

Chapter 1 - Appendix A

Supplemental Information

Ameren Missouri

Description

Founded in 1902, Union Electric—now known as Ameren Missouri—is the state’s largest electric utility. Ameren Missouri provides electric service to approximately 1.2 million customers across central and eastern Missouri, including the greater St. Louis area. Ameren Missouri provides electric service to 63 counties and more than 500 towns. More than half (53 percent) of Ameren Missouri’s electric customers are located in the St. Louis and St. Louis County area.

Ameren Missouri is the state’s third largest distributor of natural gas. Ameren Missouri supplies natural gas service to approximately 126,000 customers. Ameren Missouri serves gas customers in more than 90 communities, including towns in southeast, central and eastern Missouri. The company owns 3,200 miles of natural gas transmission and distribution mains.

Existing Purchase Power Arrangements

In June 2009, Ameren Missouri and Pioneer Prairie Wind Farm I LLC entered into a 15 year power purchase agreement. Ameren Missouri is purchasing 102.3 MWs of generation from the Pioneer Prairie Wind Farm consisting of 65 turbines, located in Northeast Iowa. The facility site covers approximately 10,000 acres of land located in Mitchell County, Iowa in Wayne and Stacyville Townships.

Existing Demand-Side Programs

Demand-Side Management (DSM) program implementation was initiated for most of the Company’s programs on January 2, 2013 based on the three-year program plan approved by the PSC in File No. ER-2012-0142. Table 1A.1 summarizes the programs included in the approved plan along with the estimated budget allocation and estimated energy and demand savings associated with each program. Programs are currently being implemented for the years 2013-2015.

Table 1A.1 Ameren Missouri 3-Year DSM Implementation Plan Targets and Budget

Ameren Missouri Residential and Business Programs per MEEIA Filing dated January 2012	Incremental Energy Savings Targets (MWh)			Incremental Demand Reduction Targets (MW)			Expected Total Program Costs (\$ Millions)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Residential EE Portfolio									
Lighting	121,258	96,837	62,371	4	3	2	7.71	7.34	5.02
Efficient Products	7,513	15,768	25,087	1	3	4	1.19	2.51	4.46
HVAC	17,218	36,643	63,386	12	24	37	4.03	9.47	17.28
Appliance Recycling	11,740	11,950	13,888	2	2	2	2.28	2.39	2.72
HEP	1,070	1,070	1,070	0	0	0	0.57	0.57	0.52
New Homes	679	1,440	2,816	0	0	1	0.23	0.64	1.45
MFIQ	5,798	4,530	3,338	1	1	1	4.03	5.13	4.62
Residential EE Portfolio Total	165,275	168,237	171,957	20	33	46	20.04	28.05	36.06
Residential EE Portfolio Total	505,469			99			84.15		
Business EE Portfolio									
Standard	21,574	30,901	47,794	5	6	9	4.89	6.85	10.34
Custom	48,683	50,170	68,767	13	14	20	10.00	10.57	15.23
Retro-commissioning	2,352	2,363	2,845	1	1	1	0.36	0.37	0.37
New Construction	2,514	3,773	5,898	1	1	2	0.83	1.28	2.08
Business EE Portfolio Total	75,122	87,208	125,303	19	21	31	16.07	19.07	28.03
Business EE Portfolio Total	287,633			71			63.17		
MEEIA EE Portfolio Total	240,397	255,445	297,260	39	54	77	36.12	47.12	64.09
MEEIA EE Portfolio Total	793,102			170			147.33		

Ameren Missouri Base Load Forecasts

Without DSM

Total Probability Weighted Average Annual Class Energy Forecast

Annual Energy Sales Forecast by Rate Class (MWh)

Year	ResGen	ComSGS	ComLGS	ComSPS	ComLPS	IndSGS	IndLGS	IndSPS	IndLPS	LTS	Lighting	Wholesale
2014	12,978,731	3,334,350	7,180,725	2,284,430	1,616,949	116,946	948,776	1,245,066	2,169,213	4,145,341	125,486	13,987
2015	12,907,296	3,357,003	7,264,521	2,270,609	1,632,354	117,105	951,314	1,251,227	2,135,344	4,145,341	125,486	11,867
2016	12,972,156	3,374,756	7,362,125	2,265,123	1,646,972	117,363	952,736	1,256,907	2,139,549	4,156,806	125,882	12,028
2017	13,036,948	3,365,673	7,377,387	2,259,908	1,649,576	117,310	957,078	1,266,151	2,150,694	4,145,341	125,486	5,110
2018	13,162,699	3,369,014	7,408,327	2,271,241	1,653,386	116,827	959,107	1,268,731	2,157,649	4,145,341	125,486	-
2019	13,302,432	3,374,247	7,427,244	2,289,254	1,658,132	116,213	959,043	1,269,916	2,164,010	4,145,341	125,486	-
2020	13,365,734	3,365,207	7,410,344	2,304,252	1,658,637	115,472	954,983	1,272,652	2,168,719	4,156,806	125,882	-
2021	13,420,043	3,356,172	7,453,740	2,321,443	1,659,080	114,606	956,011	1,279,795	2,176,447	4,145,341	125,486	-
2022	13,689,609	3,363,391	7,491,889	2,351,875	1,667,824	114,303	961,202	1,293,427	2,187,416	4,145,341	125,486	-
2023	13,874,498	3,367,508	7,536,787	2,379,310	1,672,717	113,870	961,638	1,297,215	2,195,516	4,145,341	125,486	-
2024	14,093,914	3,388,103	7,602,015	2,419,227	1,683,224	113,794	965,119	1,304,078	2,205,964	4,156,806	125,882	-
2025	14,117,864	3,381,680	7,612,229	2,448,515	1,690,490	113,379	967,378	1,313,788	2,219,775	4,145,341	125,486	-
2026	14,158,185	3,399,899	7,733,768	2,494,047	1,716,587	113,317	972,552	1,330,953	2,239,556	4,145,341	125,486	-
2027	14,252,133	3,437,417	7,902,113	2,550,713	1,747,968	113,564	983,404	1,353,083	2,261,038	4,145,341	125,486	-
2028	14,401,601	3,479,084	8,026,577	2,600,569	1,771,738	113,449	985,749	1,358,892	2,270,127	4,156,806	125,882	-
2029	14,423,864	3,490,521	8,092,805	2,631,815	1,786,533	112,808	984,210	1,361,044	2,277,624	4,145,341	125,486	-
2030	14,509,587	3,500,652	8,172,545	2,660,267	1,798,321	112,315	983,387	1,364,084	2,286,293	4,145,341	125,486	-
2031	14,609,201	3,514,543	8,242,548	2,687,091	1,809,853	111,895	983,280	1,368,122	2,293,567	4,145,341	125,486	-
2032	14,763,345	3,538,953	8,336,417	2,718,820	1,824,795	111,610	983,379	1,371,592	2,300,653	4,156,806	125,882	-
2033	14,842,720	3,545,054	8,389,425	2,737,903	1,832,819	111,106	983,807	1,375,636	2,308,219	4,145,341	125,486	-
2034	14,948,737	3,564,509	8,477,540	2,765,813	1,846,430	110,805	985,050	1,380,958	2,316,615	4,145,341	125,486	-

Without DSM**Forecasted Total Demand at the time of Annual System Peak for Planning Case****Forecast of Class Demand at the Time of Annual System Peak (MW)**

Year	Residential	Com SGS	Com LGS	Com SPS	Com LPS	Ind SGS	Ind LGS	Ind SPS	Ind LPS	Wholesale	Lighting	Noranda	Total
2014	3,655	768	1,648	452	322	20	144	191	308	3	-	495	8,004
2015	3,541	785	1,713	458	337	28	153	195	305	3	-	496	8,015
2016	3,620	769	1,676	449	326	21	157	202	313	3	-	495	8,030
2017	3,641	768	1,682	444	327	21	147	197	307	-	-	495	8,029
2018	3,653	762	1,674	443	325	21	159	204	311	-	-	495	8,046
2019	3,688	760	1,672	445	325	20	154	200	313	-	-	495	8,072
2020	3,691	757	1,666	451	325	20	156	202	312	-	-	495	8,074
2021	3,710	754	1,673	451	325	20	158	205	313	-	-	495	8,105
2022	3,736	754	1,681	456	327	20	158	207	318	-	-	495	8,152
2023	3,779	755	1,690	462	328	20	148	202	313	-	-	495	8,191
2024	3,823	748	1,681	467	326	20	157	206	321	-	-	495	8,243
2025	3,843	751	1,694	471	329	19	148	202	315	-	-	495	8,267
2026	3,853	749	1,705	477	333	20	159	212	320	-	-	495	8,322
2027	3,871	754	1,731	487	337	20	164	217	325	-	-	495	8,401
2028	3,900	761	1,757	500	342	20	153	212	325	-	-	495	8,466
2029	3,912	758	1,761	499	343	20	164	219	328	-	-	495	8,499
2030	3,945	756	1,770	502	344	20	160	215	330	-	-	495	8,537
2031	3,970	762	1,791	508	348	19	151	211	325	-	-	495	8,580
2032	3,980	758	1,792	515	348	20	165	222	333	-	-	495	8,627
2033	3,994	760	1,807	514	351	20	164	221	335	-	-	495	8,661
2034	4,028	764	1,826	520	354	20	153	216	330	-	-	495	8,706

With DSM**Total Probability Weighted Average Annual Class Energy Forecast**
Annual Energy Sales Forecast by Rate Class (MWh)¹

Year	ResGen	ComSGS	ComLGS	ComSPS	ComLPS	IndSGS	IndLGS	IndSPS	IndLPS	LTS	Lighting	Wholesale
2014	12,978,731	3,334,350	7,180,725	2,284,430	1,616,949	116,946	948,776	1,245,066	2,169,213	4,145,341	125,486	13,987
2015	12,907,296	3,357,003	7,264,521	2,270,609	1,632,354	117,105	951,314	1,251,227	2,135,344	4,145,341	125,486	11,867
2016	12,913,651	3,369,570	7,339,379	2,255,273	1,640,813	117,090	951,539	1,256,389	2,139,225	4,156,806	125,882	12,028
2017	12,932,752	3,350,180	7,309,435	2,230,481	1,631,177	116,495	953,501	1,264,603	2,149,726	4,145,341	125,486	5,110
2018	12,997,064	3,339,796	7,280,172	2,215,744	1,618,687	115,289	952,362	1,265,810	2,155,822	4,145,341	125,486	-
2019	13,068,125	3,334,127	7,251,273	2,213,050	1,610,486	114,101	949,781	1,265,905	2,161,503	4,145,341	125,486	-
2020	13,161,781	3,314,542	7,188,121	2,208,019	1,598,467	112,805	943,287	1,267,587	2,165,552	4,156,806	125,882	-
2021	13,180,535	3,295,476	7,187,517	2,206,156	1,586,997	111,411	941,999	1,273,727	2,172,653	4,145,341	125,486	-
2022	13,425,686	3,293,157	7,183,829	2,218,471	1,584,413	110,606	944,989	1,286,406	2,183,026	4,145,341	125,486	-
2023	13,580,814	3,287,693	7,186,702	2,227,707	1,577,927	109,669	943,213	1,289,236	2,190,527	4,145,341	125,486	-
2024	13,753,611	3,297,498	7,204,606	2,247,131	1,575,620	109,025	944,203	1,295,020	2,200,301	4,156,806	125,882	-
2025	13,733,094	3,279,526	7,164,160	2,254,481	1,569,170	108,002	943,795	1,303,575	2,213,389	4,145,341	125,486	-
2026	13,731,609	3,286,961	7,238,403	2,279,532	1,582,460	107,373	946,480	1,319,663	2,232,496	4,145,341	125,486	-
2027	13,783,234	3,312,592	7,354,608	2,313,618	1,599,723	106,994	954,588	1,340,605	2,253,235	4,145,341	125,486	-
2028	13,901,000	3,345,982	7,442,769	2,347,754	1,613,664	106,444	955,023	1,345,586	2,261,807	4,156,806	125,882	-
2029	13,899,226	3,351,753	7,484,145	2,368,238	1,621,730	105,504	952,175	1,347,172	2,268,950	4,145,341	125,486	-
2030	13,948,143	3,356,884	7,541,955	2,387,193	1,627,580	104,748	950,198	1,349,712	2,277,306	4,145,341	125,486	-
2031	14,010,491	3,364,877	7,586,083	2,402,812	1,632,106	104,018	948,729	1,353,160	2,284,212	4,145,341	125,486	-
2032	14,124,250	3,386,600	7,668,167	2,429,438	1,643,858	103,591	948,208	1,356,362	2,291,130	4,156,806	125,882	-
2033	14,155,105	3,389,101	7,705,389	2,441,684	1,647,607	102,898	947,805	1,360,046	2,298,471	4,145,341	125,486	-
2034	14,228,101	3,401,982	7,764,667	2,457,107	1,653,409	102,251	947,530	1,364,710	2,306,456	4,145,341	125,486	-

¹ The DSM Potential Study is not performed at the rate class level; therefore, allocation factors were used to attribute RAP energy efficiency impacts to the classes reported.

With DSM**Forecasted Total Demand at the time of Annual System Peak for Planning Case****Forecast of Class Demand at the Time of Annual System Peak (MW)²**

Year	Residential	Com SGS	Com LGS	Com SPS	Com LPS	Ind SGS	Ind LGS	Ind SPS	Ind LPS	Wholesale	Lighting	Noranda	Total
2014	3,655	768	1,648	452	322	20	144	191	308	3	-	495	8,004
2015	3,541	785	1,713	458	337	28	153	195	305	3	-	496	8,014
2016	3,603	768	1,670	446	324	21	157	202	313	3	-	495	8,001
2017	3,613	764	1,664	436	322	21	146	196	307	-	-	495	7,963
2018	3,610	755	1,640	429	316	20	157	203	310	-	-	495	7,935
2019	3,621	749	1,593	411	306	17	152	198	313	-	-	495	7,856
2020	3,623	740	1,534	396	294	14	152	201	310	-	-	495	7,758
2021	3,627	733	1,493	376	284	12	153	203	312	-	-	495	7,688
2022	3,643	730	1,486	374	281	12	153	204	316	-	-	495	7,693
2023	3,674	726	1,478	373	277	11	142	199	311	-	-	495	7,686
2024	3,698	715	1,449	369	270	11	149	203	319	-	-	495	7,677
2025	3,699	713	1,435	362	267	10	139	198	313	-	-	495	7,629
2026	3,692	707	1,427	361	265	10	149	207	318	-	-	495	7,631
2027	3,691	706	1,430	360	264	10	153	212	322	-	-	495	7,642
2028	3,704	709	1,434	364	263	10	141	207	322	-	-	495	7,648
2029	3,703	703	1,425	357	261	9	152	214	324	-	-	495	7,643
2030	3,716	698	1,417	354	257	9	146	209	327	-	-	495	7,627
2031	3,722	699	1,424	354	257	8	137	205	321	-	-	495	7,621
2032	3,714	694	1,415	357	255	9	151	216	329	-	-	495	7,632
2033	3,702	694	1,415	350	254	8	148	215	331	-	-	495	7,612
2034	3,720	694	1,424	350	253	8	137	209	326	-	-	495	7,616

² The DSM Potential Study is not performed at the rate class level; therefore, allocation factors were used to attribute RAP energy efficiency impacts to the classes reported.

Economic Assumptions

Several economic indicators were used as independent variables (independent variables in the forecasting models are often referred to as “drivers”) in our energy forecasting process.

- For the residential class, income, population, and the number of households in the service territory were used as drivers. These drivers are consistent with drivers used in all recent IRP forecasts.
- For the four classes of commercial sales (small general service, large general service, small primary service, large primary service), GDP for one or more of four sectors of the economy were used as drivers. Those four sectors were Retail Trade, Information Services, Financial Services, and Education/Health Services, and these four sectors account for almost all of the non-manufacturing and non-government entries in the top employers list. These drivers are consistent with drivers used in all recent IRP forecasts except to the extent that a different sector may have been included for a particular rate class as compared with a previous forecast, only if the analysis of historical correlation of that driver to the historical loads indicated a better relationship between the two.
- For the four classes of industrial sales (same classes as in commercial listed above), one or more of the following drivers were used: GDP, Manufacturing GDP, Employment, and Manufacturing Employment. These variables are consistent with past load forecast drivers for the industrial class.
- Table 1A.2 illustrates these drivers and their expected growth over the IRP horizon.

Table 1A.2 Growth Rates of Select Economic Drivers

	2015-2034 Compound Growth Rate
Households	0.6%
Population	0.3%
Real Personal Income	2.2%
GDP Retail	2.8%
GDP Info	2.0%
GDP Financial	0.3%
GDP Educ/Health	-0.5%
GDP Total	1.8%
GDP Manufacturing	3.4%
Employmt Total	0.5%
Employmt Mfg	-0.7%

As in prior IRPs and IRP Annual Updates, the economic forecasting firm Moody's Analytics was used as the source for the forecasts of these economic drivers. Moody's Analytics is a highly reputable firm in the macroeconomic forecasting arena with a specialized competency in doing this work, and Ameren Missouri has extensive history using their forecasts and has consistently found them to be credible. Their forecasts are done for individual counties and Ameren Missouri aggregates those counties that make up its service territory. The forecasting models used by Moody's are proprietary and not available to Ameren Missouri.

Performance Measures – Preferred Resource Plan ****NP****



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