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**Part 1 - Appendix 3D**  
**Evergy Metro Reports**

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**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

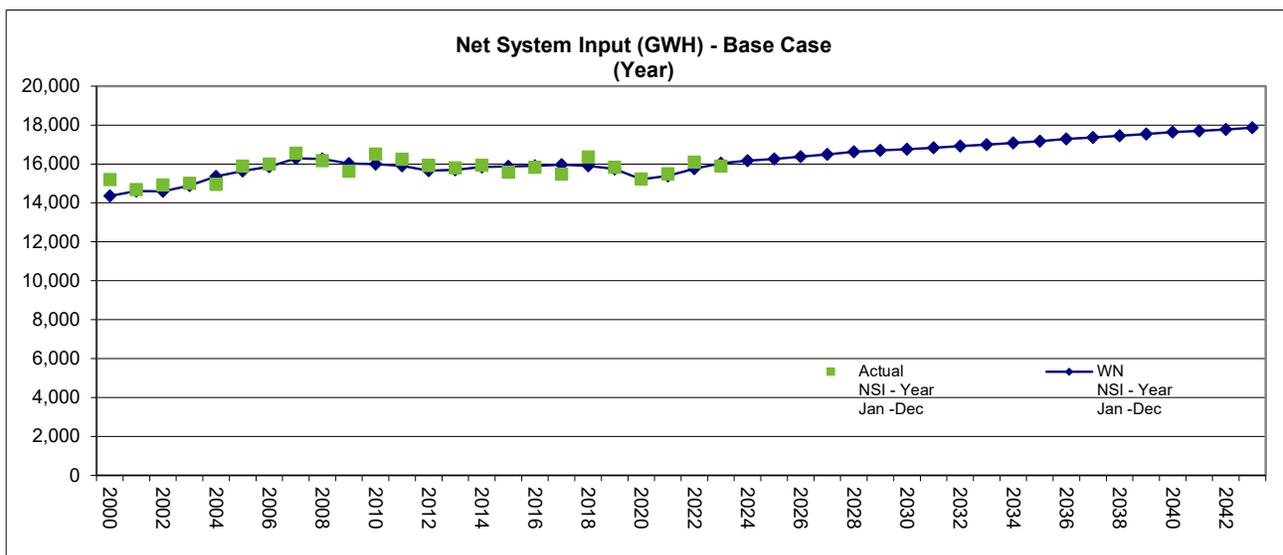
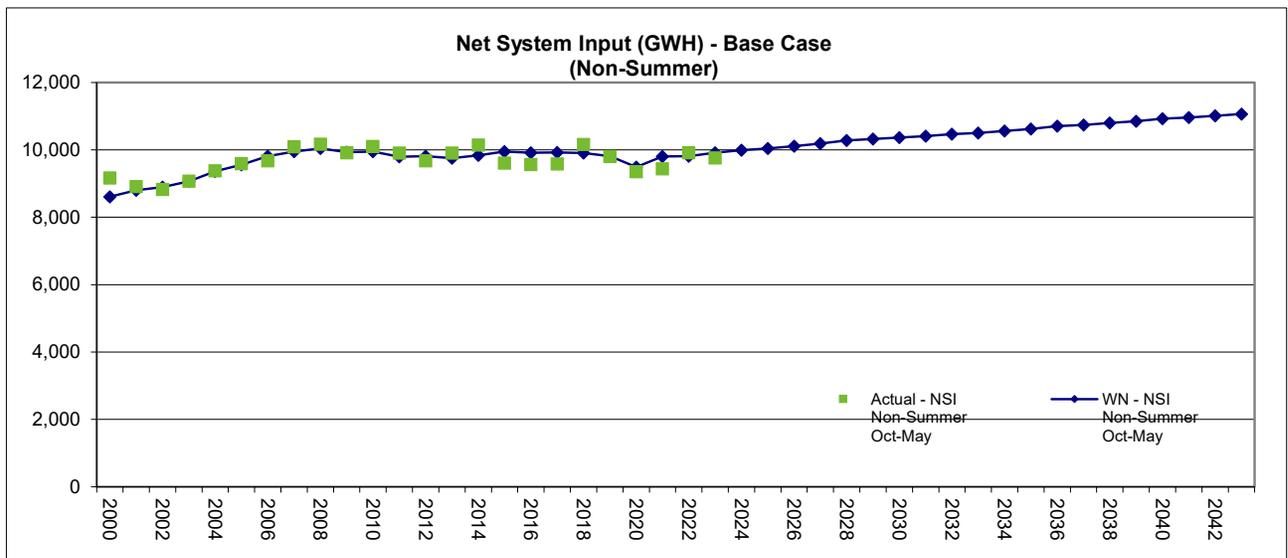
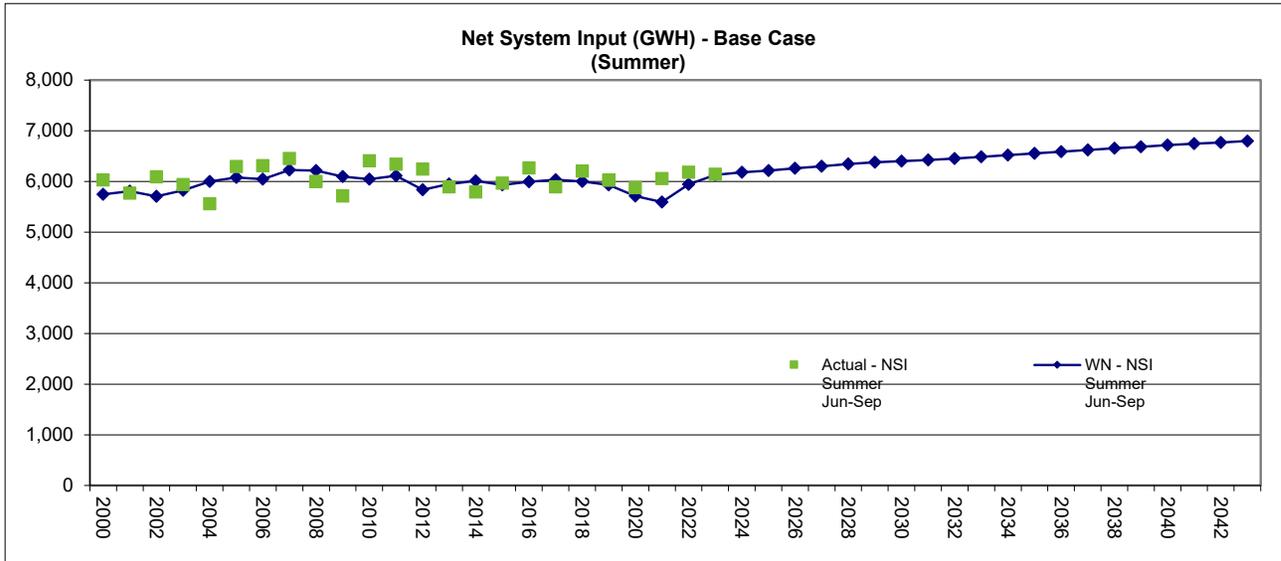
KCPL Low System Datalyzer.xls

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	5,877.2	5,713.8	9,353.9	9,493.1	15,231.0	15,206.9
2021	6,053.3	5,593.2	9,438.5	9,801.8	15,491.8	15,394.9
2022	6,181.9	5,942.9	9,916.6	9,810.8	16,098.5	15,753.7
2023	6,137.7	6,128.4	9,759.3	9,914.6	15,897.0	16,043.1
2024		6,182.8		9,993.2		16,176.0
2025		6,214.4		10,041.9		16,256.3
2026		6,258.1		10,115.0		16,373.1
2027		6,300.9		10,187.9		16,488.8
2028		6,342.3		10,278.3		16,620.5
2029		6,376.3		10,319.9		16,696.3
2030		6,400.7		10,363.9		16,764.6
2031		6,425.2		10,405.6		16,830.7
2032		6,452.1		10,471.7		16,923.8
2033		6,483.9		10,505.8		16,989.6
2034		6,518.1		10,564.3		17,082.4
2035		6,552.7		10,624.1		17,176.8
2036		6,587.2		10,704.1		17,291.3
2037		6,621.5		10,741.8		17,363.3
2038		6,654.1		10,798.5		17,452.6
2039		6,684.5		10,851.8		17,536.2
2040		6,715.2		10,928.5		17,643.7
2041		6,744.3		10,961.3		17,705.6
2042		6,769.9		11,011.1		17,781.0
2043		6,798.7		11,065.0		17,863.6
'00-'13	0.6%	0.5%	1.0%	1.5%	0.8%	1.1%
'13-'23	-0.9%	-0.6%	-0.8%	-0.5%	-0.8%	-0.5%
'23-'33		1.1%		0.9%		1.0%
'23-'43		0.8%		0.7%		0.7%

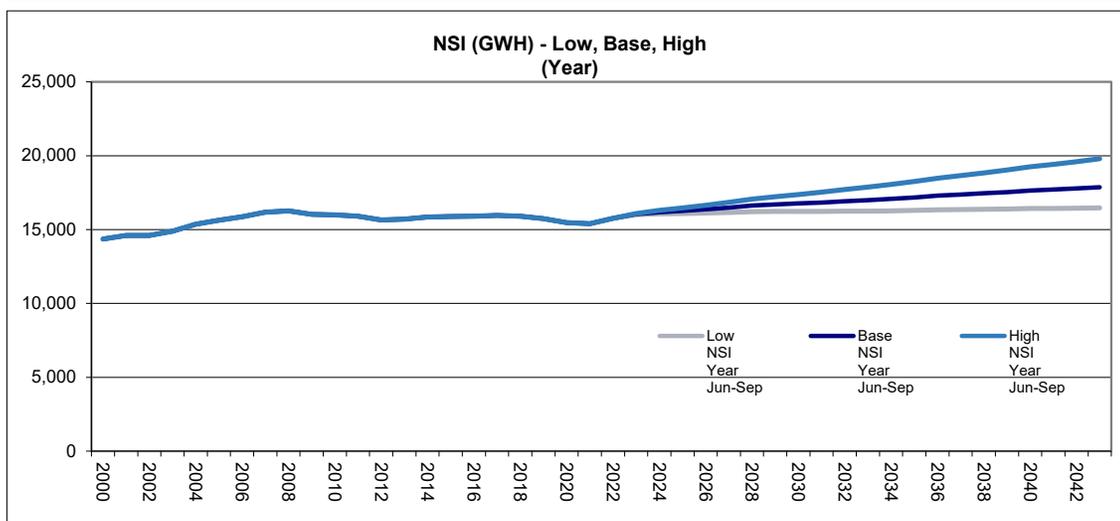
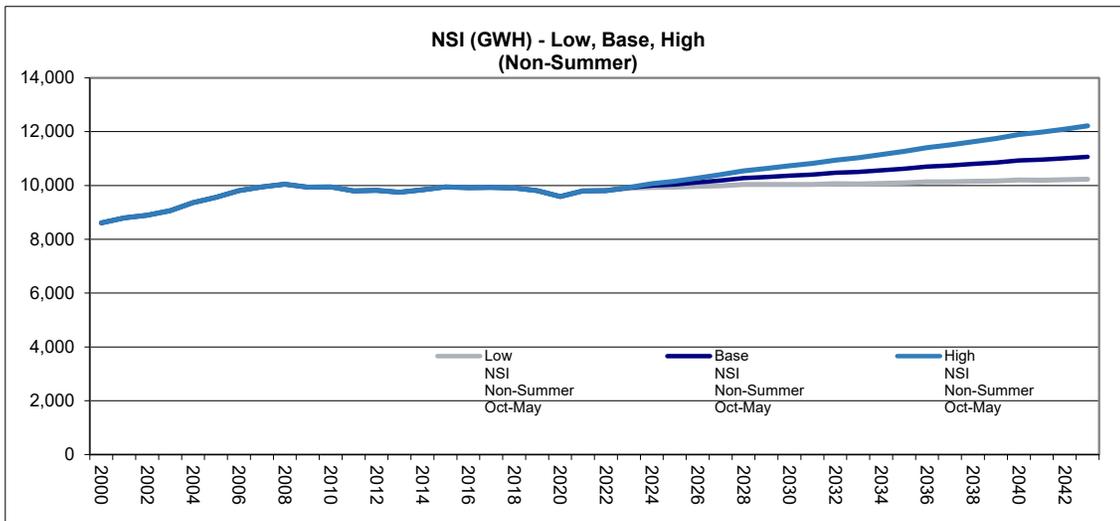
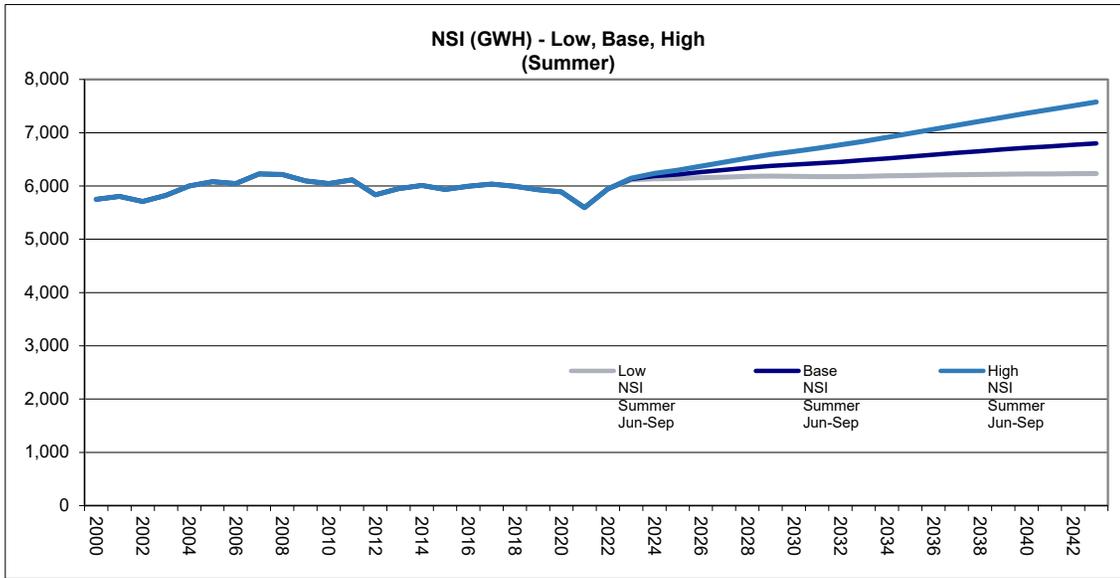
Note: Energy MWH (NSI) Includes annual system losses



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

Year	Low NSI	Base NSI	High NSI	Low NSI	Base NSI	High NSI	Low NSI	Base NSI	High NSI
	Summer Jun-Sep	Summer Jun-Sep	Summer Jun-Sep	Non-Summer Oct-May	Non-Summer Oct-May	Non-Summer Oct-May	Year Jun-Sep	Year Jun-Sep	Year 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	5,888.3	5,888.3	5,888.3	9,587.4	9,587.4	9,587.4	15,475.6	15,475.6	15,475.6
2021	5,593.2	5,593.2	5,593.2	9,801.8	9,801.8	9,801.8	15,394.9	15,394.9	15,394.9
2022	5,942.9	5,942.9	5,942.9	9,810.8	9,810.8	9,810.8	15,753.7	15,753.7	15,753.7
2023	6,115.1	6,128.4	6,144.4	9,900.7	9,914.6	9,930.8	16,015.8	16,043.1	16,075.2
2024	6,137.4	6,182.8	6,233.4	9,930.8	9,993.2	10,063.3	16,068.2	16,176.0	16,296.7
2025	6,139.5	6,214.4	6,296.2	9,935.6	10,041.9	10,158.5	16,075.2	16,256.3	16,454.7
2026	6,153.0	6,258.1	6,371.2	9,963.7	10,115.0	10,278.7	16,116.7	16,373.1	16,650.0
2027	6,166.3	6,300.9	6,446.8	9,992.2	10,187.9	10,400.2	16,158.4	16,488.8	16,847.0
2028	6,178.1	6,342.3	6,521.2	10,037.8	10,278.3	10,540.9	16,215.9	16,620.5	17,062.1
2029	6,183.7	6,376.3	6,589.3	10,037.6	10,319.9	10,632.8	16,221.2	16,696.3	17,222.2
2030	6,180.4	6,400.7	6,648.0	10,040.3	10,363.9	10,728.0	16,220.8	16,764.6	17,376.0
2031	6,177.7	6,425.2	6,707.5	10,041.8	10,405.6	10,822.1	16,219.5	16,830.7	17,529.5
2032	6,177.7	6,452.1	6,770.8	10,066.8	10,471.7	10,943.7	16,244.6	16,923.8	17,714.5
2033	6,182.2	6,483.9	6,839.7	10,062.1	10,505.8	11,031.8	16,244.4	16,989.6	17,871.5
2034	6,189.3	6,518.1	6,912.4	10,080.6	10,564.3	11,147.7	16,269.9	17,082.4	18,060.1
2035	6,196.7	6,552.7	6,986.9	10,100.5	10,624.1	11,266.7	16,297.2	17,176.8	18,253.6
2036	6,203.9	6,587.2	7,062.1	10,138.5	10,704.1	11,409.6	16,342.4	17,291.3	18,471.6
2037	6,211.1	6,621.5	7,138.3	10,138.6	10,741.8	11,507.4	16,349.7	17,363.3	18,645.6
2038	6,216.8	6,654.1	7,213.7	10,155.9	10,798.5	11,627.8	16,372.7	17,452.6	18,841.5
2039	6,220.6	6,684.5	7,288.0	10,170.5	10,851.8	11,746.3	16,391.0	17,536.2	19,034.3
2040	6,224.1	6,715.2	7,364.4	10,204.9	10,928.5	11,892.9	16,429.0	17,643.7	19,257.3
2041	6,226.1	6,744.3	7,434.9	10,200.6	10,961.3	11,985.3	16,426.7	17,705.6	19,420.2
2042	6,227.9	6,769.9	7,502.8	10,215.6	11,011.1	12,098.5	16,443.6	17,781.0	19,601.3
2043	6,232.3	6,798.7	7,576.1	10,234.5	11,065.0	12,218.1	16,466.8	17,863.6	19,794.3
'00-'13	0.5%	0.5%	0.5%	1.5%	1.5%	1.5%	1.1%	1.1%	1.1%
'13-'23	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
'23-'33	0.5%	0.8%	1.2%	0.5%	0.8%	1.1%	0.5%	0.8%	1.2%
'23-'43	0.2%	0.6%	1.1%	0.3%	0.6%	1.1%	0.3%	0.6%	1.1%

Note: Energy MWH (NSI) Includes annual system losses



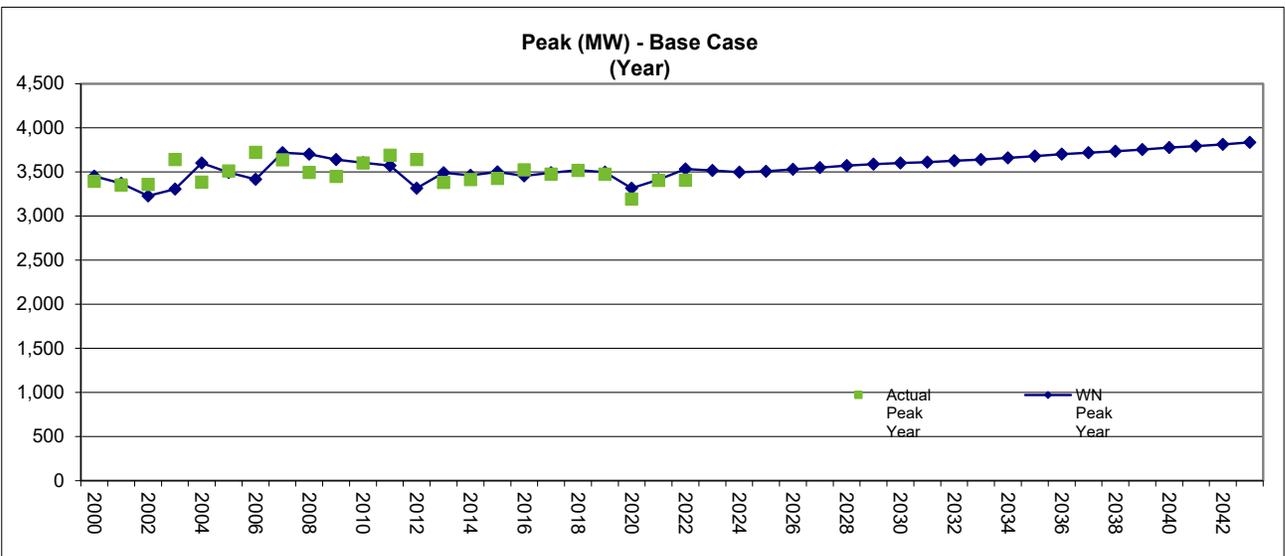
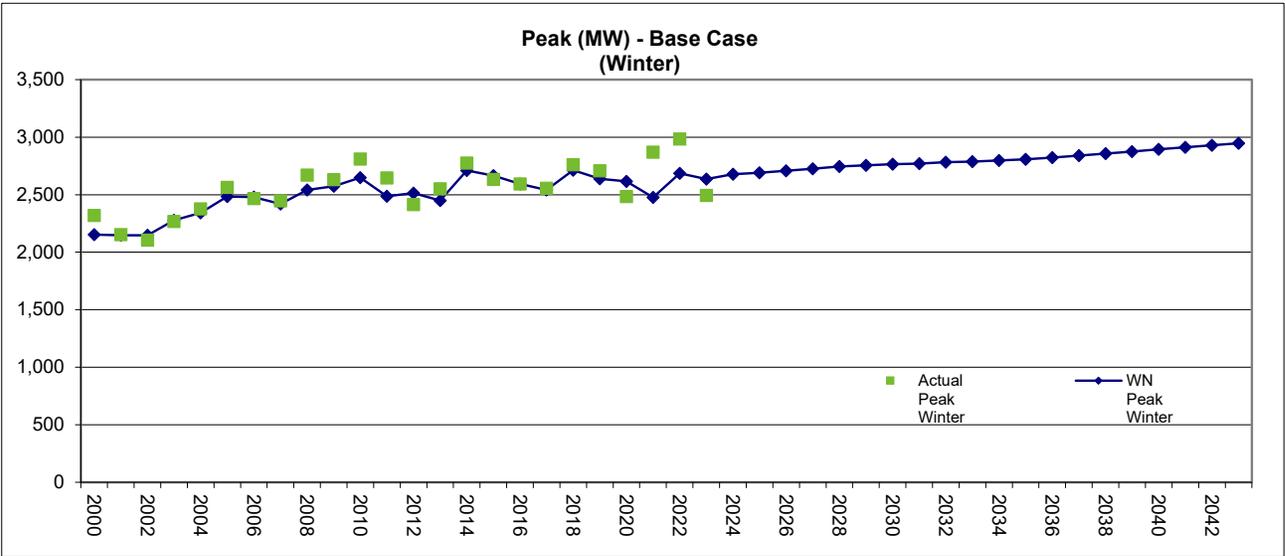
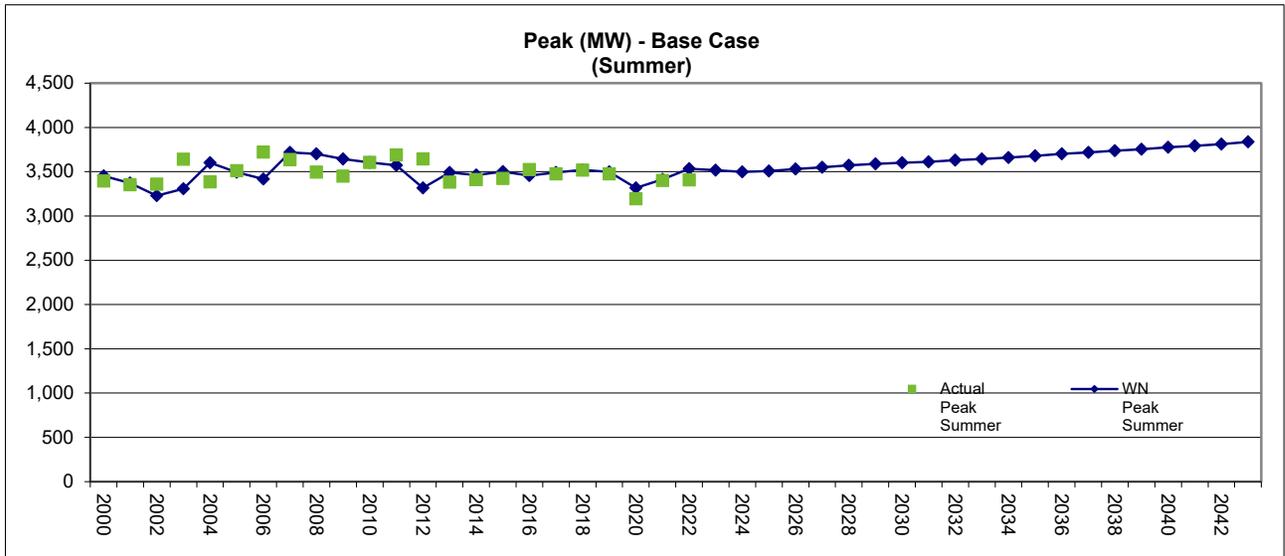
**Plot 3D-3 Eversource Energy Metro Peak Forecast (MW) - Base Case  
(Actual vs. Weather Normalized)**

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	3,193	3,316	2,484	2,615	3,193	3,316
2021	3,402	3,414	2,870	2,476	3,402	3,414
2022	3,407	3,535	2,984	2,686	3,407	3,535
2023		3,516	2,495	2,635		3,516
2024		3,497		2,678		3,497
2025		3,509		2,691		3,509
2026		3,530		2,709		3,530
2027		3,550		2,726		3,550
2028		3,573		2,746		3,573
2029		3,588		2,755		3,588
2030		3,600		2,764		3,600
2031		3,611		2,771		3,611
2032		3,629		2,782		3,629
2033		3,642		2,788		3,642
2034		3,661		2,798		3,661
2035		3,680		2,807		3,680
2036		3,701		2,822		3,701
2037		3,718		2,839		3,718
2038		3,736		2,858		3,736
2039		3,753		2,875		3,753
2040		3,777		2,895		3,777
2041		3,792		2,913		3,792
2042		3,811		2,930		3,811
2043		3,836		2,947		3,836
'00-'13	0.6%	0.4%	1.9%	2.1%	0.6%	0.4%
'13-'23		-0.8%	-1.2%	-0.1%		-0.8%
'23-'33		0.8%		0.6%		0.8%
'23-'43		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 Eversource 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	3,316	3,316	3,316	2,615	2,615	2,615	3,316	3,316	3,316
2021	3,414	3,414	3,414	2,476	2,476	2,476	3,414	3,414	3,414
2022	3,535	3,535	3,535	2,686	2,686	2,686	3,535	3,535	3,535
2023	3,510	3,516	3,524	2,635	2,635	2,635	3,510	3,516	3,524
2024	3,477	3,497	3,519	2,661	2,678	2,697	3,477	3,497	3,519
2025	3,476	3,509	3,545	2,662	2,691	2,722	3,476	3,509	3,545
2026	3,483	3,530	3,581	2,668	2,709	2,752	3,483	3,530	3,581
2027	3,490	3,550	3,616	2,674	2,726	2,782	3,490	3,550	3,616
2028	3,500	3,573	3,654	2,682	2,746	2,814	3,500	3,573	3,654
2029	3,501	3,588	3,684	2,681	2,755	2,837	3,501	3,588	3,684
2030	3,500	3,600	3,711	2,679	2,764	2,859	3,500	3,600	3,711
2031	3,500	3,611	3,739	2,675	2,771	2,879	3,500	3,611	3,739
2032	3,505	3,629	3,774	2,676	2,782	2,905	3,505	3,629	3,774
2033	3,506	3,642	3,804	2,671	2,788	2,925	3,506	3,642	3,804
2034	3,513	3,661	3,840	2,671	2,798	2,949	3,513	3,661	3,840
2035	3,519	3,680	3,877	2,670	2,807	2,974	3,519	3,680	3,877
2036	3,528	3,701	3,917	2,680	2,822	3,002	3,528	3,701	3,917
2037	3,532	3,718	3,953	2,686	2,839	3,029	3,532	3,718	3,953
2038	3,538	3,736	3,990	2,696	2,858	3,064	3,538	3,736	3,990
2039	3,544	3,753	4,028	2,703	2,875	3,096	3,544	3,753	4,028
2040	3,554	3,777	4,072	2,713	2,895	3,133	3,554	3,777	4,072
2041	3,559	3,792	4,105	2,721	2,913	3,166	3,559	3,792	4,105
2042	3,568	3,811	4,143	2,730	2,930	3,199	3,568	3,811	4,143
2043	3,581	3,836	4,188	2,738	2,947	3,232	3,581	3,836	4,188
'00-'13	0.4%	0.4%	0.4%	2.1%	2.1%	2.1%	0.4%	0.4%	0.4%
'13-'23	-0.8%	-0.8%	-0.8%	-0.1%	-0.1%	-0.1%	-0.8%	-0.8%	-0.8%
'23-'33	0.5%	0.8%	1.1%	0.2%	0.6%	0.9%	0.5%	0.8%	1.1%
'23-'43	0.3%	0.6%	1.0%	0.2%	0.5%	0.9%	0.3%	0.6%	1.0%

