
Part 1 - Appendix 3D
Evergy Metro Reports

Missouri 4 CSR 240-22.030 8.C Reporting Requirements
Load Analysis and Forecasting

(8)(C) For the net system load, the utility shall provide plots of energy usage and peak demand.

(8)(C)(1) The energy plots shall include the summer, non-summer and total energy usage for each calendar year.

(8)(C)(2) The peak demand plots shall include the summer and winter peak demands.

Compliance: See Plots 3D-1 through 3D-4 for base-case Evergy Metro forecast reports designed to comply with section (8)(C) reporting requirements.

Forecast uncertainty is quantified through the use of alternative economic scenarios. Moody's Economy.com provided three economic scenarios termed Low, Base and High that represent a 95% confidence range around the base case for economic growth. These economic scenarios were each used to forecast load growth and these forecasts represent a 95% confidence interval around load growth based on the uncertainty due to economic growth.

Work Files:

IRP_8C_KCPL_NSI_Peak.xls

KCPL Base System Datalyzer.xls

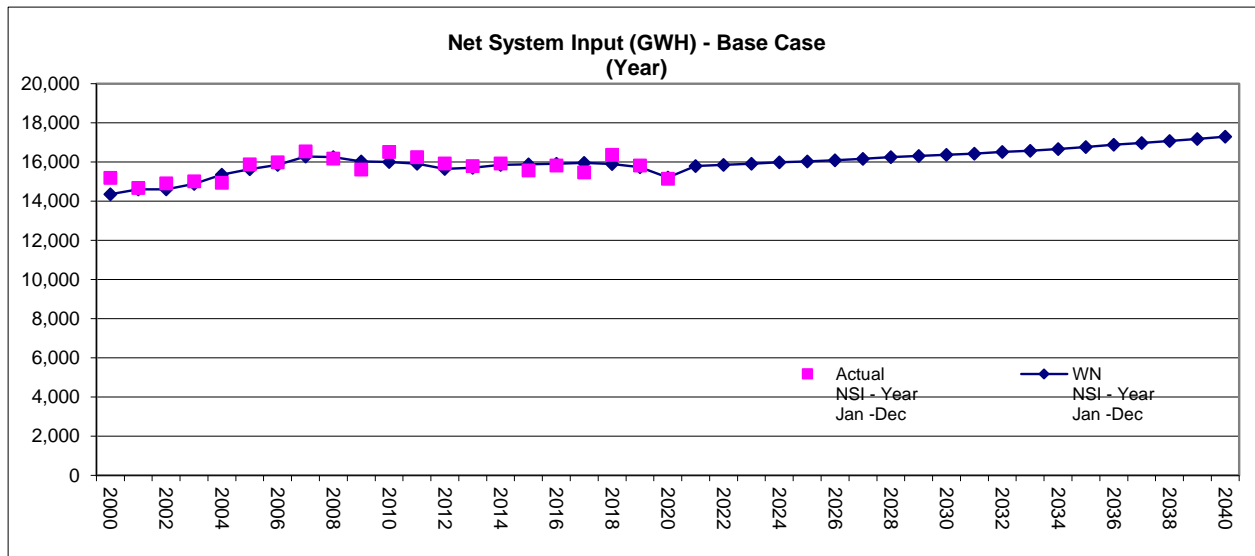
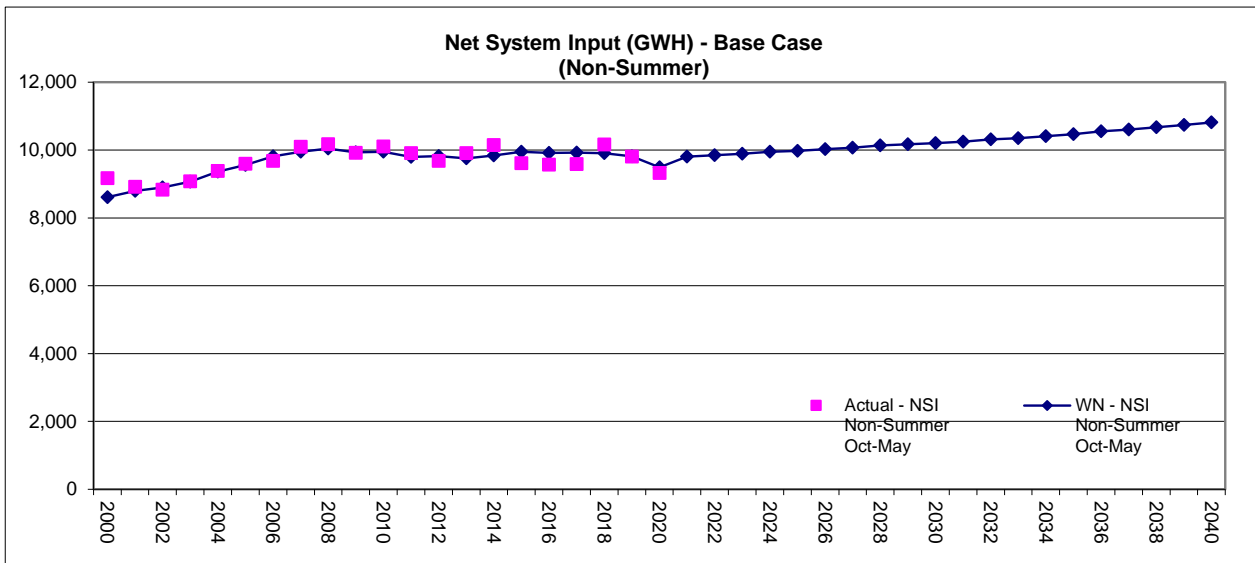
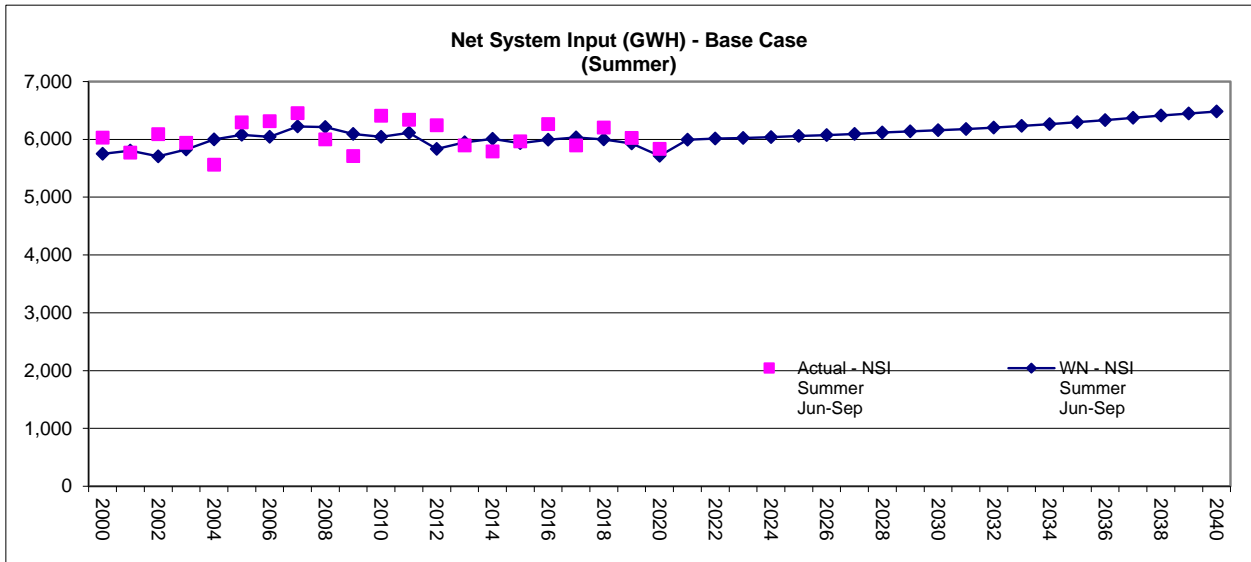
KCPL Low System Datalyzer.xls

KCPL High System Datalyzer.xls

**Plot 3D-1 Evergy Metro Energy Forecast (GWH) - Base Case: Net System Input (NSI)
(Actual vs. Weather Normalized)**

Year	Actual - NSI Summer Jun-Sep	WN - NSI Summer Jun-Sep	Actual - NSI Non-Summer Oct-May	WN - NSI Non-Summer Oct-May	Actual NSI - Year Jan -Dec	WN NSI - Year Jan -Dec
2000	6,030.1	5,747.3	9,167.8	8,610.4	15,197.8	14,357.8
2001	5,770.2	5,806.4	8,915.1	8,798.6	14,685.3	14,605.0
2002	6,087.6	5,707.1	8,831.9	8,894.4	14,919.5	14,601.5
2003	5,937.5	5,822.5	9,073.0	9,064.0	15,010.5	14,886.5
2004	5,558.6	5,999.1	9,382.8	9,360.1	14,941.4	15,359.2
2005	6,295.1	6,079.1	9,588.7	9,559.7	15,883.8	15,638.8
2006	6,310.9	6,045.1	9,681.2	9,813.2	15,992.2	15,858.3
2007	6,449.9	6,225.4	10,097.4	9,952.0	16,547.3	16,286.9
2008	5,998.9	6,214.2	10,173.9	10,043.8	16,172.7	16,258.1
2009	5,711.3	6,093.7	9,915.3	9,935.2	15,626.6	16,028.9
2010	6,407.8	6,045.7	10,104.2	9,949.7	16,512.0	15,995.4
2011	6,337.4	6,113.8	9,907.5	9,795.0	16,244.9	15,908.8
2012	6,242.9	5,836.4	9,679.2	9,817.8	15,922.0	15,654.2
2013	5,893.7	5,949.8	9,906.0	9,753.1	15,799.7	15,702.9
2014	5,790.7	6,010.3	10,144.3	9,842.9	15,935.0	15,853.2
2015	5,965.1	5,932.4	9,610.4	9,950.0	15,575.5	15,882.4
2016	6,264.0	5,992.9	9,564.0	9,917.8	15,828.0	15,910.7
2017	5,894.4	6,033.1	9,582.5	9,926.4	15,476.8	15,959.5
2018	6,203.3	5,997.1	10,162.2	9,906.1	16,365.4	15,903.2
2019	6,021.4	5,928.8	9,804.8	9,813.2	15,826.1	15,742.1
2020	5,832.8	5,713.8	9,318.0	9,493.1	15,150.8	15,206.9
2021		5,993.5		9,801.6		15,795.1
2022		6,015.3		9,847.1		15,862.4
2023		6,023.7		9,887.4		15,911.1
2024		6,039.7		9,949.1		15,988.8
2025		6,057.7		9,978.5		16,036.1
2026		6,074.6		10,022.1		16,096.7
2027		6,094.2		10,068.3		16,162.5
2028		6,116.6		10,135.9		16,252.5
2029		6,139.2		10,166.0		16,305.2
2030		6,158.1		10,205.6		16,363.8
2031		6,180.2		10,249.2		16,429.4
2032		6,205.3		10,315.4		16,520.7
2033		6,233.0		10,350.0		16,583.0
2034		6,263.4		10,406.5		16,669.9
2035		6,297.5		10,468.2		16,765.7
2036		6,333.8		10,551.1		16,884.9
2037		6,371.9		10,599.9		16,971.8
2038		6,410.0		10,668.0		17,078.0
2039		6,448.5		10,736.3		17,184.7
2040		6,482.0		10,812.9		17,294.9
'00-'10	0.6%	0.5%	1.0%	1.5%	0.8%	1.1%
'10-'20	-0.9%	-0.6%	-0.8%	-0.5%	-0.9%	-0.5%
'20-'30		0.8%		0.7%		0.7%
'20-'40		0.6%		0.7%		0.6%

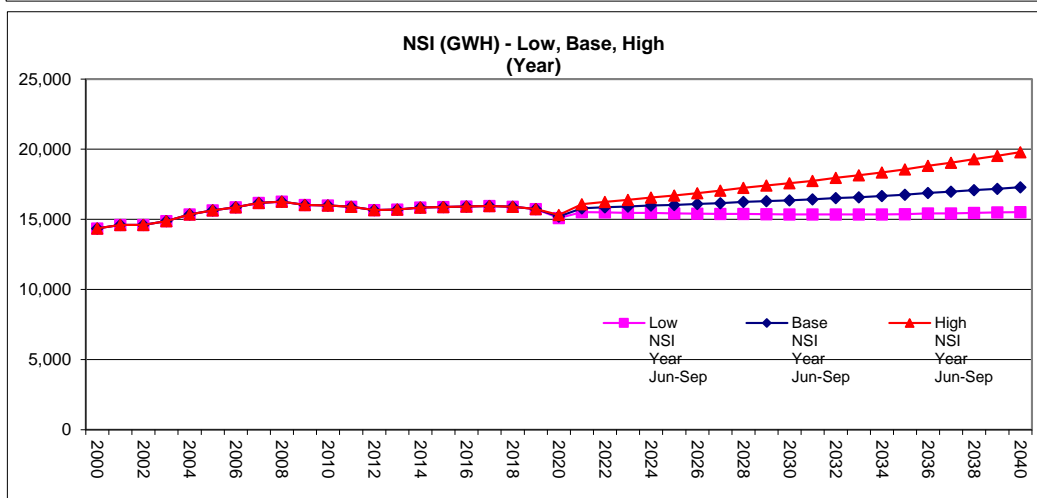
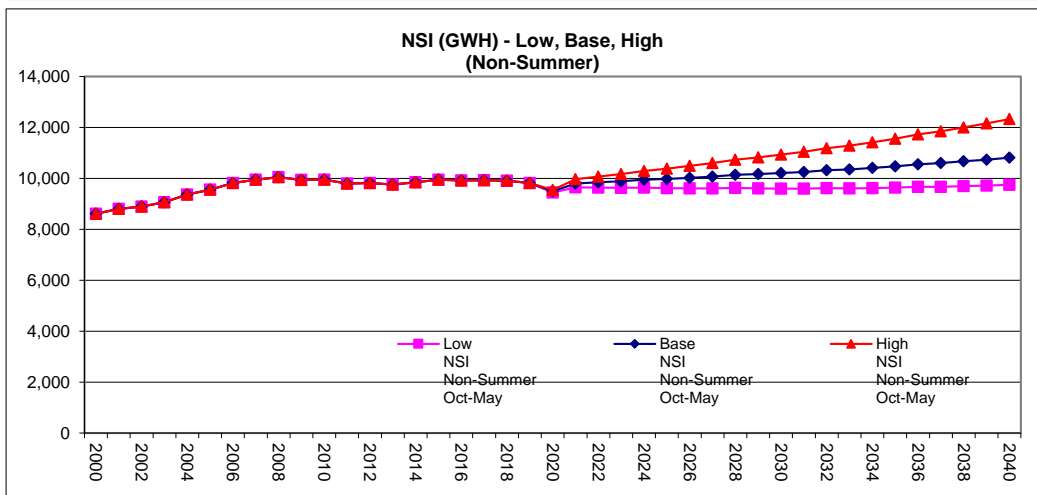
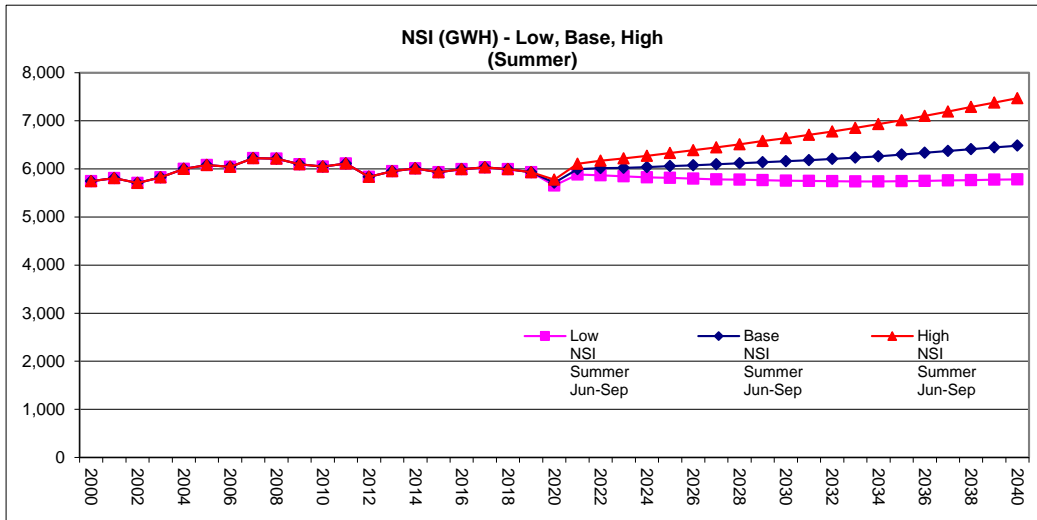
Note: Energy MWH (NSI) Includes annual system losses



**Plot 3D-2 Evergy Metro Energy Forecast (GWH): Net System Input (NSI)
(Low Case, Base Case, High Case)**

Year	Low	Base	High	Low	Base	High	Low	Base	High
	NSI	NSI	NSI	NSI	NSI	NSI	NSI	NSI	NSI
	Summer	Summer	Summer	Non-Summer	Non-Summer	Non-Summer	Year	Year	Year
	Jun-Sep	Jun-Sep	Jun-Sep	Oct-May	Oct-May	Oct-May	Jun-Sep	Jun-Sep	Jun-Sep
2000	5,747.3	5,747.3	5,747.3	8,610.4	8,610.4	8,610.4	14,357.8	14,357.8	14,357.8
2001	5,806.4	5,806.4	5,806.4	8,798.6	8,798.6	8,798.6	14,605.0	14,605.0	14,605.0
2002	5,707.1	5,707.1	5,707.1	8,894.4	8,894.4	8,894.4	14,601.5	14,601.5	14,601.5
2003	5,822.5	5,822.5	5,822.5	9,064.0	9,064.0	9,064.0	14,886.5	14,886.5	14,886.5
2004	5,999.1	5,999.1	5,999.1	9,360.1	9,360.1	9,360.1	15,359.2	15,359.2	15,359.2
2005	6,079.1	6,079.1	6,079.1	9,559.7	9,559.7	9,559.7	15,638.8	15,638.8	15,638.8
2006	6,045.1	6,045.1	6,045.1	9,813.2	9,813.2	9,813.2	15,858.3	15,858.3	15,858.3
2007	6,225.4	6,225.4	6,225.4	9,952.0	9,952.0	9,952.0	16,177.4	16,177.4	16,177.4
2008	6,214.2	6,214.2	6,214.2	10,043.8	10,043.8	10,043.8	16,258.1	16,258.1	16,258.1
2009	6,093.7	6,093.7	6,093.7	9,935.2	9,935.2	9,935.2	16,028.9	16,028.9	16,028.9
2010	6,045.7	6,045.7	6,045.7	9,949.7	9,949.7	9,949.7	15,995.4	15,995.4	15,995.4
2011	6,113.8	6,113.8	6,113.8	9,795.0	9,795.0	9,795.0	15,908.8	15,908.8	15,908.8
2012	5,836.4	5,836.4	5,836.4	9,817.8	9,817.8	9,817.8	15,654.2	15,654.2	15,654.2
2013	5,949.8	5,949.8	5,949.8	9,753.1	9,753.1	9,753.1	15,702.9	15,702.9	15,702.9
2014	6,010.3	6,010.3	6,010.3	9,842.9	9,842.9	9,842.9	15,853.2	15,853.2	15,853.2
2015	5,932.4	5,932.4	5,932.4	9,950.0	9,950.0	9,950.0	15,882.4	15,882.4	15,882.4
2016	5,992.9	5,992.9	5,992.9	9,917.8	9,917.8	9,917.8	15,910.7	15,910.7	15,910.7
2017	6,033.1	6,033.1	6,033.1	9,926.4	9,926.4	9,926.4	15,959.5	15,959.5	15,959.5
2018	5,997.1	5,997.1	5,997.1	9,906.1	9,906.1	9,906.1	15,903.2	15,903.2	15,903.2
2019	5,928.8	5,928.8	5,928.8	9,813.2	9,813.2	9,813.2	15,742.1	15,742.1	15,742.1
2020	5,654.3	5,713.8	5,774.7	9,445.4	9,493.1	9,542.2	15,099.8	15,206.9	15,316.9
2021	5,882.6	5,993.5	6,108.7	9,642.8	9,801.6	9,966.5	15,525.4	15,795.1	16,075.2
2022	5,869.7	6,015.3	6,168.8	9,636.1	9,847.1	10,069.8	15,505.8	15,862.4	16,238.6
2023	5,844.4	6,023.7	6,215.9	9,624.7	9,887.4	10,169.0	15,469.1	15,911.1	16,384.9
2024	5,827.0	6,039.7	6,271.4	9,634.4	9,949.1	10,292.0	15,461.4	15,988.8	16,563.4
2025	5,812.0	6,057.7	6,329.5	9,614.1	9,978.5	10,381.9	15,426.1	16,036.1	16,711.4
2026	5,796.5	6,074.6	6,387.2	9,607.9	10,022.1	10,488.2	15,404.4	16,096.7	16,875.4
2027	5,784.1	6,094.2	6,448.6	9,604.9	10,068.3	10,598.4	15,388.9	16,162.5	17,047.0
2028	5,774.9	6,116.6	6,513.2	9,622.3	10,135.9	10,733.0	15,397.2	16,252.5	17,246.2
2029	5,766.5	6,139.2	6,578.6	9,606.2	10,166.0	10,827.3	15,372.6	16,305.2	17,406.0
2030	5,755.4	6,158.1	6,640.5	9,599.4	10,205.6	10,933.2	15,354.8	16,363.8	17,573.6
2031	5,747.5	6,180.2	6,706.4	9,597.0	10,249.2	11,044.4	15,344.6	16,429.4	17,750.9
2032	5,742.7	6,205.3	6,777.0	9,615.1	10,315.4	11,183.0	15,357.8	16,520.7	17,960.0
2033	5,740.6	6,233.0	6,851.3	9,605.9	10,350.0	11,286.9	15,346.5	16,583.0	18,138.2
2034	5,741.0	6,263.4	6,929.7	9,616.5	10,406.5	11,417.6	15,357.5	16,669.9	18,347.2
2035	5,745.0	6,297.5	7,013.8	9,631.8	10,468.2	11,556.2	15,376.9	16,765.7	18,570.0
2036	5,751.1	6,333.8	7,101.6	9,665.8	10,551.1	11,722.1	15,416.9	16,884.9	18,823.7
2037	5,758.9	6,371.9	7,193.1	9,670.9	10,599.9	11,849.6	15,429.8	16,971.8	19,042.8
2038	5,767.0	6,410.0	7,286.1	9,692.9	10,668.0	12,002.3	15,459.9	17,078.0	19,288.4
2039	5,775.6	6,448.5	7,380.8	9,715.4	10,736.3	12,157.4	15,491.0	17,184.7	19,538.2
2040	5,780.4	6,482.0	7,470.9	9,745.0	10,812.9	12,325.4	15,525.4	17,294.9	19,796.3
'00-'10	0.5%	0.5%	0.5%	1.5%	1.5%	1.5%	1.1%	1.1%	1.1%
'10-'20	-0.7%	-0.6%	-0.5%	-0.5%	-0.5%	-0.4%	-0.6%	-0.5%	-0.4%
'20-'30	0.2%	0.8%	1.4%	0.2%	0.7%	1.4%	0.2%	0.7%	1.4%
'20-'40	0.1%	0.6%	1.3%	0.2%	0.7%	1.3%	0.1%	0.6%	1.3%

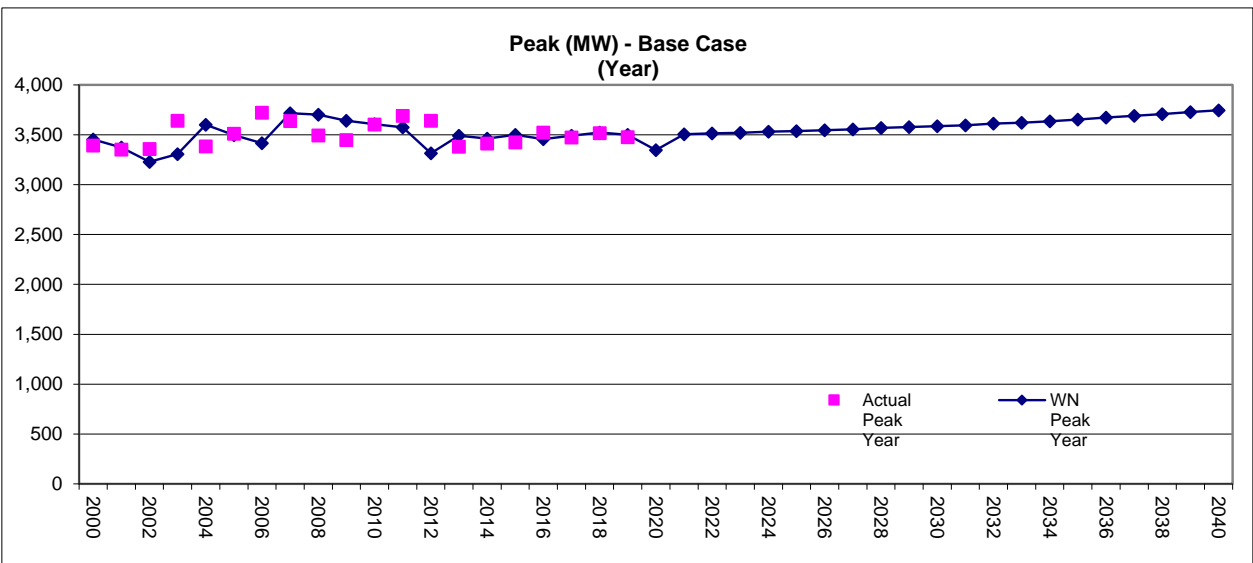
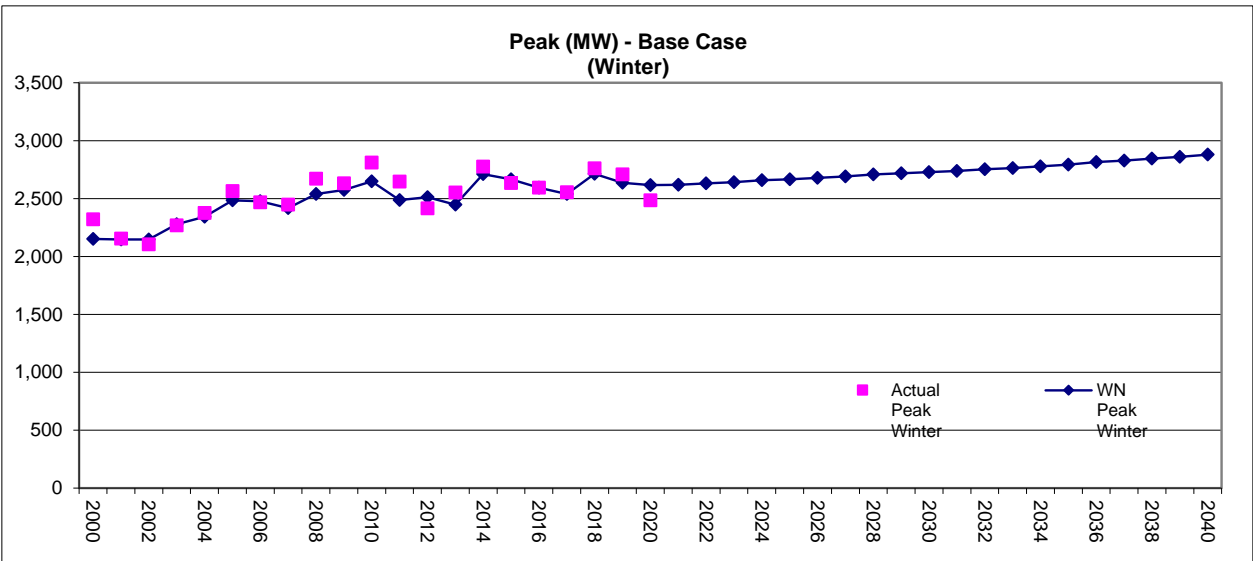
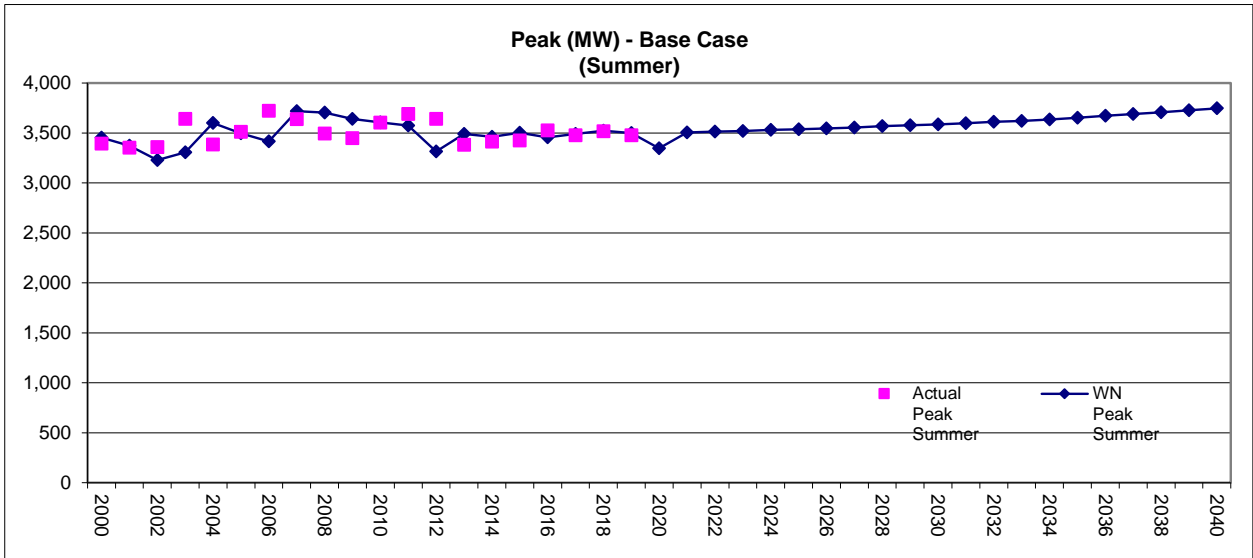
Note: Energy MWH (NSI) Includes annual system losses



**Plot 3D-3 Evergy Metro Peak Forecast (MW) - Base Case
(Actual vs. Weather Normalized)**

Year	Actual Peak Summer	WN Peak Summer	Actual Peak Winter	WN Peak Winter	Actual Peak Year	WN Peak Year
2000	3,394	3,452	2,320	2,152	3,394	3,452
2001	3,352	3,372	2,153	2,147	3,352	3,372
2002	3,358	3,229	2,105	2,147	3,358	3,229
2003	3,640	3,307	2,268	2,278	3,640	3,307
2004	3,384	3,600	2,376	2,343	3,384	3,600
2005	3,512	3,496	2,563	2,485	3,512	3,496
2006	3,721	3,416	2,467	2,478	3,721	3,416
2007	3,638	3,718	2,446	2,418	3,638	3,718
2008	3,495	3,703	2,670	2,540	3,495	3,703
2009	3,448	3,642	2,631	2,574	3,448	3,642
2010	3,603	3,605	2,811	2,648	3,603	3,605
2011	3,689	3,573	2,646	2,487	3,689	3,573
2012	3,642	3,316	2,414	2,513	3,642	3,316
2013	3,382	3,492	2,552	2,448	3,382	3,492
2014	3,412	3,463	2,776	2,711	3,412	3,463
2015	3,425	3,501	2,634	2,666	3,425	3,501
2016	3,524	3,456	2,594	2,594	3,524	3,456
2017	3,475	3,492	2,555	2,540	3,475	3,492
2018	3,518	3,522	2,760	2,714	3,518	3,522
2019	3,476	3,498	2,709	2,637	3,476	3,498
2020		3,347	2,484	2,615		3,347
2021		3,505		2,619		3,505
2022		3,515		2,631		3,515
2023		3,520		2,642		3,520
2024		3,531		2,658		3,531
2025		3,536		2,667		3,536
2026		3,545		2,679		3,545
2027		3,555		2,691		3,555
2028		3,569		2,708		3,569
2029		3,577		2,717		3,577
2030		3,586		2,727		3,586
2031		3,596		2,738		3,596
2032		3,611		2,754		3,611
2033		3,621		2,764		3,621
2034		3,636		2,778		3,636
2035		3,653		2,794		3,653
2036		3,673		2,814		3,673
2037		3,689		2,827		3,689
2038		3,708		2,844		3,708
2039		3,727		2,861		3,727
2040		3,746		2,879		3,746
'00-'10	0.6%	0.4%	1.9%	2.1%	0.6%	0.4%
'10-'20		-0.7%	-1.2%	-0.1%		-0.7%
'20-'30		0.7%		0.4%		0.7%
'20-'40		0.6%		0.5%		0.6%

*2009 actual peak was in June and weather normalized peak occurred in July
 *2012 actual peak was in July and weather normalized peak occurred in August
 *2020 weather normalized summer peak is not included due to 2020 peak occurring after June 2020 cutoff.



**Plot 3D-4 Evergy Metro Peak Forecast (MW)
(Low Case, Base Case, High Cast)**

Year	Low Peak Summer	Base Peak Summer	High Peak Summer	Low Peak Winter	Base Peak Winter	High Peak Winter	Low NSI Year	Base NSI Year	High NSI Year
2000	3,452	3,452	3,452	2,152	2,152	2,152	3,452	3,452	3,452
2001	3,372	3,372	3,372	2,147	2,147	2,147	3,372	3,372	3,372
2002	3,229	3,229	3,229	2,147	2,147	2,147	3,229	3,229	3,229
2003	3,307	3,307	3,307	2,278	2,278	2,278	3,307	3,307	3,307
2004	3,600	3,600	3,600	2,343	2,343	2,343	3,600	3,600	3,600
2005	3,496	3,496	3,496	2,485	2,485	2,485	3,496	3,496	3,496
2006	3,416	3,416	3,416	2,478	2,478	2,478	3,416	3,416	3,416
2007	3,718	3,718	3,718	2,418	2,418	2,418	3,718	3,718	3,718
2008	3,703	3,703	3,703	2,540	2,540	2,540	3,703	3,703	3,703
2009	3,642	3,642	3,642	2,574	2,574	2,574	3,642	3,642	3,642
2010	3,605	3,605	3,605	2,648	2,648	2,648	3,605	3,605	3,605
2011	3,573	3,573	3,573	2,487	2,487	2,487	3,573	3,573	3,573
2012	3,316	3,316	3,316	2,513	2,513	2,513	3,316	3,316	3,316
2013	3,492	3,492	3,492	2,448	2,448	2,448	3,492	3,492	3,492
2014	3,463	3,463	3,463	2,711	2,711	2,711	3,463	3,463	3,463
2015	3,501	3,501	3,501	2,666	2,666	2,666	3,501	3,501	3,501
2016	3,456	3,456	3,456	2,594	2,594	2,594	3,456	3,456	3,456
2017	3,492	3,492	3,492	2,540	2,540	2,540	3,492	3,492	3,492
2018	3,522	3,522	3,522	2,714	2,714	2,714	3,522	3,522	3,522
2019	3,498	3,498	3,498	2,637	2,637	2,637	3,498	3,498	3,498
2020	3,321	3,347	3,373	2,615	2,615	2,615	3,321	3,347	3,373
2021	3,456	3,505	3,556	2,588	2,619	2,667	3,456	3,505	3,556
2022	3,451	3,515	3,583	2,570	2,631	2,695	3,451	3,515	3,583
2023	3,440	3,520	3,605	2,566	2,642	2,723	3,440	3,520	3,605
2024	3,435	3,531	3,634	2,567	2,658	2,756	3,435	3,531	3,634
2025	3,426	3,536	3,658	2,563	2,667	2,782	3,426	3,536	3,658
2026	3,420	3,545	3,685	2,560	2,679	2,812	3,420	3,545	3,685
2027	3,415	3,555	3,714	2,558	2,691	2,842	3,415	3,555	3,714
2028	3,415	3,569	3,748	2,561	2,708	2,877	3,415	3,569	3,748
2029	3,410	3,577	3,776	2,556	2,717	2,904	3,410	3,577	3,776
2030	3,405	3,586	3,804	2,553	2,727	2,933	3,405	3,586	3,804
2031	3,401	3,596	3,835	2,551	2,738	2,963	3,401	3,596	3,835
2032	3,402	3,611	3,871	2,554	2,754	2,999	3,402	3,611	3,871
2033	3,399	3,621	3,902	2,551	2,764	3,029	3,399	3,621	3,902
2034	3,401	3,636	3,939	2,552	2,778	3,064	3,401	3,636	3,939
2035	3,403	3,653	3,978	2,555	2,794	3,101	3,403	3,653	3,978
2036	3,410	3,673	4,023	2,561	2,814	3,143	3,410	3,673	4,023
2037	3,412	3,689	4,063	2,561	2,827	3,178	3,412	3,689	4,063
2038	3,418	3,708	4,107	2,565	2,844	3,218	3,418	3,708	4,107
2039	3,423	3,727	4,152	2,569	2,861	3,259	3,423	3,727	4,152
2040	3,428	3,746	4,198	2,574	2,879	3,301	3,428	3,746	4,198
'00-'10	0.4%	0.4%	0.4%	2.1%	2.1%	2.1%	0.4%	0.4%	0.4%
'10-'20	-0.8%	-0.7%	-0.7%	-0.1%	-0.1%	-0.1%	-0.8%	-0.7%	-0.7%
'20-'30	0.3%	0.7%	1.2%	-0.2%	0.4%	1.2%	0.3%	0.7%	1.2%
'20-'40	0.2%	0.6%	1.1%	-0.1%	0.5%	1.2%	0.2%	0.6%	1.1%

