 \times Apr + b_5 \times Aug + b_6 \times Nov + b_7 \times PerIncome_{y,m} + b_8 \times May00 + b_9 \times Aug05 + b_{10} \times AR(1) + b_{11} \times MA(1) + \varepsilon_{y,m}$

where $HDD_{y,m}$ is the number of heating degree days based on 65° in year (y) and month (m)

$CDD_{y,m}$ is the number of cooling degree days based on 65° in year (y) and month (m)

Feb is a variable equal to 1 for only February

Apr is a variable equal to 1 for only April

Aug is a variable equal to 1 for only August

Nov is a variable equal to 1 for only November

$PerIncome_{y,m}$ is the personal income for AmerenUE service territory for year (y) and month (m)

May00 is a variable equal to 1 for only May 2000

Aug05 is a variable equal to 1 for only August 2005

AR(1) is the first order autoregressive variable for the error term

MA(1) is the first order moving average variable for the error term

Variable	Coefficient	StdErr	T-Stat	P-Value
CONST	17,007.96	5,359	3.17	0.22%
CalWthrVars.HDD	9.02	1	7.11	0.00%
CalWthrVars.CDD	48.46	3	17.45	0.00%
BinaryVars.Feb	(3,866)	621	-6.22	0.00%
BinaryVars.Apr	(2,401)	637	-3.771	0.03%
BinaryVars.Aug	1,202	619	1.942	5.59%
BinaryVars.Nov	(1,631)	607	-2.686	0.89%
Economics_Pro.PerIncome	0.52	0.12	4.294	0.01%
BinaryVars.May00	-8554.254	1432.889	-5.97	0.00%
BinaryVars.Aug05	4708.737	1586.916	2.967	0.40%
AR(1)	0.107	0.159	0.673	50.32%
MA(1)	0.726	0.121	6.001	0.00%

Regression Statistics	
Iterations	15
Adjusted Observations	89
Deg. of Freedom for Error	77
R-Squared	0.944
Adjusted R-Squared	0.936
Durbin-Watson Statistic	1.972
Durbin-H Statistic	#NA
AIC	15.39
BIC	15.73
F-Statistic	118.03
Prob (F-Statistic)	0.00
Log-Likelihood	-790
Model Sum of Squares	5528495829
Sum of Squared Errors	327872635
Mean Squared Error	4258086
Std. Error of Regression	2064
Mean Abs. Dev. (MAD)	1349
Mean Abs. % Err. (MAPE)	2.63%
Ljung-Box Statistic	12.97
Prob (Ljung-Box)	0.97

Results from the forecast models are provided in 22.030 (5) (B) 2.D.

Peak Forecast Methodology

First step in the peak forecast step is modeling hourly load profiles. Use per customer class hourly load profile models are estimated for each of the subclasses using three years of hourly load data spanning the period July 2003 to June 2006. MetrixLT, Itron's long-term load forecasting application, is then used to combine class and end-use energy forecasts with hourly load profile forecasts and to adjust these profiles for line losses.

Twenty-five equations are estimated for each profile model – a daily energy Artificial Neural Network (ANN) model and twenty-four hourly regression models. Results of the daily energy model are passed into the hourly models as independent variables. In general, the model specification is the same across the profile classes. The model specification is designed to capture the impact of weather as well as day of the week and season. Model variables include daily heating and cooling degree-days, day of the week and monthly binary variables, binary variables for the major holidays, and interactions of these variables. To capture the non-linearity of the relationship between load and weather, model specifications include daily heating and cooling degree days for multiple splines - HDDs with bases of 65 and 50 degrees, and CDDs with bases of 65 and 70 degrees. In general, this model specification fits the load research data relatively well with adjusted hourly R^2 that vary from 0.70 to 0.95 with the hourly fit varying by customer class (industrial classes tend to have lower adjusted R^2) and by hour of the day (afternoon hours tend to have the highest adjusted R^2).

The hourly profiles are extended through the forecast period. Final profiles reflect the calendar and normal weather conditions.

In an initial run, the forecasted profiles are fixed using the 2007 calendar. This initial run is used to estimate the monthly and seasonal peak forecasts. The reason for the initial fixed calendar run is that *MetrixLT* allocates forecasted energy to hours and peak using the class hourly profiles. If the calendar is not fixed, the allocation of energy to hours (and thus peaks) changes over time as a result of changes in the calendar. As an example, less energy is allocated to weekdays in August 2008 than in August 2007 as there is one more Saturday in August 2008. Since less energy is allocated to the 2008 week-days (more to the week-ends), the 2008 peak (which occurs on a weekday) can be lower than the 2007 peak even if the 2008 energy forecast is greater.

The fixed calendar run corrects this problem. Given the calendar is the same in each of the forecast years, the percent of the energy forecast allocated to the peak hour will be the same every year.

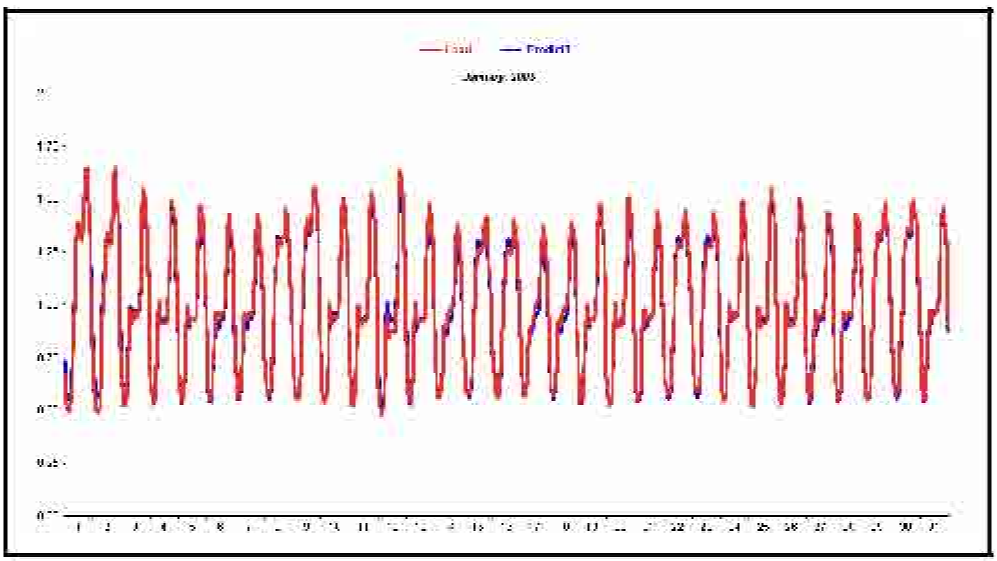
The final set of profiles reflects the actual calendar. These profiles are combined in MetrixLT with the peaks generated by the fixed calendar run to produce the final hourly load forecast.

Residential profiles are estimated for cooling, heating, and other use. Profiles are constructed using end-use weather response functions developed as part of Itron's EShapes database, which is an end-use library of shapes constructed by US region. The shapes were developed from engineering simulation runs for typical households with air conditioning and electric space heating.

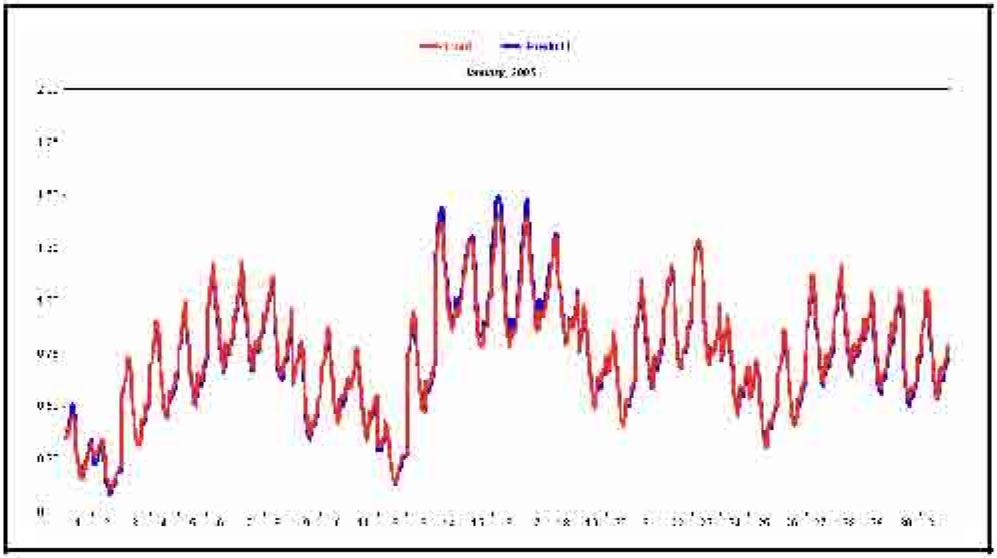
Heating and cooling weather response functions are simulated using St. Louis actual daily weather data over the same period for which residential load research data is available- July 2003 to June 2006. This generates an initial use per customer hourly heating and cooling load for this period. A base-use profile model is used to generate an initial hourly load profile for residential base load. The end-use results from the simulation are calibrated to actual residential class load research data.

Hourly end-use profiles models are estimated from the calibrated end-use hourly load data. The profile models' functional forms are similar to that of the class models. The cooling profile model includes daily cooling degree-days for multiple splines (base 65 and 70), binary variables for day of the week, month, and major holidays, daily predicted cooling energy from an ANN specification, and the interaction of daily energy and CDD with days of the week. The heating profile model includes daily heating degree-days for multiple splines (base 65 and 50), and the same binary and interaction variables as that in the cooling profile model. The base-use profile model specification is similar to the subclass models. The models fit the calibrated end-use profile data extremely well.

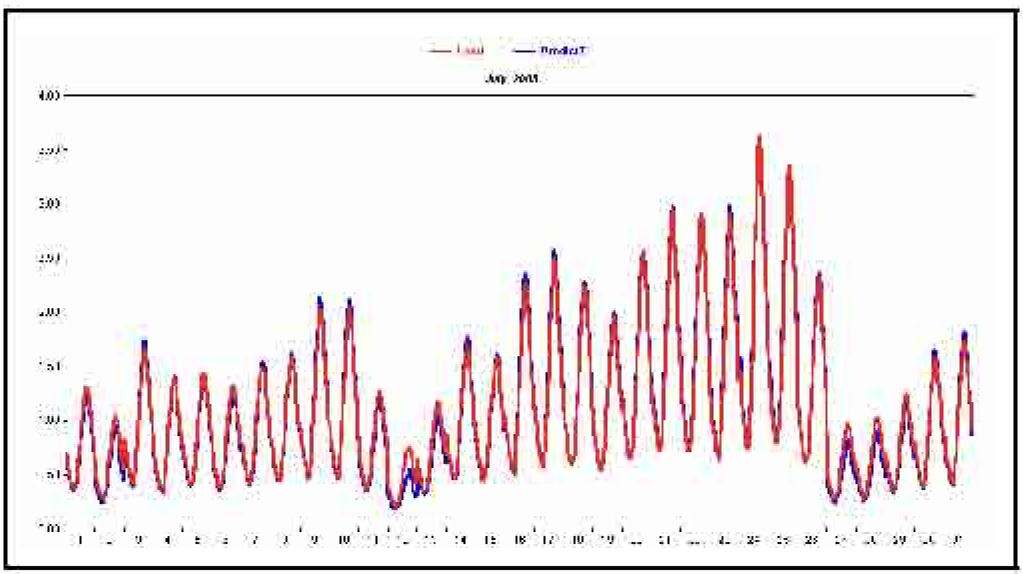
Other-use use-per-customer kW (Red Actual) and (Blue Predicted)



Heating use use-per-customer kW (Red Actual) and (Blue Predicted)



Cooling use use-per-customer kW (Red Actual) and (Blue Predicted)



The profiles are extended through the forecast period using the forecast calendar and normal daily weather. As discussed above, the initial profile forecasts are based on a fixed calendar. The fixed calendar run is combined with end-use energy forecasts and aggregated to generate the residential class profile forecast. The residential class profile forecast is added with the other class hourly profiles resulting in an initial long-term system hourly load forecast. As the calendar is fixed, monthly peaks from the initial fixed-calendar run will increase over time with forecasted class and residential end-use energy forecast and the underlying load diversity associated with each customer class and residential end-use. A final set of end-use profiles are generated that reflect the actual calendar. Results from the final profile run are combined with end-use energy forecasts and monthly peaks from the fixed calendar run. Model statistics are below:

<u>Residential use-per-customer heating profile model results</u>

Model	Adj R-Sq	MAD	Std Err
DailyEnergy	0.99	0.5	0.87
Load0	0.99	0.02	0.04
Load1	0.99	0.02	0.03
Load2	0.99	0.01	0.03
Load3	0.99	0.01	0.02
Load4	0.99	0.01	0.02
Load5	0.99	0.01	0.02
Load6	0.99	0.01	0.01
Load7	0.99	0.01	0.02
Load8	0.99	0.01	0.02
Load9	0.99	0.01	0.03
Load10	0.99	0.02	0.04
Load11	0.99	0.02	0.05
Load12	0.99	0.03	0.05
Load13	0.99	0.03	0.06
Load14	0.99	0.04	0.06
Load15	0.99	0.04	0.07
Load16	0.99	0.04	0.08
Load17	0.99	0.04	0.08
Load18	0.99	0.04	0.07
Load19	0.99	0.03	0.06

Model	Adj R-Sq	MAD	Std Err
Load20	0.99	0.03	0.06
Load21	0.99	0.02	0.05
Load22	0.99	0.02	0.05
Load23	0.99	0.02	0.04

Residential use-per-customer cooling profile model results

Model	Adj R-Sq	MAD	Std Err
DailyEnergy	0.99	0.28	0.42
Load0	0.99	0.01	0.02
Load1	0.99	0.01	0.02
Load2	0.99	0.01	0.02
Load3	0.99	0.02	0.02
Load4	0.99	0.02	0.03
Load5	0.99	0.02	0.03
Load6	0.99	0.02	0.03
Load7	0.99	0.02	0.02
Load8	0.99	0.01	0.02
Load9	0.99	0.01	0.02
Load10	0.99	0.01	0.02
Load11	0.99	0.01	0.02
Load12	0.99	0.01	0.01
Load13	0.99	0.01	0.01
Load14	0.99	0.01	0.01
Load15	0.99	0.01	0.01
Load16	0.99	0.01	0.02
Load17	0.99	0.01	0.02
Load18	0.99	0.01	0.02
Load19	0.99	0.01	0.02
Load20	0.99	0.01	0.02
Load21	0.99	0.01	0.02
Load22	0.99	0.01	0.02
Load23	0.99	0.01	0.02

Residential use-per-customer other-use profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.81	0.59	2.76%	0.8
Load0	0.77	0.03	3.67%	0.04
Load1	0.82	0.02	3.77%	0.04
Load2	0.85	0.02	3.84%	0.03
Load3	0.86	0.02	3.83%	0.03
Load4	0.86	0.02	3.76%	0.03
Load5	0.88	0.03	3.69%	0.04
Load6	0.89	0.03	3.52%	0.04
Load7	0.84	0.03	3.25%	0.04
Load8	0.68	0.03	3.28%	0.04
Load9	0.86	0.03	3.53%	0.04
Load10	0.9	0.03	3.64%	0.05
Load11	0.92	0.03	3.69%	0.05
Load12	0.92	0.03	3.72%	0.05
Load13	0.93	0.03	3.75%	0.04
Load14	0.92	0.03	3.74%	0.04
Load15	0.91	0.03	3.79%	0.05
Load16	0.91	0.04	3.85%	0.05
Load17	0.92	0.04	3.73%	0.05
Load18	0.92	0.04	3.67%	0.06
Load19	0.89	0.04	3.56%	0.06
Load20	0.81	0.04	3.45%	0.06
Load21	0.73	0.04	3.24%	0.05
Load22	0.68	0.03	3.10%	0.04
Load23	0.6	0.03	3.57%	0.04

Commercial LGS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.94	60.94	2.79%	80.92
Load0	0.76	3.84	5.33%	5.02
Load1	0.76	3.74	5.29%	4.93
Load2	0.77	3.68	5.22%	4.86
Load3	0.78	3.69	5.24%	4.85
Load4	0.8	3.69	5.06%	4.84
Load5	0.81	3.75	4.79%	4.91
Load6	0.85	3.8	4.38%	5
Load7	0.9	3.76	3.95%	4.97
Load8	0.92	3.63	3.59%	4.88
Load9	0.93	3.57	3.40%	4.81
Load10	0.93	3.64	3.38%	4.92
Load11	0.94	3.65	3.36%	4.93
Load12	0.95	3.62	3.32%	4.87
Load13	0.95	3.63	3.34%	4.87
Load14	0.95	3.81	3.55%	5
Load15	0.94	3.91	3.73%	5.07
Load16	0.94	3.98	3.89%	5.13
Load17	0.93	3.85	3.88%	5.03
Load18	0.92	3.54	3.72%	4.69
Load19	0.92	3.34	3.62%	4.4
Load20	0.91	3.14	3.54%	4.2
Load21	0.89	3.07	3.67%	4.11
Load22	0.86	3.21	4.11%	4.15
Load23	0.85	3.13	4.21%	4.06

Commercial LPS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.85	4823.96	3.56%	6262.47
Load0	0.76	223.75	4.24%	293.05
Load1	0.76	220.75	4.19%	289.19
Load2	0.76	216.39	4.13%	286.49
Load3	0.77	213.84	4.09%	281.85
Load4	0.77	216.55	4.09%	287.02
Load5	0.79	218.94	4.05%	291.75
Load6	0.81	225.9	4.03%	296.68
Load7	0.83	230.4	3.99%	301.21
Load8	0.86	231.69	3.93%	299.82
Load9	0.87	229.66	3.83%	296.93
Load10	0.87	224.87	3.74%	289.18
Load11	0.88	223.57	3.70%	287.5
Load12	0.88	222.96	3.67%	288.31
Load13	0.88	222.05	3.65%	286.16
Load14	0.88	224.82	3.72%	290.63
Load15	0.87	222.96	3.73%	289.57
Load16	0.87	215.84	3.66%	280.77
Load17	0.86	214.91	3.72%	279.2
Load18	0.84	208.8	3.71%	271.98
Load19	0.83	207.1	3.74%	270.01
Load20	0.83	201.59	3.68%	263.71
Load21	0.82	204.67	3.79%	266.53
Load22	0.81	206.2	3.84%	269.18
Load23	0.79	207.23	3.90%	270.39

Commercial SGS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.95	2.39	3.48%	3.16
Load0	0.8	0.13	5.66%	0.17
Load1	0.81	0.13	5.81%	0.17
Load2	0.82	0.12	5.79%	0.16
Load3	0.82	0.12	5.80%	0.16
Load4	0.83	0.12	5.73%	0.16
Load5	0.83	0.12	5.73%	0.16
Load6	0.86	0.13	5.88%	0.17
Load7	0.9	0.14	5.56%	0.18
Load8	0.93	0.15	5.20%	0.21
Load9	0.94	0.16	4.90%	0.22
Load10	0.94	0.17	4.69%	0.22
Load11	0.94	0.17	4.71%	0.23
Load12	0.95	0.17	4.78%	0.23
Load13	0.95	0.18	4.95%	0.24
Load14	0.95	0.18	5.12%	0.24
Load15	0.95	0.19	5.30%	0.25
Load16	0.94	0.18	5.42%	0.24
Load17	0.9	0.18	5.58%	0.23
Load18	0.88	0.17	5.54%	0.22
Load19	0.86	0.16	5.45%	0.22
Load20	0.85	0.15	5.24%	0.21
Load21	0.84	0.14	5.22%	0.19
Load22	0.88	0.11	4.37%	0.14
Load23	0.88	0.1	4.35%	0.13

Commercial SPS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.91	480.45	3.01%	611.91
Load0	0.81	20.81	3.48%	26.48
Load1	0.81	20.2	3.42%	25.96
Load2	0.81	19.83	3.36%	25.6
Load3	0.82	19.42	3.29%	24.95
Load4	0.84	19.09	3.18%	24.3
Load5	0.85	20.04	3.20%	25.55
Load6	0.86	22.54	3.41%	28.51
Load7	0.88	24.28	3.51%	31.17
Load8	0.9	25.22	3.54%	32.34
Load9	0.91	25.74	3.55%	33.18
Load10	0.91	25.85	3.54%	33.36
Load11	0.91	26	3.53%	33.33
Load12	0.92	25.58	3.48%	32.93
Load13	0.92	25.65	3.48%	33.01
Load14	0.92	25.85	3.54%	33.12
Load15	0.92	25.35	3.52%	32.37
Load16	0.92	24.35	3.46%	31
Load17	0.91	23.18	3.36%	29.57
Load18	0.91	22.17	3.29%	28.14
Load19	0.9	21.22	3.21%	26.87
Load20	0.89	20.88	3.23%	26.37
Load21	0.88	20.12	3.18%	25.39
Load22	0.87	19.47	3.16%	24.48
Load23	0.86	19	3.14%	24

Industrial LGS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.87	207.85	9.22%	291.1
Load0	0.73	9.97	13.08%	13.58
Load1	0.72	9.65	12.46%	13.17
Load2	0.71	9.58	12.61%	12.98
Load3	0.67	9.65	12.93%	12.72
Load4	0.69	9.89	12.71%	13.07
Load5	0.78	9.48	11.59%	13.22
Load6	0.84	10.75	11.84%	14.89
Load7	0.86	11.74	11.51%	15.82
Load8	0.83	13.11	12.86%	17.58
Load9	0.83	13.13	12.36%	17.45
Load10	0.85	12.65	11.58%	16.83
Load11	0.86	12.64	11.56%	16.75
Load12	0.86	12.49	11.31%	16.72
Load13	0.86	12.88	11.55%	17.62
Load14	0.84	13.18	12.60%	18.1
Load15	0.79	13.93	14.71%	19.29
Load16	0.77	13.23	15.54%	18.62
Load17	0.76	12.94	17.12%	17.85
Load18	0.78	12.31	19.02%	17.05
Load19	0.79	11.91	16.86%	16.36
Load20	0.77	11.84	18.50%	16.63
Load21	0.76	11.72	17.45%	16.4
Load22	0.77	11.14	17.49%	15.59
Load23	0.76	10.21	14.33%	14.7

Industrial LPS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.83	8500	3.81%	11223.6
Load0	0.76	391.1	4.27%	513.42
Load1	0.76	380.21	4.17%	495.23
Load2	0.76	371.48	4.09%	485.39
Load3	0.77	366.14	4.08%	479.98
Load4	0.77	372.06	4.13%	485.26
Load5	0.79	378.8	4.15%	497.24
Load6	0.81	383.63	4.09%	510.28
Load7	0.82	392.05	4.16%	517.28
Load8	0.83	400.37	4.24%	526.21
Load9	0.83	397.24	4.19%	519.94
Load10	0.84	387.82	4.10%	507.1
Load11	0.83	389.87	4.12%	513.26
Load12	0.84	391.84	4.10%	512.63
Load13	0.84	397.42	4.15%	519.72
Load14	0.84	390.81	4.12%	512.94
Load15	0.84	383.71	4.09%	503.14
Load16	0.83	388.6	4.18%	513.27
Load17	0.83	382.37	4.13%	505.29
Load18	0.83	381.44	4.13%	502.74
Load19	0.82	378.91	4.11%	500.48
Load20	0.81	378.03	4.11%	500.23
Load21	0.81	376.32	4.10%	497.41
Load22	0.8	383.17	4.16%	503.27
Load23	0.8	384.42	4.16%	505.47

Industrial SGS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.82	11.88	13.49%	16.2
Load0	0.75	0.44	22.76%	0.59
Load1	0.75	0.44	20.35%	0.59
Load2	0.76	0.44	21.51%	0.6
Load3	0.75	0.43	20.71%	0.59
Load4	0.77	0.43	19.37%	0.58
Load5	0.77	0.48	19.79%	0.66
Load6	0.75	0.72	18.26%	1
Load7	0.8	0.94	20.34%	1.27
Load8	0.8	0.97	19.88%	1.33
Load9	0.79	1.02	19.21%	1.39
Load10	0.79	1.04	19.08%	1.41
Load11	0.79	1.02	18.97%	1.39
Load12	0.79	1.02	18.88%	1.41
Load13	0.81	1	18.87%	1.36
Load14	0.8	0.96	21.01%	1.33
Load15	0.77	0.84	19.22%	1.16
Load16	0.73	0.62	19.40%	0.83
Load17	0.67	0.54	21.60%	0.71
Load18	0.67	0.47	134.30%	0.62
Load19	0.68	0.45	23.59%	0.58
Load20	0.71	0.42	31.35%	0.55
Load21	0.71	0.45	69.76%	0.58
Load22	0.74	0.42	27.04%	0.56
Load23	0.75	0.42	43.30%	0.57

Industrial SPS profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.91	870.16	4.35%	1180.31
Load0	0.84	39.43	5.08%	54.41
Load1	0.84	38.25	4.97%	52.33
Load2	0.82	38.34	5.04%	52.15
Load3	0.82	37.9	5.01%	50.91
Load4	0.84	38.09	4.97%	51.11
Load5	0.87	38.52	4.86%	51.31
Load6	0.9	40.05	4.82%	53.55
Load7	0.92	40.36	4.74%	54.59
Load8	0.92	40.67	4.70%	55.09
Load9	0.92	41.64	4.75%	56.21
Load10	0.92	42.08	4.75%	56.34
Load11	0.92	42.44	4.80%	56.58
Load12	0.93	42.55	4.78%	56.98
Load13	0.93	42.48	4.77%	57.13
Load14	0.93	41.52	4.72%	55.94
Load15	0.92	40.62	4.74%	54.26
Load16	0.92	40.98	4.86%	54.32
Load17	0.91	40.44	4.89%	53.19
Load18	0.91	40.54	4.96%	53.55
Load19	0.9	40.31	4.94%	53.32
Load20	0.89	41.04	5.06%	54.09
Load21	0.89	40.55	4.99%	53.83
Load22	0.88	39.69	4.96%	53.11
Load23	0.86	39.43	4.99%	53.79

Lighting profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	1	0.12	0.74%	0.14
Load0	0.12	0.01	0.73%	0.01
Load1	0.12	0.01	0.73%	0.01
Load2	0.12	0.01	0.73%	0.01
Load3	0.12	0.01	0.73%	0.01
Load4	0.12	0.01	0.73%	0.01
Load5	0.89	0.05	4.46%	0.08
Load6	0.98	0.07	12.81%	0.09
Load7	0.8	0.04	15.71%	0.07
Load8	1	0	0.00%	0
Load9	1	0	0.00%	0
Load10	1	0	0.00%	0
Load11	1	0	0.00%	0
Load12	1	0	0.00%	0
Load13	1	0	0.00%	0
Load14	1	0	0.00%	0
Load15	1	0	0.00%	0
Load16	0.9	0.04	8.20%	0.06
Load17	0.97	0.05	5.23%	0.1
Load18	0.98	0.06	5.53%	0.09
Load19	0.97	0.07	10.81%	0.1
Load20	0.92	0.04	4.05%	0.06
Load21	0.12	0.01	0.73%	0.01
Load22	0.12	0.01	0.73%	0.01
Load23	0.12	0.01	0.73%	0.01

Noranda profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.38	29424.39	0.26%	39003.09
Load0	0.13	1763.95	0.38%	3481.64
Load1	0.19	1865.27	0.40%	3611.33
Load2	0.21	1819.2	0.39%	3339.75
Load3	0.13	1825.96	0.39%	3438.61
Load4	0.24	1509.69	0.32%	2328.58
Load5	0.1	1724.35	0.37%	4117.13
Load6	0.12	1728.42	0.37%	3317.62
Load7	0.11	2246.9	0.49%	4297.34
Load8	0.12	2475.63	0.54%	4919.32
Load9	0.03	4341.72	0.96%	9094.23
Load10	0.09	2986.32	0.65%	5821.59
Load11	0.07	2869.81	0.63%	6914.06
Load12	0.03	4004.02	0.89%	8693.82
Load13	0.03	2900.03	0.63%	5511.81
Load14	0.11	2253.21	0.48%	4061.69
Load15	0.06	2097.63	0.45%	4341.34
Load16	0.08	2371.46	0.51%	5001.35
Load17	0.03	2076.58	0.45%	5172.03
Load18	0.09	2373.96	0.52%	5553.06
Load19	0.11	1584.42	0.34%	4037.36
Load20	0.02	1864.3	0.40%	4259.12
Load21	0.04	1790.07	0.39%	4851.89
Load22	0.12	1910.98	0.41%	3795.44
Load23	0.17	1646.91	0.35%	3358.46

Wholesale profile model results

Model	Adj R-Sq	MAD	MAPE	Std Err
DailyEnergy	0.91	11273.69	4.06%	15399.02
Load0	0.82	533.04	5.44%	756.83
Load1	0.81	504.17	5.40%	711.86
Load2	0.81	480.88	5.32%	677.49
Load3	0.81	459.95	5.15%	646.48
Load4	0.8	454.14	5.05%	633.98
Load5	0.82	465.1	4.93%	643.66
Load6	0.83	507.95	4.98%	705.35
Load7	0.85	515.38	4.72%	724
Load8	0.86	509.04	4.41%	712.04
Load9	0.88	521.58	4.33%	717.88
Load10	0.89	545.47	4.37%	747.14
Load11	0.91	575.86	4.51%	785.64
Load12	0.9	615.59	4.75%	852.82
Load13	0.91	638.08	4.92%	877.01
Load14	0.92	661.34	5.08%	904.7
Load15	0.92	683.96	5.25%	938.65
Load16	0.91	730.36	5.51%	992.95
Load17	0.89	736.07	5.45%	1006.96
Load18	0.89	691.06	5.13%	962.45
Load19	0.89	633.53	4.76%	880.19
Load20	0.89	606.05	4.63%	839.3
Load21	0.9	571.6	4.54%	792.98
Load22	0.89	517.1	4.47%	723.48
Load23	0.89	473.8	4.54%	661.8

In developing the hourly load profiles, one of the tasks is to capture a typical daily weather pattern. Ideally, these profiles will capture extreme, moderate, and temperate days, and reflect a "typical" weather pattern. The daily normal series is then used to drive class and residential end-use profile models through the forecast period.

Normal daily degree-days are calculated using rank and average approach. The process entails first constructing daily historical degree-days. Historical daily degree-days are then ranked (or sorted) within season and year from the highest to lowest degree-day. The next step is to map the calculated degree-day duration curves to a daily weather pattern. A typical HDD and CDD weather pattern is calculated from thirty-years of historical daily degree days over the period 1971 to 2000. The typical weather pattern is calculated by averaging actual daily degree-days by date (i.e., all the January 1st's are averaged, the January 2nd's are averaged, …, December 31st's are averaged).

The calculated normal degree-day duration curves are mapped to the weather pattern. The highest degree-day from the weather duration curve is mapped to the highest degree-day in the calculated daily weather pattern; the second highest degree-day is mapped to the second highest degree-day, and so on. This process continues until all calculated degree-days from the normal daily duration curve are mapped to a specific day on the daily degree-day weather pattern. The daily normal degree-day series is repeated for each of the forecast years, and is used to generate the preliminary class and residential end-use profile forecasts.

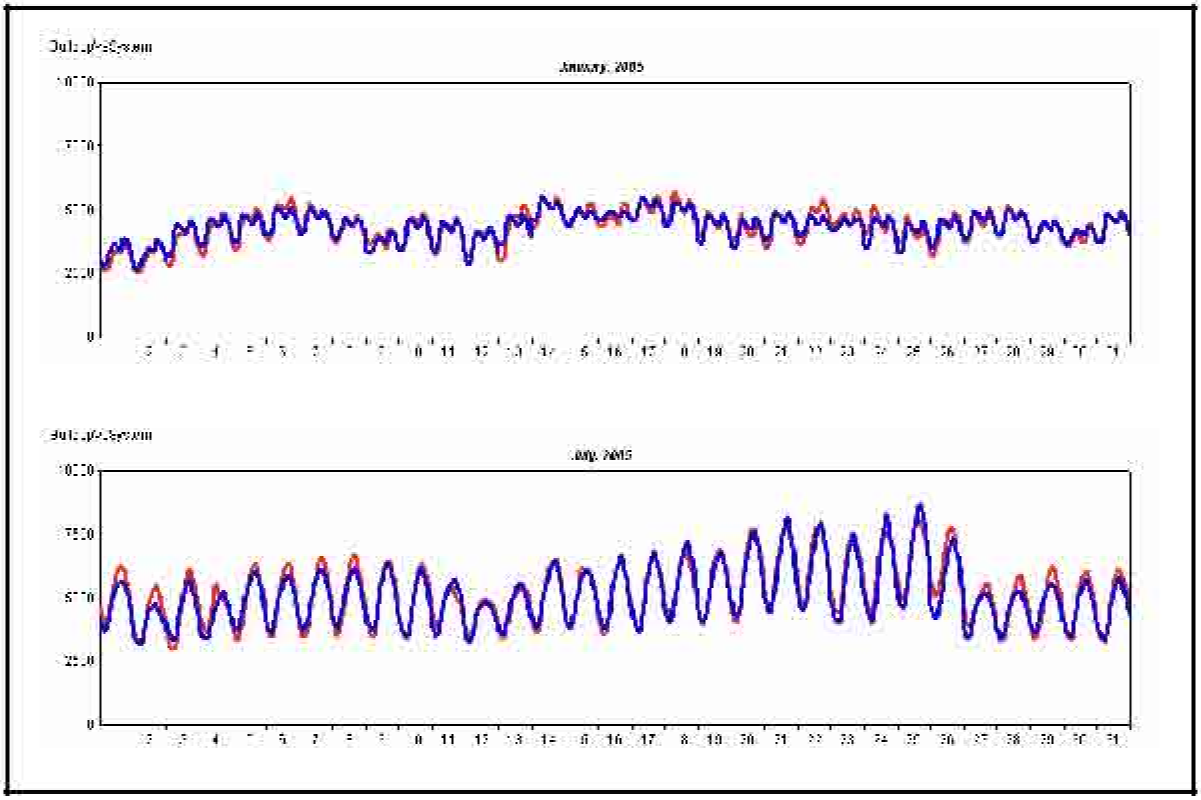
Next step in the process is generating a system hourly forecast using the build-up approach. This entails combining the class and end-use energy forecasts with the profiles, and then aggregating the class and end-use forecast to a system hourly load. The forecast is generated using a two-step process. The first step is used to generate a monthly peak forecast; this entails executing the underlying profiles using a *fixed* calendar, combining the energy forecast with the fixed calendar profiles, and calibrating the initial model peaks with actual system demand. In the second step, final calibrated monthly peaks are combined with the energy forecasts, and class and end-use profiles that reflect the actual calendar.

1. Execute load profile models for actual daily weather conditions and calendar

2. Combine resulting profiles with customer class and end-use energy estimates for actual weather conditions and line losses
3. Add-up customer class and residential end-use profiles
4. Compare build-up shape against actual system load

Figure below shows the comparative results for January and July 2005.

Actual (Red) and Build-up (Blue) System Hourly Load Comparison



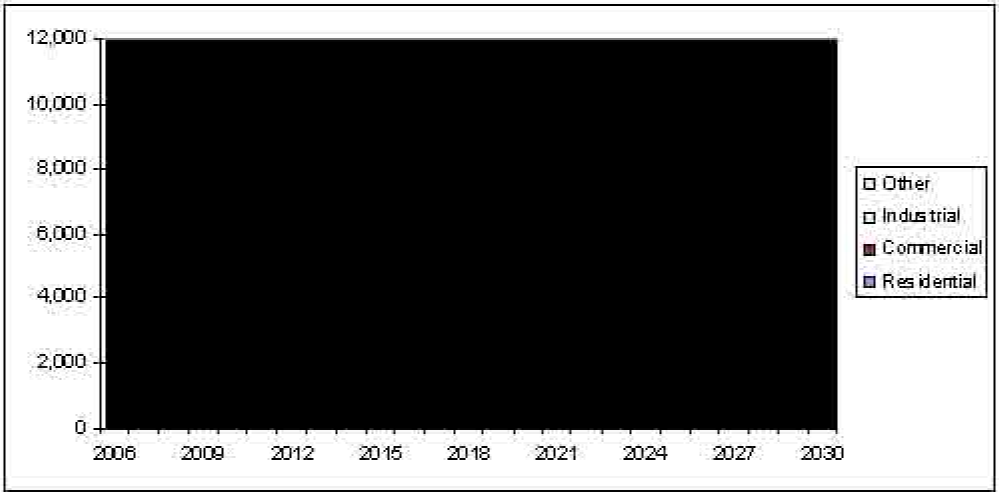
The build-up forecast is calculated using *MetrixLT Batch Transform Objects*. The build-up approach generates a reasonable forecast when the profile is compared against actual system load (excluding Noranda). The forecast can be improved slightly using a *MetrixLT Scaling Transform*. The scaling transform calibrates the build-up forecast to a scaling variable target – in this case the target is actual system load.

As explained earlier, the process of combining energy forecasts with profiles that reflect the actual calendar tends to result in "noisy" peak forecasts – that is, the peak can be up 3% one year and down 1.5% the next year, for example. The variation in monthly peaks has nothing to do with weather or changes in energy growth, but rather the shifting days in the calendar over time. To resolve this problem, in the initial forecast run the class and end-use profiles are generated using a *fixed* calendar through the forecast period; the 2007 calendar is repeated in each forecast year. The resulting profiles are combined with the annual class and residential end-use energy forecast and adjusted for losses. The class and residential end-use profiles are aggregated to generate a system hourly load forecast. The monthly peaks are extracted from the fixed-calendar system hourly load forecast. The resulting monthly peak forecast will show consistent growth that reflects the class and residential end-use energy forecasts and underlying class and end-use load diversity.

The build-up forecast model will tend to under-estimate the system peak. This is an outcome of the shape estimation process that is based on hourly load regression models. The regression models minimize the sum of the squared residuals for all hours – this includes low load hours as well as the peak hour. As the model gives equal weight to all hours, the regression line will tend to under predict the extreme or peak hours though on average will generate a reasonable profile. To correct this bias, the peak demand from the build-up model is calibrated to the 2006 weather normal peak (excluding Noranda). The July 2006 peak demand from the build-up model is 7,857 MW. The weather-normalized July 2006 peak excluding Noranda is 7,969 MW. The calculated peak adjustment factor is 1.014 (*July 2006 Weather Normal Peak / Build-up 2006 Peak Forecast*). This adjustment factor is applied to the July peak forecasts from the build-up model forecast. Build-up peak demand forecast for the other months are also evaluated against expected peak demand. When compared with expected monthly peaks, the build-up model tended to over-estimate February peaks and under-estimate April monthly peaks. A 0.90 factor is applied to the February monthly peak forecasts and a 1.10 factor is applied to the April peak demand forecast.

In the final run, the customer class and end-use profile models are executed through the forecast period with the *actual* calendar and normal daily degree-days. A separate hourly load forecast for Noranda is added to the calibrated build-up forecast. Final monthly peak results are provided to Resource Planning for the integration analysis.

Below is a figure that shows the total system forecast and contribution of each revenue class to the peak growth.



Residential and commercial classes are responsible for most of the growth in system peak demand. On the other hand, industrial coincident peaks decline steadily through the forecast period and Other (Noranda, wholesale and lighting) category remains stagnant after the drop in 2009 due to the wholesale contract expirations. The results are provided in 22.030 (5) (B) 2.D.

CSR 240-22.030 (5) (B) 2.B

B. End-use detail. For each major class, the utility shall forecast both monthly energy use and demands at time of the summer and winter system peaks. Where information is available for a major class, the utility shall provide forecasts of the monthly energy and demand at the time of summer and winter system peaks by heating, cooling and other uses.

For residential, commercial SGS and commercial LGS classes, the SAE model specifications allow AmerenUE to estimate aggregate heating, cooling, and "other use" sales for the forecast period. Also, heating, cooling and other use coincident demand forecasts for the residential sector are obtained and provided in 22.030 (5) (B) 2.D.

CSR 240-22.030 (5) (B) 2.C

C. The stock of energy-using capital goods. For each end use for which the utility has developed measures of the stock of energy-using capital goods and where the utility has determined that forecasting the use of electricity associated with these energy-using capital goods is cost-effective and feasible, it shall forecast those measures and document the relationship between the forecasts of the measures to the forecasts of end-use energy and demands at time of the summer and winter system peaks. The values of the driver variables used to generate forecasts of the measures of the stock of energy-using capital goods shall be specified and clearly documented.

Forecasts for the stock of energy-using capital goods are required to build bottom-up end-use models like REEPS and COMMEND modeling approaches. Since AmerenUE uses SAE models and econometric models, stock of energy-using capital goods and the forecasts for these measures are not need for its forecasting process and are not developed. AmerenUE used EIA's efficiency and saturation data for the West North Central census region after adjusting the saturation data with the results from Missouri Statewide Residential Lighting and Appliance Saturation and Efficiency Study.

CSR 240-22.030 (5) (B) 2.D

D. The major class forecasted use per unit shall be compared to historical trends in weather-normalized use per unit. Significant differences between the forecasts and long-term and recent trends shall be analyzed and explained.

Forecast results on a calendar month basis are provided below; the calendar month weather-normalized history is obtained from the forecast model transformations.

Table (5) (B)-25: Residential heating-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	551	422	315	157	48	4	0	1	28	133	306	490	32	2,422	2,455
1996	560	430	321	160	49	4	0	1	28	135	311	500	33	2,466	2,499
1997	572	438	327	163	50	4	0	1	29	137	316	508	34	2,511	2,545
1998	581	446	333	166	51	4	0	1	29	140	322	517	34	2,555	2,590
1999	591	453	337	168	51	4	0	1	30	141	326	522	35	2,590	2,625
2000	597	459	342	171	52	4	0	1	30	144	331	531	35	2,627	2,663
2001	607	466	347	174	53	4	0	1	31	146	336	539	36	2,668	2,704
2002	618	473	353	176	54	4	0	1	31	149	343	550	36	2,716	2,752
2003	632	485	361	181	55	5	0	1	32	153	351	563	37	2,781	2,818
2004	645	495	369	184	56	5	0	1	33	156	359	575	38	2,838	2,877
2005	659	507	377	189	57	5	0	1	33	159	367	589	39	2,904	2,943
2006	675	517	386	193	59	5	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-26: Residential cooling-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0	0	7.8	39	159	458	688	592	281	48	3.5	0	2,019	257	2,276
1996	0	0	7.9	39	160	462	693	597	283	48	3.5	0	2,035	259	2,294
1997	0	0	7.9	39	162	467	700	603	286	49	3.5	0	2,056	262	2,318
1998	0	0	8.0	40	163	471	708	609	289	49	3.6	0	2,077	264	2,341
1999	0	0	8.1	40	164	473	710	611	290	49	3.6	0	2,084	265	2,349
2000	0	0	8.1	40	165	477	715	616	292	50	3.6	0	2,101	267	2,368
2001	0	0	8.2	41	166	480	721	621	295	50	3.6	0	2,117	269	2,386
2002	0	0	8.2	41	167	483	725	625	296	50	3.7	0	2,129	271	2,400
2003	0	0	8.3	41	170	491	737	634	302	51	3.7	0	2,164	275	2,439
2004	0	0	8.4	41	170	494	741	637	303	51	3.8	0	2,175	276	2,450
2005	0	0	8.6	43	175	505	757	656	311	53	3.8	0	2,230	283	2,513
2006	0	0	8.7	43	176	510	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
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2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-27: Residential other-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		499	500	445	472	421	501	551	615	484	431	472	2,088	3,302	5,390
1996	518	498	536	482	454	450	580	581	554	502	449	502	2,165	3,941	6,107
1997	569	493	521	492	448	481	511	589	540	488	450	523	2,122	3,984	6,106
1998	588	494	514	494	504	524	573	588	552	516	482	546	2,237	4,138	6,375
1999	561	537	534	505	507	514	598	629	575	514	491	540	2,316	4,189	6,504
2000	596	521	531	480	502	554	635	660	606	544	512	590	2,455	4,275	6,730
2001	632	521	555	489	465	553	640	626	581	551	538	611	2,401	4,362	6,763
2002	668	556	619	527	528	577	631	620	609	561	547	701	2,437	4,708	7,145
2003	617	608	627	533	560	573	661	658	588	539	571	683	2,480	4,738	7,217
2004	715	661	634	558	527	564	627	645	616	588	588	679	2,452	4,950	7,403
2005	748	635	629	574	552	600	690	690	623	607	592	690	2,602	5,028	7,630
2006	764	620	654	584	618	626	[redacted]								
2007															
2008															
2009															
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2014															
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2030															

Table (5) (B)-28: Total residential forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer	Annual
1995		921	823	641	678	883	1,189	1,144	924	665	740	962	4,140		
1996	1,079	928	865	682	663	916	1,274	1,178	865	685	763	1,001	4,234	6,666	10,900
1997	1,140	932	856	695	659	952	1,212	1,193	855	674	770	1,031	4,212	6,757	10,969
1998	1,169	941	854	700	718	999	1,281	1,198	870	705	808	1,062	4,348	6,957	11,305
1999	1,152	990	879	713	722	992	1,308	1,241	894	705	821	1,062	4,434	7,044	11,478
2000	1,193	980	881	691	719	1,035	1,351	1,277	928	738	847	1,121	4,591	7,170	11,761
2001	1,239	988	911	704	684	1,038	1,361	1,248	906	747	877	1,150	4,553	7,299	11,853
2002	1,286	1,030	980	744	749	1,065	1,356	1,246	936	760	894	1,251	4,603	7,694	12,297
2003	1,249	1,093	997	755	785	1,068	1,399	1,293	921	743	925	1,247	4,681	7,794	12,475
2004	1,360	1,156	1,011	783	754	1,063	1,368	1,282	952	795	952	1,254	4,665	8,064	12,730
2005	1,407	1,142	1,015	805	784	1,110	1,447	1,346	967	819	963	1,280	4,871	8,215	13,086
2006	1,439	1,137	1,049	820	852	1,141	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
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2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-29: Commercial SGS heating-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	74	57	42	21	6	1	0	0	4	18	42	67	4	327	331
1996	77	59	44	22	7	1	0	0	4	19	44	71	5	342	346
1997	82	63	47	24	7	1	0	0	4	20	47	76	5	367	372
1998	86	66	49	25	7	1	0	0	4	21	48	77	5	379	384
1999	88	67	50	25	8	1	0	0	4	21	49	79	5	386	392
2000	89	68	51	25	8	1	0	0	5	22	50	80	5	393	398
2001	90	69	52	26	8	1	0	0	5	22	50	80	5	396	401
2002	90	69	51	26	8	1	0	0	4	21	49	79	5	394	399
2003	89	69	51	26	8	1	0	0	4	22	49	79	5	392	398
2004	90	68	51	25	8	1	0	0	4	22	50	80	5	393	398
2005	90	69	52	26	8	1	0	0	5	22	51	81	5	399	405
2006	92	71	53	26	8	1	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
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2026	[redacted]														
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2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-30: Commercial SGS cooling-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0	0	1	5	20	57	85	73	35	6	0	0	250	32	281
1996	0	0	1	5	20	58	88	76	36	6	0	0	259	33	292
1997	0	0	1	5	22	64	97	83	40	7	0	0	283	36	319
1998	0	0	1	5	22	65	98	84	40	7	0	0	287	36	323
1999	0	0	1	6	23	67	100	86	41	7	1	0	294	37	332
2000	0	0	1	6	23	68	102	88	42	7	1	0	299	38	337
2001	0	0	1	6	24	68	102	88	42	7	1	0	300	38	339
2002	0	0	1	6	24	68	102	88	41	7	1	0	299	38	337
2003	0	0	1	6	23	68	102	88	42	7	1	0	299	38	337
2004	0	0	1	6	23	68	102	88	42	7	1	0	299	38	337
2005	0	0	1	6	24	70	105	90	43	7	1	0	308	39	347
2006	0	0	1	6	25	71	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-31: Commercial SGS other-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		191	195	192	178	187	206	203	220	201	177	183	816	1,317	
1996	189	191	186	174	186	194	224	200	222	199	182	184	839	1,492	2,332
1997	192	183	194	186	181	197	198	210	203	206	179	184	808	1,506	2,314
1998	192	172	194	193	199	205	205	216	209	220	192	197	834	1,560	2,394
1999	188	187	200	195	202	208	215	220	228	222	209	208	872	1,610	2,482
2000	204	192	203	190	214	214	224	228	219	221	208	210	885	1,643	2,528
2001	211	193	207	199	213	218	241	228	220	221	200	205	906	1,650	2,557
2002	203	193	216	223	219	224	240	231	223	227	205	208	918	1,694	2,612
2003	205	188	204	193	207	219	230	229	220	228	208	212	898	1,644	2,542
2004	214	216	221	204	215	220	229	233	232	233	215	215	915	1,734	2,649
2005	224	201	206	213	220	230	236	235	230	236	216	217	932	1,731	2,663
2006	228	201	223	215	233	227	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
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2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-32: Commercial SGS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		247	239	218	204	244	291	276	259	225	219	250	1,070	1,602	
1996	266	250	231	201	213	253	312	277	262	224	226	255	1,103	1,867	2,970
1997	274	246	243	215	211	262	294	293	247	233	227	259	1,097	1,908	3,005
1998	278	238	244	223	229	270	302	300	253	248	241	274	1,126	1,975	3,101
1999	276	254	251	225	233	276	316	307	274	250	258	286	1,172	2,034	3,206
2000	293	260	255	222	245	282	326	316	265	249	259	290	1,190	2,074	3,264
2001	302	262	259	231	245	287	343	316	266	250	251	285	1,212	2,084	3,296
2002	293	262	268	255	251	293	342	318	269	255	255	287	1,222	2,125	3,347
2003	294	256	256	224	239	288	331	317	266	256	258	291	1,203	2,074	3,277
2004	304	285	273	235	246	289	331	321	278	262	265	295	1,219	2,166	3,385
2005	314	270	259	245	252	300	341	326	278	265	267	298	1,245	2,170	3,415
2006	320	271	276	247	265	298	[redacted]								
2007	[redacted]														
2008	[redacted]														
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2010	[redacted]														
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2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
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Table (5) (B)-33: Commercial LGS heating-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	39	30	23	11	3	0	0	0	2	10	22	36	2	175	177
1996	41	31	23	12	4	0	0	0	2	10	23	38	2	181	184
1997	43	33	25	13	4	0	0	0	2	11	25	39	3	193	196
1998	45	34	26	13	4	0	0	0	2	11	25	40	3	196	199
1999	45	34	26	13	4	0	0	0	2	11	25	40	3	198	201
2000	46	35	26	13	4	0	0	0	2	11	26	41	3	201	204
2001	46	36	27	13	4	0	0	0	2	11	26	41	3	204	206
2002	46	36	26	13	4	0	0	0	2	11	26	41	3	204	207
2003	46	36	27	13	4	0	0	0	2	11	26	41	3	204	207
2004	47	36	26	13	4	0	0	0	2	11	26	41	3	204	207
2005	47	36	27	13	4	0	0	0	2	11	26	42	3	206	208
2006	47	36	27	14	4	0	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
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2020	[redacted]														
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2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
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2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-34: Commercial LGS cooling-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0	0	1	7	30	86	129	111	53	9	1	0	380	48	428
1996	0	0	1	7	30	88	133	115	55	9	1	0	391	50	440
1997	0	0	2	8	33	96	145	125	59	10	1	0	425	54	479
1998	0	0	2	8	33	96	144	124	59	10	1	0	422	54	476
1999	0	0	2	8	33	97	146	126	60	10	1	0	428	54	482
2000	0	0	2	8	34	99	149	128	61	10	1	0	437	55	492
2001	0	0	2	8	35	100	150	129	61	10	1	0	440	56	496
2002	0	0	2	8	35	100	150	130	61	10	1	0	441	56	498
2003	0	0	2	8	35	101	151	130	61	10	1	0	443	56	499
2004	0	0	2	8	35	100	151	130	62	10	1	0	443	56	499
2005	0	0	2	9	35	102	153	132	63	11	1	0	450	57	507
2006	0	0	2	9	36	104	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-35: Commercial LGS other-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	403	369	374	344	349	360	358	349	392	378	349	370	1,459	2,936	4,395
1996	398	383	391	360	357	376	378	370	384	383	372	385	1,508	3,029	4,537
1997	410	382	381	378	350	386	371	360	384	389	372	393	1,501	3,054	4,555
1998	413	368	399	386	373	396	371	382	388	389	393	432	1,537	3,152	4,689
1999	396	398	412	464	426	426	378	387	414	456	448	465	1,604	3,464	5,069
2000	447	463	401	416	395	457	412	417	409	440	453	469	1,695	3,483	5,178
2001	533	402	428	413	423	428	456	432	433	457	412	476	1,749	3,544	5,293
2002	459	509	371	424	469	410	436	432	447	471	424	462	1,726	3,588	5,314
2003	475	465	475	434	450	461	454	449	465	469	465	537	1,829	3,771	5,600
2004	488	483	464	451	459	476	473	479	488	494	478	488	1,916	3,803	5,719
2005	522	470	482	475	473	488	490	489	500	522	479	514	1,967	3,938	5,905
2006	529	476	495	479	500	509	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-36: Commercial LGS heating-use forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	443	400	398	363	383	446	487	461	447	396	371	405	1,841	3,159	5,000
1996	439	414	416	379	391	465	511	485	441	402	396	423	1,902	3,259	5,161
1997	453	415	407	399	387	483	516	485	445	410	397	432	1,929	3,301	5,230
1998	457	402	426	407	410	493	514	506	449	410	418	472	1,962	3,402	5,364
1999	441	433	439	485	463	523	524	513	476	477	474	505	2,035	3,717	5,752
2000	493	498	429	437	433	557	561	546	472	462	479	510	2,135	3,740	5,875
2001	580	438	456	434	462	529	606	561	496	478	438	517	2,192	3,803	5,995
2002	505	544	399	446	508	511	587	561	511	493	451	503	2,170	3,848	6,018
2003	522	501	504	456	489	562	605	579	529	490	492	578	2,275	4,031	6,306
2004	535	518	492	472	497	577	623	609	552	515	504	529	2,362	4,063	6,425
2005	569	506	510	497	512	591	643	621	565	544	506	556	2,420	4,201	6,621
2006	576	513	523	501	540	613	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-37: Commercial SPS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2001						227	239	229	217	214	190	187	911		
2002	213	203	195	197	213	233	247	244	223	224	197	185	948	1,627	2,575
2003	224	194	202	197	211	234	244	248	216	215	201	210	943	1,654	2,597
2004	220	202	192	207	220	232	256	248	224	232	200	207	961	1,681	2,642
2005	223	190	198	204	207	237	237	234	223	210	194	199	931	1,625	2,556
2006	226	194	193	195	205	227	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-38: Commercial LPS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2001		74	57	80	75	87	90	90	91	76	83	70	358	516	874
2002	78	75	70	75	83	85	86	95	87	84	86	80	354	631	984
2003	84	81	77	81	82	89	99	93	89	95	90	82	371	672	1,043
2004	87	82	79	88	87	93	105	100	97	92	88	94	394	696	1,090
2005	96	92	85	91	93	108	115	123	117	107	103	102	464	770	1,234
2006	100	99	93	94	109	117	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-39: Industrial SGS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		16	16	14	12	13	15	16	16	13	18	18	60		
1996	17	17	16	15	12	14	15	15	15	14	19	19	59	130	189
1997	18	16	15	13	12	13	15	15	14	14	20	19	58	128	186
1998	17	15	15	14	12	14	16	15	15	14	17	16	60	121	181
1999	18	15	15	13	10	15	15	17	15	12	15	12	62	110	172
2000	16	14	13	10	11	13	15	16	14	15	15	15	57	110	168
2001	17	14	14	12	12	12	14	14	18	14	16	15	58	114	172
2002	14	14	13	12	11	12	16	14	13	14	15	15	54	110	164
2003	14	13	13	10	10	11	13	13	12	12	17	14	48	104	152
2004	13	13	11	10	10	11	12	12	11	14	16	14	47	101	148
2005	14	11	11	10	9	11	13	12	12	14	14	13	47	97	145
2006	12	11	11	10	9	11	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
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2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-40: Industrial LGS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		101	99	92	93	104	109	109	113	97	93	94	435		
1996	98	100	100	96	93	107	111	111	112	98	97	97	440	779	1,219
1997	100	99	97	93	92	107	112	110	108	102	100	98	437	781	1,218
1998	100	97	103	97	93	112	110	113	108	102	98	93	443	783	1,226
1999	101	100	99	106	121	124	110	115	107	97	112	90	456	826	1,283
2000	97	104	100	88	99	112	114	125	114	110	111	96	466	805	1,271
2001	113	95	106	99	103	111	115	123	100	101	95	97	450	809	1,259
2002	98	97	102	108	85	113	119	103	107	100	92	93	442	776	1,217
2003	94	97	97	90	93	99	105	108	101	97	96	94	413	757	1,171
2004	90	95	91	89	96	104	106	105	99	99	93	95	414	748	1,162
2005	96	93	92	95	92	102	107	106	101	100	95	94	416	757	1,173
2006	97	89	88	87	90	98	[redacted]								
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
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2027															
2028															
2029															
2030															

The results from the forecast for this class were adjusted according to information received from AmerenUE's Key Account Executives. A total of 4,800 MWh were subtracted from the model results in each year of the forecast period.

Table (5) (B)-41: Industrial SPS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		149	150	141	143	155	165	163	163	155	152	153	648		
1996	164	163	167	160	157	167	167	161	155	157	159	159	650	1,287	1,937
1997	168	166	165	163	163	178	179	175	168	162	160	162	699	1,309	2,008
1998	165	159	171	155	151	171	168	177	164	163	162	181	681	1,308	1,989
1999	165	138	173	176	129	177	152	158	148	165	153	151	635	1,249	1,884
2000	150	149	136	175	136	160	155	174	153	157	159	155	642	1,216	1,858
2001	161	160	169	146	150	152	159	156	149	147	131	136	616	1,199	1,816
2002	130	132	142	104	126	141	158	137	144	137	128	134	580	1,034	1,614
2003	131	130	126	108	136	132	141	137	129	126	128	126	539	1,011	1,550
2004	118	126	120	124	129	131	138	138	121	139	119	126	527	1,000	1,527
2005	130	117	118	119	121	129	129	126	129	123	121	122	512	970	1,482
2006	127	116	112	114	115	124	[redacted]								
2007	[redacted]														
2008															
2009															
2010															
2011															
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2026															
2027															
2028															
2029															
2030															

The results from the forecast for this class were adjusted according to information received from AmerenUE's Key Account Executives. A total of 6,820 MWh's were subtracted from the model results for 2007 and a total of 14,400 MWh's were subtracted from the model results for each one of the remaining years in the forecast period.

Table (5) (B)-42: Industrial LPS forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		137	139	139	141	167	167	164	145	151	138	133	643		
1996	152	139	140	145	148	155	167	165	153	149	142	140	640	1,155	1,795
1997	146	139	142	140	140	168	163	157	169	152	147	157	657	1,164	1,821
1998	149	152	160	152	157	181	167	158	167	151	151	195	674	1,267	1,940
1999	166	179	166	161	168	200	210	191	190	173	157	205	790	1,374	2,164
2000	170	197	169	160	161	208	230	302	259	230	232	251	999	1,569	2,567
2001	217	226	203	213	235	259	242	265	247	220	236	258	1,013	1,807	2,820
2002	233	239	222	254	252	255	251	301	256	271	247	244	1,063	1,961	3,025
2003	239	235	211	256	233	270	268	264	259	250	272	230	1,061	1,925	2,987
2004	250	232	223	262	246	255	287	260	261	253	251	249	1,063	1,966	3,029
2005	238	233	221	246	242	263	269	242	277	251	253	235	1,051	1,918	2,969
2006	231	232	206	225	228	271	[redacted]								
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
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2020															
2021															
2022															
2023															
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2025															
2026															
2027															
2028															
2029															
2030															

Table (5) (B)-43: Noranda forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2005	0	0	0	0	0	332	341	336	321	338	332	345	1,331		
2006	346	313	346	335	347	336	[redacted]								
2007	[redacted]														
2008															
2009															
2010															
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2014															
2015															
2016															
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2020															
2021															
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2025															
2026															
2027															
2028															
2029															
2030															

Table (5) (B)-44: DtD forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	9	8	8	7	6	6	6	7	8	9	9	10	27	66	93
1996	10	8	8	7	7	6	6	7	8	9	9	10	27	67	94
1997	10	8	8	7	7	6	6	7	8	9	9	10	27	68	95
1998	10	8	8	7	7	6	7	7	8	9	9	10	28	68	96
1999	10	8	8	7	7	6	6	7	8	9	9	10	27	67	95
2000	10	8	8	7	7	6	6	7	8	9	9	10	27	68	96
2001	10	8	8	7	7	6	7	7	8	9	9	10	28	68	96
2002	10	9	9	8	7	7	7	7	8	8	9	11	28	70	97
2003	11	10	9	8	7	7	6	7	8	8	9	10	27	72	99
2004	11	9	9	8	7	7	7	7	8	8	9	10	28	72	100
2005	11	10	9	8	7	7	7	7	8	8	9	11	28	73	101
2006	11	10	9	8	7	7	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-45: Wholesale forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1999		40	41	38	41	50	62	58	45	40	41	47	215		
2000	48	42	43	39	44	53	62	61	49	42	43	48	225	349	574
2001	49	43	43	38	42	51	60	58	47	41	41	46	215	344	559
2002	49	42	44	40	43	50	58	59	47	42	43	49	214	352	566
2003	52	43	46	41	45	53	64	60	48	44	44	51	225	365	591
2004	54	48	46	41	44	54	59	57	48	43	46	53	218	376	594
2005	56	47	48	43	45	54	58	62	62	58	45	46	236	388	624
2006	55	48	48	43	47	55	[redacted]								
2007															
2008															

Wholesale contracts expire at the end of 2008.

Table (5) (B)-46: SLPA forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	11	10	9	9	9	9	9	10	10	11	12	12	37	83	121
1996	11	10	10	9	9	9	9	10	10	11	12	13	37	84	122
1997	11	11	10	9	9	9	9	10	11	12	12	13	38	86	124
1998	11	11	10	9	9	9	9	10	12	10	6	6	40	72	112
1999	7	12	6	6	5	5	15	5	6	6	7	7	31	57	89
2000	7	9	6	5	5	5	5	9	6	6	7	7	25	53	78
2001	7	6	6	5	5	5	5	5	6	6	7	8	22	50	72
2002	18	5	11	9	9	8	9	10	11	12	13	14	37	91	128
2003	13	12	11	10	9	8	9	10	11	12	13	14	38	93	131
2004	13	11	11	10	9	9	9	10	11	12	13	14	38	94	132
2005	13	11	11	10	9	9	9	10	11	18	13	14	38	100	138
2006	7	11	11	10	9	9	[redacted]								
2007															
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Table (5) (B)-47: Total system forecast (Calendar month - GWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2001						2,765	3,242	3,071	2,551	2,304	2,374	2,779	11,629		
2002	2,929	2,653	2,466	2,251	2,336	2,772	3,237	3,095	2,611	2,400	2,430	2,865	11,715	20,319	32,034
2003	2,927	2,665	2,547	2,234	2,340	2,821	3,286	3,128	2,589	2,347	2,544	2,947	11,824	20,553	32,376
2004	3,054	2,778	2,558	2,330	2,345	2,823	3,302	3,150	2,661	2,467	2,555	2,940	11,936	21,028	32,963
2005	3,167	2,723	2,578	2,374	2,373	3,252	3,716	3,552	3,071	2,855	2,915	3,313	13,591	22,298	35,889
2006	3,547	3,045	2,965	2,689	2,823	3,305	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
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2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
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2020	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Higher increase in sales in 2005 and 2006 is due to Noranda; AmerenUE started to serve Noranda in June 2005. Negative sales growth in 2009 is due to wholesale contract expiration.

Use-per-customer forecasts are provided below. As stated earlier, all subclass energy usage other than residential class was modeled on a total basis. The use-per-customer forecast provided below are obtained by dividing the sales forecast by the customer forecast. Residential sales were modeled on a use-per-customer basis, and total residential sales forecast was obtained by multiplying the use-per-customer forecast and the number of customer forecast.

Table (5) (B)-48: Residential heating-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.591	0.453	0.337	0.169	0.051	0.004	0.000	0.001	0.030	0.142	0.327	0.523	0.035	2.593	2.628
1996	0.598	0.458	0.341	0.171	0.052	0.004	0.000	0.001	0.030	0.144	0.331	0.530	0.035	2.623	2.658
1997	0.605	0.464	0.345	0.173	0.053	0.004	0.000	0.001	0.030	0.145	0.334	0.535	0.036	2.654	2.690
1998	0.611	0.468	0.349	0.174	0.053	0.004	0.000	0.001	0.031	0.147	0.337	0.540	0.036	2.680	2.716
1999	0.616	0.472	0.351	0.175	0.053	0.004	0.000	0.001	0.031	0.147	0.338	0.541	0.036	2.694	2.730
2000	0.617	0.473	0.353	0.176	0.054	0.004	0.000	0.001	0.031	0.148	0.341	0.546	0.036	2.708	2.744
2001	0.623	0.477	0.355	0.178	0.054	0.004	0.000	0.001	0.031	0.150	0.344	0.551	0.037	2.732	2.768
2002	0.630	0.482	0.359	0.180	0.055	0.005	0.000	0.001	0.032	0.151	0.348	0.557	0.037	2.761	2.798
2003	0.636	0.487	0.363	0.182	0.055	0.005	0.000	0.001	0.032	0.153	0.352	0.564	0.037	2.793	2.831
2004	0.645	0.494	0.368	0.184	0.056	0.005	0.000	0.001	0.032	0.155	0.358	0.573	0.038	2.833	2.871
2005	0.654	0.501	0.373	0.187	0.057	0.005	0.000	0.001	0.033	0.157	0.362	0.580	0.039	2.870	2.909
2006	0.662	0.507	0.378	0.189	0.058	0.005	[redacted]								
2007	[redacted]														
2008	[redacted]														
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2029	[redacted]														
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Table (5) (B)-49: Residential cooling-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.000	0.000	0.008	0.041	0.170	0.492	0.738	0.635	0.301	0.051	0.004	0.000	2.166	0.275	2.441
1996	0.000	0.000	0.008	0.041	0.170	0.493	0.740	0.637	0.302	0.051	0.004	0.000	2.172	0.276	2.447
1997	0.000	0.000	0.008	0.042	0.171	0.494	0.741	0.638	0.302	0.051	0.004	0.000	2.176	0.277	2.453
1998	0.000	0.000	0.008	0.042	0.171	0.495	0.743	0.640	0.303	0.051	0.004	0.000	2.181	0.277	2.458
1999	0.000	0.000	0.008	0.042	0.171	0.493	0.739	0.636	0.301	0.051	0.004	0.000	2.170	0.276	2.446
2000	0.000	0.000	0.008	0.041	0.170	0.493	0.739	0.636	0.301	0.051	0.004	0.000	2.170	0.276	2.446
2001	0.000	0.000	0.008	0.042	0.171	0.493	0.740	0.637	0.302	0.051	0.004	0.000	2.172	0.276	2.448
2002	0.000	0.000	0.008	0.041	0.170	0.492	0.738	0.635	0.301	0.051	0.004	0.000	2.165	0.275	2.440
2003	0.000	0.000	0.008	0.042	0.171	0.495	0.742	0.639	0.303	0.051	0.004	0.000	2.179	0.277	2.456
2004	0.000	0.000	0.008	0.041	0.170	0.493	0.740	0.637	0.302	0.051	0.004	0.000	2.173	0.276	2.449
2005	0.000	0.000	0.008	0.042	0.173	0.501	0.752	0.648	0.307	0.052	0.004	0.000	2.208	0.281	2.488
2006	0.000	0.000	0.008	0.042	0.173	0.501	[redacted]								
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Table (5) (B)-50: Residential other-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		0.534	0.535	0.476	0.506	0.452	0.537	0.592	0.658	0.518	0.461	0.504	2.239		
1996	0.553	0.531	0.570	0.513	0.484	0.480	0.619	0.620	0.590	0.534	0.477	0.532	2.310	4.194	6.504
1997	0.602	0.521	0.551	0.520	0.474	0.509	0.541	0.624	0.571	0.517	0.476	0.551	2.246	4.212	6.457
1998	0.618	0.519	0.539	0.518	0.530	0.550	0.602	0.617	0.579	0.541	0.505	0.570	2.349	4.339	6.689
1999	0.585	0.559	0.555	0.525	0.528	0.536	0.623	0.655	0.598	0.535	0.510	0.559	2.411	4.357	6.768
2000	0.616	0.538	0.547	0.495	0.518	0.573	0.657	0.681	0.625	0.561	0.527	0.606	2.535	4.407	6.942
2001	0.648	0.534	0.569	0.501	0.477	0.568	0.657	0.642	0.595	0.564	0.550	0.624	2.463	4.467	6.930
2002	0.681	0.567	0.631	0.536	0.536	0.587	0.642	0.631	0.618	0.569	0.555	0.710	2.477	4.785	7.262
2003	0.621	0.611	0.630	0.535	0.564	0.577	0.666	0.663	0.590	0.541	0.573	0.684	2.496	4.760	7.256
2004	0.715	0.660	0.632	0.559	0.528	0.564	0.626	0.646	0.613	0.587	0.586	0.676	2.449	4.943	7.392
2005	0.742	0.628	0.622	0.569	0.548	0.595	0.685	0.681	0.615	0.601	0.584	0.679	2.576	4.973	7.548
2006	0.750	0.609	0.640	0.573	0.607	0.615	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
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2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-51: Residential use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.00	0.99	0.88	0.69	0.73	0.95	1.28	1.23	0.99	0.71	0.79	1.03	4.44	5.81	10.25
1996	1.15	0.99	0.92	0.73	0.71	0.98	1.36	1.26	0.92	0.73	0.81	1.06	4.52	7.09	11.61
1997	1.21	0.99	0.90	0.73	0.70	1.01	1.28	1.26	0.90	0.71	0.81	1.09	4.46	7.14	11.60
1998	1.23	0.99	0.90	0.73	0.75	1.05	1.35	1.26	0.91	0.74	0.85	1.11	4.57	7.30	11.86
1999	1.20	1.03	0.91	0.74	0.75	1.03	1.36	1.29	0.93	0.73	0.85	1.10	4.62	7.33	11.94
2000	1.23	1.01	0.91	0.71	0.74	1.07	1.40	1.32	0.96	0.76	0.87	1.15	4.74	7.39	12.13
2001	1.27	1.01	0.93	0.72	0.70	1.07	1.40	1.28	0.93	0.76	0.90	1.18	4.67	7.47	12.15
2002	1.31	1.05	1.00	0.76	0.76	1.08	1.38	1.27	0.95	0.77	0.91	1.27	4.68	7.82	12.50
2003	1.26	1.10	1.00	0.76	0.79	1.08	1.41	1.30	0.93	0.75	0.93	1.25	4.71	7.83	12.54
2004	1.36	1.15	1.01	0.78	0.75	1.06	1.37	1.28	0.95	0.79	0.95	1.25	4.66	8.05	12.71
2005	1.40	1.13	1.00	0.80	0.78	1.10	1.44	1.33	0.95	0.81	0.95	1.26	4.82	8.12	12.95
2006	1.41	1.12	1.03	0.80	0.84	1.12	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
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2029	[redacted]														
2030	[redacted]														

Table (5) (B)-52: ComSGS heating-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.72	0.55	0.41	0.21	0.06	0.01	0.00	0.00	0.04	0.18	0.40	0.64	0.04	3.18	3.22
1996	0.74	0.56	0.42	0.21	0.06	0.01	0.00	0.00	0.04	0.18	0.42	0.67	0.04	3.25	3.30
1997	0.77	0.59	0.44	0.22	0.07	0.01	0.00	0.00	0.04	0.19	0.43	0.69	0.05	3.40	3.44
1998	0.78	0.60	0.44	0.22	0.07	0.01	0.00	0.00	0.04	0.19	0.43	0.69	0.05	3.41	3.46
1999	0.77	0.59	0.44	0.22	0.07	0.01	0.00	0.00	0.04	0.18	0.42	0.67	0.04	3.36	3.41
2000	0.75	0.57	0.43	0.21	0.06	0.01	0.00	0.00	0.04	0.18	0.41	0.66	0.04	3.27	3.32
2001	0.74	0.57	0.42	0.21	0.06	0.01	0.00	0.00	0.04	0.18	0.40	0.64	0.04	3.23	3.27
2002	0.73	0.56	0.41	0.21	0.06	0.01	0.00	0.00	0.04	0.17	0.40	0.63	0.04	3.17	3.21
2003	0.71	0.55	0.41	0.20	0.06	0.01	0.00	0.00	0.04	0.17	0.38	0.61	0.04	3.09	3.13
2004	0.69	0.53	0.39	0.20	0.06	0.00	0.00	0.00	0.03	0.16	0.38	0.61	0.04	3.01	3.05
2005	0.68	0.52	0.39	0.20	0.06	0.00	0.00	0.00	0.03	0.17	0.38	0.61	0.04	3.01	3.05
2006	0.69	0.53	0.39	0.20	0.06	0.00	[redacted]								
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Table (5) (B)-53: ComSGS cooling-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.00	0.00	0.01	0.05	0.19	0.55	0.83	0.71	0.34	0.06	0.00	0.00	2.43	0.31	2.73
1996	0.00	0.00	0.01	0.05	0.19	0.56	0.84	0.72	0.34	0.06	0.00	0.00	2.46	0.31	2.77
1997	0.00	0.00	0.01	0.05	0.20	0.59	0.89	0.77	0.36	0.06	0.00	0.00	2.61	0.33	2.94
1998	0.00	0.00	0.01	0.05	0.20	0.58	0.87	0.75	0.35	0.06	0.00	0.00	2.56	0.33	2.88
1999	0.00	0.00	0.01	0.05	0.20	0.58	0.87	0.75	0.35	0.06	0.00	0.00	2.55	0.32	2.88
2000	0.00	0.00	0.01	0.05	0.19	0.56	0.85	0.73	0.34	0.06	0.00	0.00	2.48	0.32	2.80
2001	0.00	0.00	0.01	0.05	0.19	0.56	0.84	0.72	0.34	0.06	0.00	0.00	2.45	0.31	2.76
2002	0.00	0.00	0.01	0.05	0.19	0.55	0.82	0.71	0.34	0.06	0.00	0.00	2.42	0.31	2.73
2003	0.00	0.00	0.01	0.04	0.18	0.53	0.79	0.68	0.32	0.05	0.00	0.00	2.33	0.30	2.63
2004	0.00	0.00	0.01	0.04	0.18	0.52	0.78	0.67	0.32	0.05	0.00	0.00	2.29	0.29	2.58
2005	0.00	0.00	0.01	0.04	0.18	0.53	0.79	0.68	0.32	0.05	0.00	0.00	2.32	0.29	2.61
2006	0.00	0.00	0.01	0.04	0.18	0.53	[redacted]								
2007															
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Table (5) (B)-54: ComSGS other-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		1.86	1.90	1.87	1.73	1.81	2.00	1.97	2.14	1.95	1.71	1.77	7.92		
1996	1.82	1.83	1.78	1.67	1.78	1.84	2.12	1.90	2.10	1.88	1.71	1.73	7.97	14.20	22.17
1997	1.80	1.71	1.81	1.73	1.68	1.82	1.82	1.93	1.87	1.90	1.64	1.67	7.44	13.95	21.39
1998	1.75	1.56	1.75	1.74	1.78	1.83	1.82	1.92	1.85	1.96	1.71	1.76	7.42	14.00	21.43
1999	1.67	1.64	1.76	1.71	1.77	1.81	1.87	1.90	1.97	1.90	1.78	1.76	7.55	13.99	21.54
2000	1.73	1.61	1.70	1.59	1.78	1.78	1.86	1.89	1.81	1.82	1.72	1.73	7.34	13.67	21.00
2001	1.73	1.58	1.69	1.63	1.74	1.78	1.96	1.86	1.79	1.80	1.63	1.67	7.40	13.47	20.87
2002	1.64	1.56	1.74	1.80	1.77	1.81	1.94	1.87	1.80	1.82	1.64	1.66	7.42	13.64	21.06
2003	1.63	1.50	1.63	1.51	1.63	1.72	1.79	1.79	1.71	1.76	1.61	1.63	7.01	12.90	19.91
2004	1.65	1.67	1.70	1.57	1.65	1.69	1.76	1.79	1.77	1.78	1.64	1.63	7.00	13.30	20.30
2005	1.70	1.52	1.56	1.61	1.66	1.73	1.78	1.77	1.73	1.77	1.61	1.62	7.02	13.05	20.07
2006	1.70	1.50	1.66	1.60	1.73	1.69	[redacted]								
2007															
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Table (5) (B)-55: Commercial SGS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995		2.42	2.32	2.12	1.99	2.37	2.83	2.68	2.51	2.19	2.11	2.41	10.39		
1996	2.56	2.40	2.21	1.92	2.03	2.41	2.96	2.63	2.48	2.12	2.13	2.40	10.47	17.77	28.24
1997	2.57	2.30	2.26	2.00	1.95	2.42	2.71	2.69	2.27	2.15	2.08	2.36	10.10	17.68	27.77
1998	2.53	2.16	2.20	2.01	2.05	2.42	2.70	2.67	2.24	2.20	2.14	2.44	10.02	17.74	27.76
1999	2.44	2.24	2.21	1.98	2.04	2.40	2.74	2.65	2.36	2.14	2.20	2.43	10.15	17.67	27.82
2000	2.48	2.19	2.13	1.85	2.04	2.35	2.71	2.62	2.19	2.06	2.13	2.38	9.86	17.26	27.12
2001	2.47	2.15	2.13	1.89	2.00	2.35	2.80	2.58	2.17	2.03	2.04	2.31	9.89	17.02	26.91
2002	2.37	2.11	2.16	2.05	2.02	2.37	2.77	2.58	2.17	2.05	2.05	2.29	9.89	17.11	27.00
2003	2.33	2.05	2.04	1.76	1.87	2.25	2.59	2.47	2.07	1.99	2.00	2.24	9.39	16.28	25.67
2004	2.34	2.20	2.10	1.81	1.89	2.22	2.54	2.46	2.12	2.00	2.02	2.24	9.34	16.60	25.94
2005	2.38	2.04	1.96	1.85	1.90	2.27	2.58	2.45	2.09	1.99	2.00	2.23	9.38	16.35	25.73
2006	2.39	2.03	2.06	1.84	1.97	2.22	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
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Table (5) (B)-56: ComLGS heating-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	7.18	5.51	4.11	2.06	0.63	0.05	0.00	0.01	0.35	1.68	3.86	6.18	0.42	31.21	31.63
1996	7.03	5.38	4.00	1.99	0.61	0.05	0.00	0.01	0.35	1.67	3.88	6.25	0.41	30.82	31.23
1997	7.19	5.54	4.14	2.08	0.64	0.05	0.00	0.01	0.36	1.73	3.98	6.37	0.43	31.67	32.10
1998	7.21	5.53	4.12	2.06	0.63	0.05	0.00	0.01	0.35	1.68	3.85	6.26	0.41	31.35	31.76
1999	7.10	5.44	4.21	2.05	0.62	0.05	0.00	0.01	0.36	1.69	3.91	6.21	0.42	31.21	31.63
2000	6.86	5.28	3.93	1.95	0.59	0.05	0.00	0.01	0.33	1.59	3.65	5.86	0.39	29.70	30.10
2001	6.33	5.05	3.75	1.88	0.57	0.05	0.00	0.01	0.32	1.52	3.57	5.70	0.37	28.37	28.74
2002	6.08	4.73	3.54	1.78	0.54	0.04	0.00	0.01	0.31	1.45	3.36	5.41	0.36	26.89	27.25
2003	5.98	4.64	3.48	1.74	0.53	0.04	0.00	0.01	0.30	1.40	3.21	5.18	0.35	26.16	26.51
2004	5.83	4.46	3.32	1.66	0.51	0.04	0.00	0.01	0.29	1.38	3.17	5.08	0.34	25.41	25.75
2005	5.73	4.39	3.27	1.64	0.50	0.04	0.00	0.01	0.28	1.36	3.12	4.97	0.33	24.96	25.29
2006	5.64	4.31	3.21	1.61	0.49	0.04	[redacted]								
2007															
2008															
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Table (5) (B)-57: ComLGS cooling-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.00	0.01	0.26	1.31	5.37	15.60	23.19	19.82	9.30	1.57	0.11	0.01	67.91	8.65	76.56
1996	0.00	0.01	0.26	1.27	5.20	15.06	22.40	19.29	9.17	1.56	0.11	0.01	65.92	8.42	74.34
1997	0.00	0.01	0.27	1.33	5.47	15.91	23.69	20.32	9.57	1.62	0.12	0.01	69.50	8.82	78.31
1998	0.00	0.01	0.26	1.30	5.36	15.50	22.85	19.59	9.22	1.56	0.11	0.01	67.16	8.62	75.78
1999	0.00	0.01	0.27	1.30	5.31	15.30	22.77	19.75	9.30	1.57	0.11	0.01	67.13	8.58	75.71
2000	0.00	0.01	0.25	1.24	5.09	14.58	21.75	18.72	8.76	1.48	0.11	0.01	63.81	8.18	71.99
2001	0.00	0.01	0.24	1.19	4.88	13.95	20.90	17.59	8.34	1.41	0.11	0.01	60.78	7.86	68.64
2002	0.00	0.01	0.23	1.13	4.66	13.34	19.89	17.14	8.01	1.35	0.10	0.01	58.38	7.49	65.87
2003	0.00	0.01	0.22	1.11	4.55	13.09	19.32	16.55	7.80	1.31	0.09	0.01	56.77	7.30	64.07
2004	0.00	0.01	0.21	1.06	4.37	12.55	18.76	16.08	7.61	1.29	0.09	0.01	55.00	7.05	62.05
2005	0.00	0.01	0.21	1.05	4.33	12.44	18.60	15.83	7.50	1.28	0.09	0.01	54.38	6.98	61.36
2006	0.00	0.01	0.21	1.04	4.25	12.16	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
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2029	[redacted]														
2030	[redacted]														

Table (5) (B)-58: ComLGS other-use use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	73.4	67.2	68.0	62.4	63.2	65.2	64.1	62.1	69.1	66.0	60.7	64.2	260.4	525.2	785.6
1996	68.8	65.9	67.2	61.7	61.1	64.3	63.7	62.1	64.2	63.7	61.9	64.0	254.3	514.3	768.6
1997	68.1	63.3	62.9	62.5	57.7	63.8	60.6	58.5	62.1	62.7	59.9	63.3	245.0	500.4	745.4
1998	66.4	59.2	64.3	62.4	60.3	64.1	58.9	60.4	61.0	60.9	61.3	68.3	244.4	503.1	747.4
1999	62.6	63.0	67.6	74.0	67.6	67.3	59.0	60.8	64.4	70.3	69.6	71.6	251.5	546.4	797.9
2000	67.1	69.9	60.3	62.0	58.9	67.5	60.2	60.8	58.8	62.8	64.6	67.0	247.3	512.6	759.9
2001	72.7	57.1	60.6	58.5	59.8	59.7	63.5	59.1	59.1	62.1	57.3	66.2	241.4	494.3	735.7
2002	60.0	67.7	49.5	56.9	63.1	54.6	57.7	57.1	58.5	61.2	55.4	60.7	227.9	474.4	702.4
2003	61.2	60.5	62.1	56.6	58.7	59.8	58.2	57.4	59.2	59.1	58.3	67.8	234.5	484.2	718.7
2004	61.2	60.6	58.2	56.5	57.7	59.5	58.7	59.2	60.2	60.7	58.8	60.0	237.7	473.8	711.5
2005	64.2	57.8	59.0	58.3	58.0	59.5	59.4	58.6	59.8	62.5	57.3	61.2	237.3	478.3	715.6
2006	63.1	56.7	58.9	57.0	59.4	59.7	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
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2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-59: Commercial LGS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer	Annual
1995	81	73	72	66	69	81	87	82	79	69	65	70	329	565	894
1996	76	71	71	65	67	79	86	81	74	67	66	70	321	554	874
1997	75	69	67	66	64	80	84	79	72	66	64	70	315	541	856
1998	74	65	69	66	66	80	82	80	71	64	65	75	312	543	855
1999	70	68	72	77	74	83	82	81	74	74	74	78	319	586	905
2000	74	75	64	65	65	82	82	80	68	66	68	73	312	551	862
2001	79	62	65	62	65	74	84	77	68	65	61	72	303	530	833
2002	66	72	53	60	68	68	78	74	67	64	59	66	287	509	796
2003	67	65	66	59	64	73	78	74	67	62	62	73	292	518	809
2004	67	65	62	59	63	72	77	75	68	63	62	65	293	506	799
2005	70	62	63	61	63	72	78	74	68	65	60	66	292	510	802
2006	69	61	62	60	64	72	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
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2018	[redacted]														
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2020	[redacted]														
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2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-60: Commercial SPS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2001	NA	NA	NA	NA	NA	521	551	526	499	493	444	440	2,097	NA	NA
2002	464	449	438	466	484	520	561	549	512	486	428	390	2,142	3,606	5,749
2003	487	441	447	442	472	534	555	537	489	474	438	470	2,115	3,670	5,786
2004	503	439	427	458	481	515	571	554	504	506	458	465	2,145	3,737	5,882
2005	485	435	435	446	459	525	527	528	493	465	439	438	2,073	3,603	5,676
2006	486	434	440	436	460	500	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
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2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-61: Commercial LPS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
2001	NA	3,682	3,355	4,019	3,772	4,367	4,503	4,478	4,560	3,813	3,969	3,684	17,908	NA	44,202
2002	3,914	3,768	3,513	3,738	4,135	4,053	4,300	4,762	4,358	4,197	4,512	3,997	17,473	31,773	49,246
2003	4,222	3,535	3,833	3,661	3,748	3,872	4,123	3,892	4,058	3,794	4,069	3,578	15,944	30,440	46,385
2004	3,347	3,716	3,579	3,988	3,948	4,208	4,755	4,552	4,391	4,017	3,811	3,926	17,906	30,331	48,237
2005	4,011	3,852	3,561	3,660	3,710	4,318	4,616	4,929	4,680	4,281	4,129	4,063	18,543	31,268	49,811
2006	4,010	3,979	3,709	3,934	3,890	4,324	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-62: Industrial SGS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0	22	22	20	20	22	24	24	25	21	20	21	95	146	241
1996	22	22	22	21	21	24	25	25	25	22	22	22	100	174	274
1997	22	22	22	21	21	24	26	25	25	23	23	23	100	178	278
1998	23	23	24	22	22	26	26	27	26	24	23	23	104	184	289
1999	25	24	24	26	30	31	27	29	27	24	28	23	113	205	318
2000	24	26	25	22	25	29	29	32	30	29	29	25	120	206	326
2001	30	25	28	26	27	29	30	32	26	27	25	25	119	212	331
2002	25	25	26	28	22	30	31	27	28	27	24	25	116	202	318
2003	25	26	26	24	25	26	28	29	27	26	26	25	111	202	313
2004	24	26	25	24	26	28	29	29	27	27	26	26	114	205	319
2005	27	26	26	26	25	29	30	30	28	28	27	27	117	211	327
2006	27	25	25	25	26	28	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-63: Industrial LGS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	NA	91	89	84	84	94	96	96	99	84	81	82	385	NA	NA
1996	85	88	88	84	81	94	95	95	95	83	82	83	378	673	1,051
1997	85	85	83	80	79	92	95	92	90	84	83	82	369	661	1,030
1998	84	82	87	83	79	95	92	93	89	84	81	109	369	688	1,057
1999	96	87	91	96	110	112	99	105	97	87	102	82	412	753	1,165
2000	87	94	88	74	84	94	96	106	96	94	95	83	393	698	1,090
2001	94	83	93	87	91	98	101	108	89	90	86	87	396	711	1,107
2002	85	86	90	95	76	101	106	92	95	91	83	84	395	690	1,085
2003	84	85	87	82	84	89	94	97	92	87	86	85	372	680	1,052
2004	81	85	82	80	86	93	95	96	90	89	85	86	375	675	1,050
2005	88	85	85	87	85	94	98	97	92	92	87	86	382	694	1,075
2006	88	82	82	81	84	89	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
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2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-64: Industrial SPS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	NA	728	724	673	683	733	776	767	767	719	706	704	3,043	NA	NA
1996	754	749	761	728	709	757	750	725	702	706	706	711	2,935	5,825	8,760
1997	751	733	730	717	719	789	793	776	741	709	707	706	3,100	5,772	8,871
1998	700	670	732	662	647	738	720	761	711	698	685	851	2,930	5,646	8,576
1999	774	652	840	825	601	830	717	755	712	834	839	761	3,014	6,127	9,141
2000	705	727	676	802	631	753	730	811	720	744	753	739	3,013	5,778	8,792
2001	705	775	852	709	735	743	785	771	729	727	667	677	3,030	5,845	8,875
2002	626	653	695	525	639	697	796	705	690	657	636	661	2,889	5,091	7,980
2003	622	646	606	524	640	631	676	663	666	638	587	605	2,635	4,868	7,504
2004	609	635	607	632	653	680	711	713	617	687	631	651	2,722	5,106	7,828
2005	666	614	610	619	617	660	674	654	662	637	625	642	2,650	5,031	7,681
2006	647	605	587	597	604	652	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
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2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-65: Industrial LPS use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0	5,064	5,155	5,142	5,413	6,417	6,415	6,310	5,381	5,591	5,317	5,109	24,522	36,790	61,312
1996	5,843	5,139	5,367	5,807	5,919	5,745	6,427	6,118	5,875	5,530	5,473	5,399	24,165	44,475	68,640
1997	5,633	5,330	5,261	5,387	5,399	6,220	6,278	6,026	6,253	5,850	5,660	6,052	24,777	44,573	69,350
1998	5,743	5,613	5,922	5,642	5,596	6,477	5,753	5,650	5,975	5,591	6,058	7,783	23,855	47,948	71,803
1999	8,279	7,783	7,197	6,445	7,018	9,523	8,069	6,571	6,327	5,243	6,532	6,821	30,490	55,318	85,808
2000	5,469	6,342	6,034	4,717	5,016	6,125	8,521	11,167	9,585	8,831	8,930	9,292	35,398	54,631	90,030
2001	7,736	8,373	8,841	8,509	8,695	9,602	8,965	9,798	9,153	8,476	9,427	9,551	37,518	69,609	107,128
2002	6,135	6,120	5,842	6,679	6,814	7,093	6,614	7,923	6,910	7,515	6,689	5,940	28,540	51,733	80,273
2003	6,466	6,514	5,850	6,556	6,667	7,719	7,052	7,334	7,004	6,248	7,160	6,210	29,110	51,673	80,782
2004	5,946	6,447	6,029	6,390	7,033	6,901	7,975	7,213	7,446	7,041	6,596	6,719	29,535	52,201	81,736
2005	6,431	6,287	5,969	6,637	6,547	7,095	7,272	6,544	7,490	6,789	6,828	6,342	28,401	51,831	80,232
2006	6,408	6,440	5,723	6,264	6,338	7,514	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
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2015	[redacted]														
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2023	[redacted]														
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2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-66: DtD use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	0.73	0.64	0.64	0.55	0.51	0.47	0.51	0.55	0.59	0.68	0.71	0.77	2.12	5.24	7.36
1996	0.76	0.65	0.64	0.56	0.52	0.48	0.51	0.55	0.60	0.69	0.72	0.79	2.14	5.32	7.46
1997	0.78	0.66	0.66	0.57	0.53	0.49	0.52	0.57	0.62	0.70	0.74	0.80	2.19	5.46	7.65
1998	0.79	0.68	0.67	0.59	0.54	0.50	0.53	0.58	0.63	0.71	0.18	0.19	2.24	4.35	6.59
1999	0.19	0.16	0.16	0.14	0.13	0.12	0.12	0.14	0.15	0.17	0.18	0.19	0.52	1.30	1.82
2000	0.19	0.16	0.16	0.14	0.13	0.12	0.12	0.14	0.15	0.17	0.18	0.19	0.53	1.31	1.83
2001	0.18	0.15	0.16	0.14	0.13	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.53	1.30	1.83
2002	0.82	0.74	0.74	0.64	0.53	0.51	0.51	0.51	0.57	0.62	0.68	0.82	2.10	5.58	7.67
2003	0.94	0.81	0.74	0.73	0.65	0.59	0.12	0.13	0.14	0.16	0.17	0.20	0.99	4.41	5.40
2004	0.21	0.17	0.16	0.15	0.14	0.13	0.13	0.13	0.14	0.16	0.17	0.20	0.52	1.36	1.88
2005	0.21	0.18	0.17	0.15	0.13	0.13	0.12	0.13	0.14	0.16	0.17	0.20	0.52	1.36	1.88
2006	0.21	0.18	0.16	0.14	0.13	0.13	[redacted]								
2007	[redacted]														
2008															
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Table (5) (B)-67: Wholesale use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1999	NA	6,732	6,786	6,352	6,824	8,414	10,288	9,706	7,474	6,684	6,849	7,842	35,882	NA	NA
2000	8,070	7,055	7,157	6,507	7,376	8,844	10,302	10,189	8,155	6,971	7,099	8,014	37,491	58,248	95,739
2001	8,236	7,173	7,191	6,262	6,992	8,445	9,942	9,633	7,858	6,878	6,867	7,687	35,878	57,286	93,164
2002	8,198	7,046	7,284	6,649	7,249	8,266	9,711	9,827	7,860	7,078	7,127	8,115	35,665	58,745	94,410
2003	8,603	7,238	7,625	6,824	7,492	8,783	10,741	10,016	8,006	7,330	7,357	8,429	37,546	60,898	98,444
2004	9,072	7,999	7,745	6,885	7,363	8,996	9,832	9,552	7,975	7,216	7,586	8,823	36,355	62,689	99,044
2005	9,270	7,840	8,024	7,218	7,529	9,022	9,713	10,251	10,398	9,624	7,558	7,592	39,385	64,655	104,040
2006	9,106	7,954	8,057	7,215	7,802	9,222	[redacted]								
2007	[redacted]														
2008	[redacted]														

Table (5) (B)-68: SLPA use-per-customer forecast (Calendar month - MWh)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer	Annual
1995	7.11	6.88	6.22	5.85	5.71	5.63	5.84	6.39	6.83	7.13	7.87	8.02	24.69	54.78	79.46
1996	7.10	6.88	6.37	5.83	5.65	5.64	5.89	6.44	6.86	7.37	8.06	8.37	24.83	55.64	80.47
1997	7.26	7.16	6.47	5.87	5.78	5.77	5.99	6.53	7.01	7.76	8.26	8.61	25.29	57.18	82.47
1998	7.46	7.44	6.65	6.11	5.97	6.28	6.20	6.38	8.03	6.68	3.98	5.44	26.90	49.74	76.64
1999	5.44	8.93	4.39	4.79	3.93	3.78	11.11	3.92	4.41	4.65	5.18	5.23	23.22	42.55	65.76
2000	4.85	6.46	4.16	3.84	3.82	3.70	3.78	6.44	4.33	4.45	5.18	5.24	18.25	38.01	56.26
2001	4.68	4.54	4.16	3.92	3.87	3.74	3.89	3.96	4.35	4.67	5.07	5.34	15.94	36.25	52.18
2002	11.51	3.19	6.86	5.95	6.20	5.83	5.94	6.80	7.37	8.17	8.81	9.35	25.94	60.04	85.98
2003	8.70	7.93	7.28	6.54	6.22	5.73	6.00	6.59	7.28	8.03	9.00	9.44	25.60	63.13	88.73
2004	8.42	7.53	7.25	6.66	6.04	5.72	5.96	6.62	7.16	8.18	8.84	9.38	25.46	62.29	87.74
2005	8.56	7.52	7.35	6.36	6.00	5.64	5.88	6.53	7.03	11.85	8.64	9.33	25.08	65.60	90.68
2006	4.48	7.49	7.09	6.28	5.94	5.56	[redacted]								
2007	[redacted]														
2008	[redacted]														
2009	[redacted]														
2010	[redacted]														
2011	[redacted]														
2012	[redacted]														
2013	[redacted]														
2014	[redacted]														
2015	[redacted]														
2016	[redacted]														
2017	[redacted]														
2018	[redacted]														
2019	[redacted]														
2020	[redacted]														
2021	[redacted]														
2022	[redacted]														
2023	[redacted]														
2024	[redacted]														
2025	[redacted]														
2026	[redacted]														
2027	[redacted]														
2028	[redacted]														
2029	[redacted]														
2030	[redacted]														

Table (5) (B)-69: Residential heating-use coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007														
2008														
2009														
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2029														
2030														

Table (5) (B)-70: Residential cooling-use coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007														
2008														
2009														
2010														
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2017														
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2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-71: Residential other-use coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
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2017														
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2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-72: Residential coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
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2023														
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2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-73: Commercial SGS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-74: Commercial LGS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-75: Commercial SPS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
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2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-76: Commercial LPS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
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2028														
2029														
2030														

Table (5) (B)-77: Industrial SGS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
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2016														
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2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-78: Industrial LGS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
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2016														
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2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-79: Industrial SPS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-80: Industrial LPS coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-81: Noranda coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
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2016														
2017														
2018														
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2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-82: Wholesale coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														

Wholesale contracts expire at the end of 2008.

Table (5) (B)-83: Lighting coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	Non Summer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
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2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-84: Residential heating-use use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
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2015														
2016														
2017														
2018														
2019														
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2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-85: Residential cooling-use use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-86: Residential other-use use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-87: Residential use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-88: Commercial SGS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-89: Commercial LGS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-90: Commercial SPS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-91: Commercial LPS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-92: Industrial SGS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-93: Industrial LGS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-94: Industrial SPS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (B)-95: Industrial LPS use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													
2009	[redacted]													
2010	[redacted]													
2011	[redacted]													
2012	[redacted]													
2013	[redacted]													
2014	[redacted]													
2015	[redacted]													
2016	[redacted]													
2017	[redacted]													
2018	[redacted]													
2019	[redacted]													
2020	[redacted]													
2021	[redacted]													
2022	[redacted]													
2023	[redacted]													
2024	[redacted]													
2025	[redacted]													
2026	[redacted]													
2027	[redacted]													
2028	[redacted]													
2029	[redacted]													
2030	[redacted]													

Table (5) (B)-96: Wholesale use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007	[redacted]													
2008	[redacted]													

Table (5) (B)-97: Lighting use-per-customer coincident peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
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2024														
2025														
2026														
2027														
2028														
2029														
2030														

4 CSR 22.030 (5) (C)

(C) Net System Load Forecast. The utility shall produce a forecast of net system load profiles for each year of the planning horizon. The net system load forecast shall be consistent with the utility's forecasts of monthly energy and demands at time of summer and winter system peaks for the major rate classes.

AmerenUE produced a forecast of net system load profiles for each year of the planning horizon. Below are the monthly system peak forecast and hourly loads for the summer and winter peak days in the base, fifth, tenth and twentieth years of the forecast.

Table (5) (C)-1: Monthly system peak forecast (MW)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Summer	NonSummer
2006	[redacted]													
2007														
2008														
2009														
2010														
2011														
2012														
2013														
2014														
2015														
2016														
2017														
2018														
2019														
2020														
2021														
2022														
2023														
2024														
2025														
2026														
2027														
2028														
2029														
2030														

Table (5) (C)-2: 2007 winter peak day profiles (MW)

Jan-07	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-3: 2007 summer peak day profiles (MW)

Jul-07	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-4: 2011 winter peak day profiles (MW)

Jan-11	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-5: 2011 summer peak day profiles (MW)

Jul-11	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-6: 2016 winter peak day profiles (MW)

Jan-16	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-7: 2016 summer peak day profiles (MW)

Jul-16	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-8: 2026 winter peak day profiles (MW)

Jan-26	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															

Table (5) (C)-9: 2026 summer peak day profiles (MW)

Jul-26	ResHeat	ResCool	ResOther	ComLGS	ComLPS	ComSGS	ComSPS	IndLGS	IndLPS	IndSGS	IndSPS	Whsle	Lighting	Noranda	System
Hour1	[redacted]														
Hour2															
Hour3															
Hour4															
Hour5															
Hour6															
Hour7															
Hour8															
Hour9															
Hour10															
Hour11															
Hour12															
Hour13															
Hour14															
Hour15															
Hour16															
Hour17															
Hour18															
Hour19															
Hour20															
Hour21															
Hour22															
Hour23															
Hour24															