Independent Electricity Market Operator

Ontario Demand Forecast

from January 2003 to December 2012

Independent Electricity Market Operator

Executive Summary

The IMO has a responsibility to forecast the demand for electricity on the IMO-controlled grid and to assess whether the existing and proposed generation and transmission facilities are adequate to meet Ontario's needs. This document looks at the demand forecast for the ten-year period from 2003 to 2012.

In comparison to the previous ten-year forecast there have been a number of significant changes to the forecasting methodology and the economic assumptions that underpin the forecast. In addition to these changes, Ontario established a new all time peak demand. Incorporating the record demand levels, the severe weather that led to the record and the updated economic information into the forecasting system will further differentiate this forecast from the previous one. Here is a list of the major changes that will account for most of the differences between this new forecast and the previous ten-year forecast:

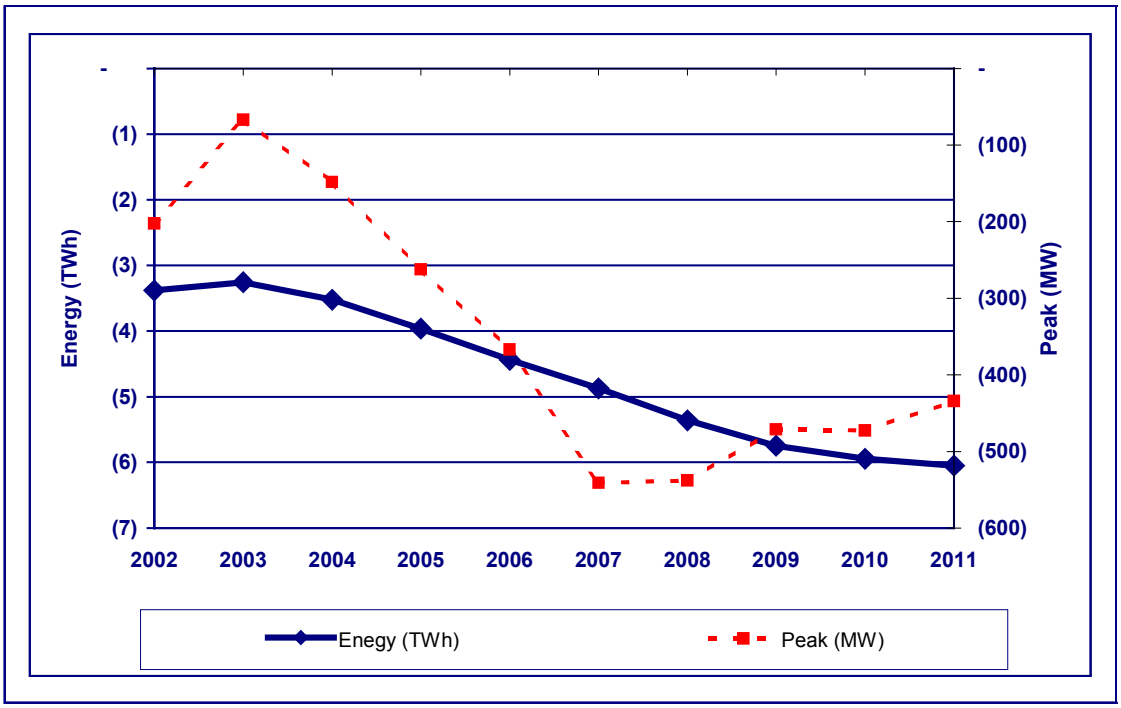
- Updated Normal weather to include the weather events of last August. The Extreme weather scenario now represents the most severe historic weather conditions for each week;
- Separated cloud and wind into seasonal rather than annual variables. This allows for opposing demand impacts in the summer and the winter. This is a more realistic representation of these weather elements.
- Addressed a tendency of the system to over-forecast winter peak demand and under-forecast summer peak demand;
- Updated economic drivers which reflect a much more pessimistic view of the future than previously held;
- Included a lower than anticipated starting point. Annual energy demand for 2001 was substantially lower than expected. A lower starting point will impact all years of the 10-year forecast.

The results of all these changes can be seen in each of the three major demand components - annual energy demand, winter peak demand and summer peak demand. The median growth scenario has annual average growth of 0.9% versus 1.2% in the previous ten-year. This lower growth rate is the product of generally lower economic expectations. In terms of levels, the forecast is much lower in 2011 than the previous forecast (162 TWh vs. 168 TWh). This is due to the lower growth rate and lower starting point. The summer peak is expected to experience annual average growth of 1.1%, slightly higher than the previous forecast. Although the growth rate is similar the levels are higher. The summer peak rises from 23,404 in 2003 to 25,903 in 2012 and is roughly 700 MW higher in 2011 compared to the previous forecast. The increase is attributable to the actuals of 2001, the updated Normal weather and some of the model modifications. The winter peak is expected to display average annual growth of 0.6% over the forecast compared to 1.0% in last year's forecast. This is also attributable to the updated Normal weather and some of the model modifications. The winter peak increases from 23,984 MW in

2003 to 25,259 MW in 2012 and is roughly 700 MW lower in 2011 compared to the previous forecast. Under Normal weather the system is expected to become summer peaking in 2008.

Figure 1 graphically displays the difference in annual energy and peak demand. For both energy and peak demand the current forecast is lower. For energy the causes for the difference are the lower starting point and lower economic growth throughout the forecast. For the peak demand forecast, the previous forecast was winter peaking throughout. Since the current forecast has lower winter peaks and higher summer peaks, the graphs bears this out. The difference grows as long as the current forecast is winter peaking and reverses direction and starts shrinking when the system becomes summer peaking.

Figure 1 Comparison of Current and Previous Forecasts (Current less Previous)



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1.0 Introduction

1.1 Outlook Documents

The Ontario Electricity Market Rules (Chapter 5 Section 7.1) require that the Independent Electricity Market Operator (IMO) produce and publish demand forecasts on an annual basis for the next 10 years. This Ontario Demand Forecast covers the 10-Year period from January 2003 to December 2012 and supercedes the previous forecast for the period January 2002 to December 2011, dated June 28, 2001.

1.2 Demand Forecast Document

This document provides a 10-Year forecast of electricity demand for Ontario, based on the stated assumptions, and using the methodology described in the Methodology to Perform Demand Forecasts, Resource Adequacy Assessments and Transmission Adequacy Assessments (IMP_REP_0044). Readers may envision other possible scenarios, recognizing the uncertainties associated with various input assumptions, and are encouraged to use their own judgement in considering possible future scenarios. This forecast provides a base upon which changes in assumptions can be considered.

The Ontario electricity demand is the sum of coincident loads plus the losses on the IMO-controlled grid. Ontario demand does not include loads that are supplied by embedded generation nor those not served by the IMO-controlled grid. This forecast was based on actual demand, weather and economic data as of December 2001.

Section 2.0 describes the assumptions used in this forecast of electricity demand. Section 3.0 looks at historical demand, Section 4.0 presents the forecast and Appendices A through C contain additional demand forecast details and analysis.

Readers are invited to provide comments on this report or to give suggestions as to the content of future reports. To do so, please call the IMO Help Centre at 905-403-6900 or 1-888-448-7777 or send an email to helpcentre@theIMO.com, or to forecasts.assessments@theIMO.com.

2.0 Forecasting Process and Assumptions

A detailed description of the forecasting methodology can be found in the document Methodology to Perform Demand Forecasts, Resource Adequacy Assessments and Transmission Adequacy Assessments (IMP_REP_0044). In addition to the methodology described in the document, the forecast of electricity demand requires inputs and/or assumptions with respect to economic activity and weather. This section briefly describes these inputs.

Consumption of electricity is modeled using three sets of forecast drivers: calendar variables, weather effects and economic conditions. Each of these drivers is embedded in the forecasting system and each plays a role in shaping the results. Appendix C, Analytical Factors, summarizes the relative impacts on energy and peak demand for each of the driver variables.

Calendar variables are relatively static and are not addressed here. For a more detailed discussion the reader is encouraged to look at the Methodology document.

Weather effects include measures of temperature, cloud cover, wind speed and dew point. Both energy and peak demand are weather sensitive. The length and severity of a season's weather contributes to the level of energy consumed and severe weather conditions usually underpin the seasonal peaks.

For purposes of the demand forecast "Normal" weather - based on historical data – is utilized rather than forecasted weather. Normal weather is composed by ranking the weather within each historical week, then taking the average of each of the ranked days. In this way, the Normal weather for each week would have both hotter and colder days. An Extreme weather scenario is also based on historical weather but uses minimums and maximums rather the average in the Normal weather scenario. It is interesting to note that the Extreme scenario essentially is built of a series of 1 in 30-year events. The possibility of this occurring every week is very remote, however the possibility of having at least one week with a 1in 30-year event is significant. Hence the need for the Extreme scenario. A more detailed explanation of how the Extreme and Normal weather scenarios are generated are contained in the Methodology document.

Load Forecast Uncertainty (LFU) is a measure used to capture the uncertainty in demand due to weather variations. LFU represents the variation in peak demand due to one standard deviation in the weather elements underpinning the peak demand. This information is valuable in determining a distribution of potential outcomes under various weather conditions. It should be recognized that for resource adequacy assessments, the "Normal" weather forecast is used in conjunction with a measure of LFU to consider a full range of peak demands that can occur with various weather conditions with varying probability of occurrence.

Economic conditions contribute to the growth in both energy and peak demand. To produce a demand forecast an economic forecast of various drivers is required. A consensus of four major, publicly available provincial forecasts was utilized to generate the economic drivers used in the near term part of the forecast (2002-2003). For the years beyond the consensus (2004-2012), population projections from Statistics Canada were used as a proxy for the economic driver variables. Table 2.1 summarizes the key economic drivers for energy and peak demand on the IMO-controlled grid.

Table 2.1 Ontario Economic Drivers

Year	Ontario Employment		Ontario Housing Starts	
	Thousands	Annual Growth (%)	Thousands	Annual Growth (%)
1995	5,128	2.02	31.9	-23.26
1996	5,175	0.92	39.5	23.89
1997	5,298	2.37	50.0	26.47
1998	5,476	3.35	50.1	0.23
1999	5,672	3.59	62.9	25.63
2000	5,856	3.23	67.4	7.15
2001 (f)	5,942	1.48	69.8	3.59
2002 (f)	5,972	0.51	65.4	-6.39
2003 (f)	6,122	2.50	68.6	4.93
2004 (f)	6,214	1.51	66.1	-3.59
2005 (f)	6,309	1.52	67.7	2.37
2006 (f)	6,402	1.48	66.7	-1.48
2007 (f)	6,495	1.45	66.6	-0.20
2008 (f)	6,586	1.40	65.1	-2.22
2009 (f)	6,676	1.35	63.8	-2.01
2010 (f)	6,764	1.33	63.6	-0.34
2011 (f)	6,851	1.28	62.0	-2.40
2012 (f)	6,931	1.16	56.8	-8.49

Notes to Table 2.1:

(f) indicates a forecasted value.

3.0 Historical Demand

This section looks at historical energy and peak demand and the factors affecting them. Energy demand represents the total consumption of electricity over a specified period of time, be it an hour, day, week, month, season or year. Peak demand represents the maximum requirement for electricity at a specific point in time. Ontario measures peak demand as a 20-minute average. One can look at the daily, weekly, monthly, seasonal or annual peak.

Table 3.1 shows the actual annual energy and peak demand, on a calendar basis, for the period 1984-2001.

Table 3.1 Ontario Annual Energy and Peak Demand

Calendar Year	Annual Demand			
	Actual Energy (TWh)	Annual Growth (%)	Actual Peak (MW)	Annual Growth (%)
1984	112.29		18,896	
1985	116.05	3.34%	20,473	8.35%
1986	120.57	3.90%	20,668	0.95%
1987	126.46	4.88%	20,524	-0.70%
1988	134.39	6.28%	23,012	12.12%
1989	140.77	4.74%	23,630	2.69%
1990	136.74	-2.86%	22,311	-5.58%
1991	136.97	0.16%	23,212	4.04%
1992	134.38	-1.89%	23,540	1.41%
1993	133.48	-0.67%	22,087	-6.17%
1994	134.87	1.05%	24,007	8.69%
1995	137.04	1.60%	22,855	-4.80%
1996	137.42	0.28%	22,321	-2.34%
1997	138.37	0.69%	22,197	-0.56%
1998	139.93	1.13%	**22,443**	1.11%
1999	144.09	2.97%	**23,435**	4.42%
2000	146.95	1.98%	23,428	-0.03%
2001	146.91	-0.02%	**25,269**	7.86%

Notes to Table 3.1:
Bold indicates a summer peak.

3.1 Historical Energy Demand

Actual primary energy demand has averaged annual growth of 1.6% over the historic period of 1984 to 2001. Energy demand is affected by the three classes of drivers but to varying degrees. On an annual basis, all years would be equal in terms of calendar effects except for leap years, which would have an additional day. Weather will impact annual energy consumption, but not to the degree that peak values are weather sensitive. This is due to the fact that throughout the course of the year the variability in weather will mean that highs and lows have a tendency to offset each other. The growth in energy demand is highly influenced by the economic class of drivers, which includes both economic activity and demographic factors.

As stated above, calendar impacts have a negligible impact on annual energy demand. Calendar variables would have a much larger impact when comparing seasons, months and weeks.

Table 3.2 displays the actual and weather corrected energy demand by season over the past five years. The first part of the table shows the demand by season; the second part the share of the seasonal year; the third part the average daily energy demand and the fourth the growth in average daily energy demand. Not surprisingly, winter accounts for nearly half of the total energy demand since winter accounts for nearly 42% of the seasonal year. However, the Average Daily Energy Demand does indicate that although the winter season still has largest the energy demand, the difference between summer and winter is closing.

Since the Normal weather has been updated and the models re-estimated, the weather corrected actuals will not be identical to those in previous Demand Forecast documents.

Table 3.2 Ontario Seasonal Energy Demand

Seasonal Energy Demand										
Actual Energy Demand						Weather Corrected Energy Demand				
Seasonal Year	Winter (TWh)	Spring (TWh)	Summer (TWh)	Fall (TWh)	Total (TWh)	Winter (TWh)	Spring (TWh)	Summer (TWh)	Fall (TWh)	Total (TWh)
1996	62.0	21.5	32.9	21.5	137.4	61.0	21.1	32.9	21.4	137.4
1997	61.0	21.7	33.6	21.8	138.4	61.0	21.4	33.8	21.7	138.4
1998	60.5	21.8	35.7	22.2	139.9	61.4	21.7	35.0	22.0	139.9
1999	61.4	21.9	37.1	23.0	144.1	62.3	21.9	36.0	22.7	144.1
2000	62.9	22.9	36.5	23.3	146.9	64.0	22.7	36.7	23.2	146.9
2001	64.7	22.6	38.0	23.3	146.9	64.5	22.6	37.3	23.1	146.9
Seasonal Share	Winter Share	Spring Share	Summer Share	Fall Share	Total	Winter Share	Spring Share	Summer Share	Fall Share	Total
1996	45.0%	15.6%	23.9%	15.6%	100%	44.2%	15.3%	23.9%	15.5%	100%
1997	44.1%	15.7%	24.4%	15.8%	100%	44.1%	15.5%	24.5%	15.7%	100%
1998	43.2%	15.5%	25.5%	15.8%	100%	43.8%	15.5%	25.0%	15.7%	100%
1999	42.8%	15.3%	25.9%	16.0%	100%	43.5%	15.3%	25.1%	15.9%	100%
2000	43.2%	15.7%	25.0%	16.0%	100%	43.9%	15.6%	25.2%	15.9%	100%
2001	43.6%	15.2%	25.6%	15.6%	100%	43.4%	15.2%	25.1%	15.5%	100%
Seasonal Year	Average Daily Energy Demand (GWh)					Average Daily Energy Demand (GWh)				
	Winter	Spring	Summer	Fall	Total	Winter	Spring	Summer	Fall	Total
1996	408	352	358	353	377	401	346	358	350	373
1997	404	355	366	358	378	404	352	367	355	378
1998	401	357	388	364	384	407	356	381	361	384
1999	407	359	403	377	393	413	359	391	373	392
2000	414	375	396	382	398	421	373	398	380	400
2001	429	370	413	381	407	427	371	406	378	404
Seasonal Year	Growth in Average Daily Energy Demand					Growth in Average Daily Energy Demand				
	Winter	Spring	Summer	Fall	Total	Winter	Spring	Summer	Fall	Total
1997	-1.1%	0.9%	2.2%	1.3%	0.4%	0.6%	1.6%	2.5%	1.5%	1.3%
1998	-0.7%	0.6%	6.1%	1.6%	1.5%	0.8%	1.1%	3.8%	1.7%	1.7%
1999	1.5%	0.4%	3.8%	3.6%	2.2%	1.5%	1.0%	2.6%	3.1%	2.0%
2000	1.8%	4.6%	-1.6%	1.5%	1.3%	1.9%	3.8%	2.0%	2.0%	2.2%
2001	3.5%	-1.3%	4.3%	-0.3%	2.3%	1.5%	-0.6%	1.8%	-0.4%	1.0%
Avg	1.0%	1.0%	2.9%	1.5%	1.6%	1.3%	1.4%	2.5%	1.6%	1.6%

Notes to Table 3.2:

The winter season is from November 1st through to March 31st. Therefore, in the case of 1996, the winter spans November 1995 through to March 1996. Spring consists of April and May, summer of June through August and fall September and October.

Table 3.3 shows the hottest summers and coldest winters of the last thirty-two years (1970-2001). This ranking is based on the cumulative temperature and humidity index. This helps put the Average Daily Energy Demand values from Table 3.2 into perspective and enables comparison with the weather corrected values in the same table. The increase in the Average Daily Energy Demand for the winter of 1996 can be attributed to the colder weather. The same applies to the summer demand and hot weather of 1998, 1999 and 2001. One of the key impacts of the hot summers experienced in recent years is to increase the penetration of space cooling or air conditioning. Mitigating some of the increase in cooling-sensitive loads is the on-going replacement of older, inefficient air conditioning units with newer more efficient units. The

overall impact of these hotter summers and increased penetration of air conditioning has been to make summer peak demand more sensitive to hot weather.

Table 3.3 Ontario's Hottest Summers and Coldest Winters

Rank	Hottest Summers	Coldest Winters
1	1995	1996
2	1999	1984
3	1973	1976
4	1983	1980
5	2001	1992
6	1991	1988
7	1988	2000
8	1998	1977
9	1987	1994
10	1975	1978

Table 3.4 shows the weather corrected annual energy demand. The actual energy demand is adjusted to reflect the Normal weather that underpins the forecast. The correction for each of the years is less than 1%, showing that variations in weather throughout the year tend to mitigate each other. It is also interesting to note that weather corrections have lowered the value in 4 of the 7 years shown. However, this recent trend has not influenced this forecast any more than the previous 20 years of historical data, since the forecasting methodology employed does not attempt to include cyclical affects of weather, which occur with various frequencies. See the document Methodology to Perform Demand Forecasts, Resource Adequacy Assessments and Transmission Adequacy Assessments (IMP_REP_0044) for a further discussion on weather.

Table 3.4 Ontario Annual Energy Demand, Actual and Weather Corrected

Calendar Year	Annual Energy Demand			
	Actual Energy (TWh)	Annual Growth (%)	Weather Corrected Energy (TWh)	Annual Growth (%)
1995	137.04	1.60%	135.79	
1996	137.42	0.28%	136.59	0.59%
1997	138.37	0.69%	138.12	1.12%
1998	139.93	1.13%	140.39	1.64%
1999	144.09	2.97%	143.42	2.16%
2000	146.95	1.98%	147.07	2.55%
2001	146.91	-0.02%	147.13	0.04%

Table 3.5 shows the growth in annual energy demand and the economic drivers. The table illustrates the relationship, particularly with respect to employment, between the drivers and annual energy demand.

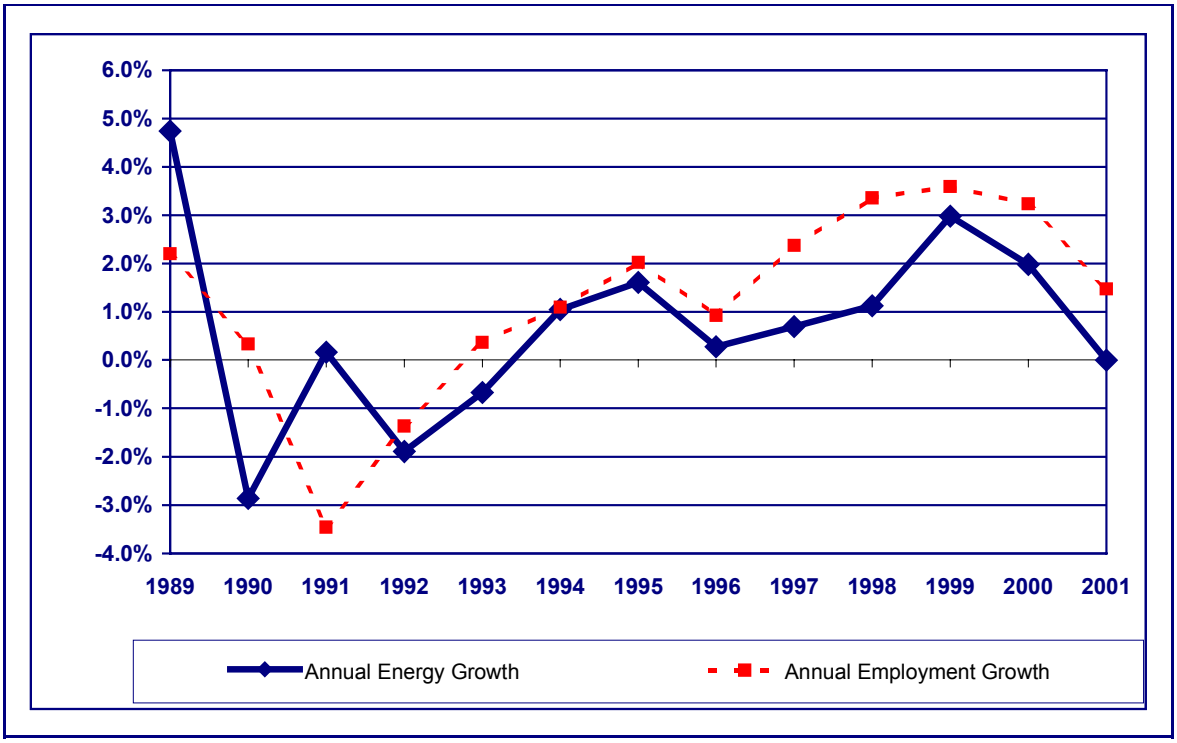
Appendix C, Analytical Factors, contains analytical factors showing the impacts of changes to the drivers on energy demand.

Table 3.5 Ontario Annual Energy Demand and Economic Factors

Calendar Year	Annual Energy Demand and Economic Factors		
	Actual Energy Demand Growth (%)	Employment Growth (%)	Housing Stock Growth (%)
1990	-2.86%	0.33%	2.23%
1991	0.16%	-3.46%	1.20%
1992	-1.89%	-1.36%	1.32%
1993	-0.67%	0.37%	1.11%
1994	1.05%	1.09%	1.05%
1995	1.60%	2.02%	0.95%
1996	0.28%	0.92%	0.88%
1997	0.69%	2.37%	1.15%
1998	1.13%	3.35%	1.26%
1999	2.97%	3.59%	1.37%
2000	1.98%	3.23%	1.60%
2001	-0.02%	1.48%	1.66%

Figure 3.1 graphically shows the growth in employment and annual energy demand. It is easy to see that over the course of recent history the level of economic activity has heavily influenced energy demand.

Figure 3.1 Annual Energy Demand and Employment Growth



3.2 Historical Peak Demand

Historically, Ontario's electricity peak demand has occurred during the winter, usually in the months of December through February and between the hours of 5 p.m. to 7 p.m. Exceptions to this were in 1998, 1999, and 2001, when the annual peak demand occurred during the afternoon of July and August. Peak demand is affected by the three classes of drivers but to varying degrees.

Calendar variables, in conjunction with weather, have a large impact on peak demand. Weekly or monthly peak demands rarely occur on a weekend or holiday. Since 1985 only 4 of the 204 monthly peaks have occurred on a weekend and none of those were summer or winter peaks. Table 3.6 shows the actual summer and winter peaks dates for the time frame 1985 to 2001.

Table 3.6 Historical Peak Dates

Seasonal Year	Peak Demand			
	Winter Peak Date	Day of Week	Summer Peak Date	Day of Week
1985	21-Jan-85	Mon	14-Aug-85	Wed
1986	27-Jan-86	Mon	7-Jul-86	Mon
1987	8-Dec-86	Mon	17-Aug-87	Mon
1988	14-Jan-88	Thu	4-Aug-88	Thu
1989	4-Jan-89	Wed	10-Jul-89	Mon
1990	13-Dec-89	Wed	4-Jul-90	Wed
1991	21-Jan-91	Mon	29-Aug-91	Thu
1992	16-Jan-92	Thu	26-Aug-92	Wed
1993	1-Feb-93	Mon	27-Aug-93	Fri
1994	19-Jan-94	Wed	17-Jun-94	Fri
1995	6-Feb-95	Mon	15-Aug-95	Tue
1996	11-Dec-95	Mon	7-Aug-96	Wed
1997	17-Jan-97	Fri	14-Jul-97	Mon
1998	14-Jan-98	Wed	15-Jul-98	Wed
1999	13-Jan-99	Wed	5-Jul-99	Mon
2000	17-Jan-00	Mon	31-Aug-00	Thu
2001	12-Dec-00	Tue	8-Aug-01	Wed

In conjunction with calendar impacts, weather plays the biggest role in determining peak values. Severe weather conditions underpin peak demand, particularly so if those weather conditions persist over several days. Table 3.7 ranks the weather for each of the peak dates in Table 3.6. A value of one would indicate that the weather for that day was either the coldest or hottest of that seasonal year, based on the Temperature Humidity Index (THI). Since peak values are determined by both weather and calendar variables, a second column for both the summer and winter peaks dates shows the ranking again after eliminating holiday and weekend observations.

Table 3.7 Peak Dates' Weather Rankings

Seasonal Year	Peak Demand			
	Winter Peak Date Seasonal Rank	Winter Peak Date Seasonal Rank (Excl. Weekends & Holidays)	Summer Peak Date Seasonal Rank	Summer Peak Date Seasonal Rank (Excl. Weekends & Holidays)
1990	9	7	1	1
1991	1	1	10	8
1992	1	1	2	2
1993	2	1	2	2
1994	2	1	2	1
1995	2	1	3	3
1996	18	13	2	1
1997	2	1	1	1
1998	2	1	2	2
1999	2	2	1	1
2000	1	1	1	1
2001	20	11	3	3

In many of the cases where the peak date is not the same as the day with the most severe weather, they are usually just a day or two apart. For example, the 2001 summer peak demand day was August 8th, while August 9th was the hottest and August 7th the second hottest day of the summer. August 8th was the third hottest day that summer.

From Table 3.7 we can see the importance of calendar and weather variables as they impact the peak demand. Over the course of a season, weather can exhibit great variability. For example, a winter that is generally mild will have a lower than normal energy demand, but can still give rise to a higher than normal peak demand due to a short cold spell. Table 3.8 shows the twenty-five coldest and hottest days, based on the THI, experienced over the time frame 1970-2001.

Combining the information in Table 3.8 with that of Table 3.3 we can see the difference between seasonal and episodic impacts. Here we can see that although the summer of 1995 had only two of the twenty-five hottest days, it still ranks as the hottest summer over the past 32 years. Conversely, the summer of 1988 had seven days in the top twenty-five extreme weather days, yet ranks as only the 7th hottest summer out of 32. Similarly, the winter of 1996 ranks as the coldest, yet does not have a single day in the top twenty-five coldest and the winter of 1994 has four days in the top twenty-five yet ranks as the 9th coldest out of 32 winters.

Table 3.8 Twenty Five Hottest and Coldest Days from 1970-2001

Rank	Extreme Summer Days	Extreme Winter Days
1	14-Jul-95	15-Jan-94
2	5-Jul-99	17-Jan-82
3	9-Aug-01	19-Jan-94
4	7-Aug-01	3-Jan-81
5	4-Jul-99	17-Feb-79
6	8-Jul-88	11-Jan-81
7	18-Jun-94	16-Jan-94
8	20-Jul-77	4-Jan-81
9	8-Aug-01	23-Jan-76
10	12-Jul-87	18-Jan-97
11	28-Aug-73	18-Jan-76
12	3-Aug-88	11-Feb-79
13	20-Jul-91	10-Jan-82
14	1-Aug-75	21-Jan-84
15	24-Jul-01	22-Dec-89
16	19-Jun-95	26-Jan-94
17	13-Aug-88	21-Jan-70
18	17-Jun-94	26-Dec-93
19	31-Jul-75	16-Jan-72
20	4-Aug-88	22-Jan-76
21	30-Jul-99	14-Jan-99
22	5-Aug-88	25-Dec-80
23	20-Jul-78	5-Feb-95
24	14-Aug-88	17-Jan-00
25	9-Jul-88	17-Jan-97

In looking at the dates in Table 3.8, peak demand values for these days would be in excess of those predicted using the Normal weather since these weather conditions represent a significant deviation from the expected range of values. These severe weather episodes are encapsulated in the LFU and the Extreme weather scenario. Using the LFU allows a probability to be assigned to these weather events.

Table 3.9 shows the actual summer and winter peaks from 1984 through to 2001. Unlike energy demand which shows a generally smooth upward trend, peak demand shows the variability more closely associated with the weather underpinning that day's peak.

Table 3.9 Actual Historical Peak Demand

Seasonal Year	Winter Peak (MW)	Summer Peak (MW)
1984	18,896	15,869
1985	19,390	16,086
1986	20,668	16,946
1987	20,609	18,522
1988	22,593	19,520
1989	23,068	20,086
1990	23,630	20,453
1991	23,212	21,150
1992	23,540	19,976
1993	22,087	20,937
1994	24,007	20,923
1995	22,855	21,770
1996	22,823	21,428
1997	22,197	21,667
1998	21,575	22,443
1999	23,308	23,435
2000	23,428	23,222
2001	23,291	25,269

Notes to Table 3.9:

The winter season is from November through March. Therefore, in the case of 1996, the winter spans November 1995 through to March 1996. Spring consists of April and May, summer of June through August and fall September and October.

As with energy demand, peak demand can be adjusted to reflect Normal weather rather than the actual weather underpinning it. The results of this correction are shown in Table 3.10 for the years 1995-2001. By comparing this table with the previous one it is possible to discern those seasons where the peak weather conditions were above or below the Normal weather.

Table 3.10 Weather Corrected Historical Peak Demand

Seasonal Year	Winter Peak (MW)	Summer Peak (MW)	Winter Peak Correction Factor (MW)	Summer Peak Correction Factor (MW)
1995	22,351	20,841	-504	-929
1996	22,256	20,463	-567	-965
1997	21,744	20,702	-453	-965
1998	22,050	21,700	475	-743
1999	22,453	21,776	-855	-1,659
2000	22,690	22,221	-738	-1,001
2001	23,294	22,632	3	-2,637

3.3 Historical Load Profiles

The relationship between energy and peak demand can be depicted by load profiles or load shapes. The following figures depict the average hourly demand for the summer and winter of 2001. The graphs show load shapes for both weekdays and non-weekdays (weekends and holidays). Please note that all hours are in Eastern Standard Time.

Figure 3.2 Winter 2001 Average Hourly Load Profile

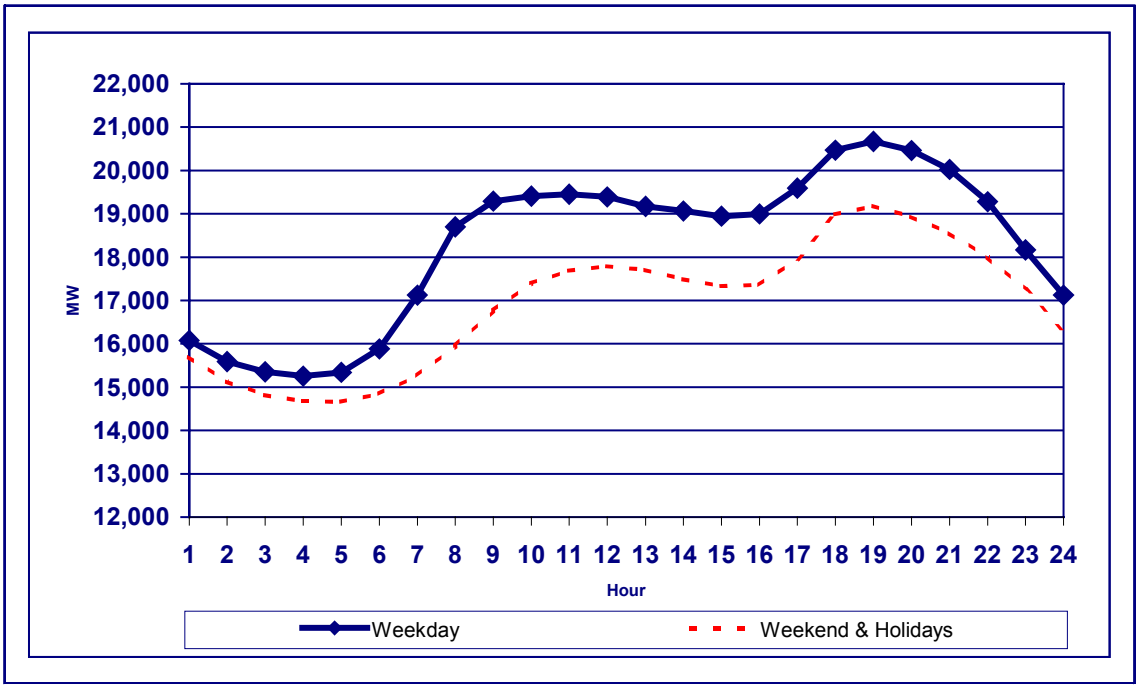
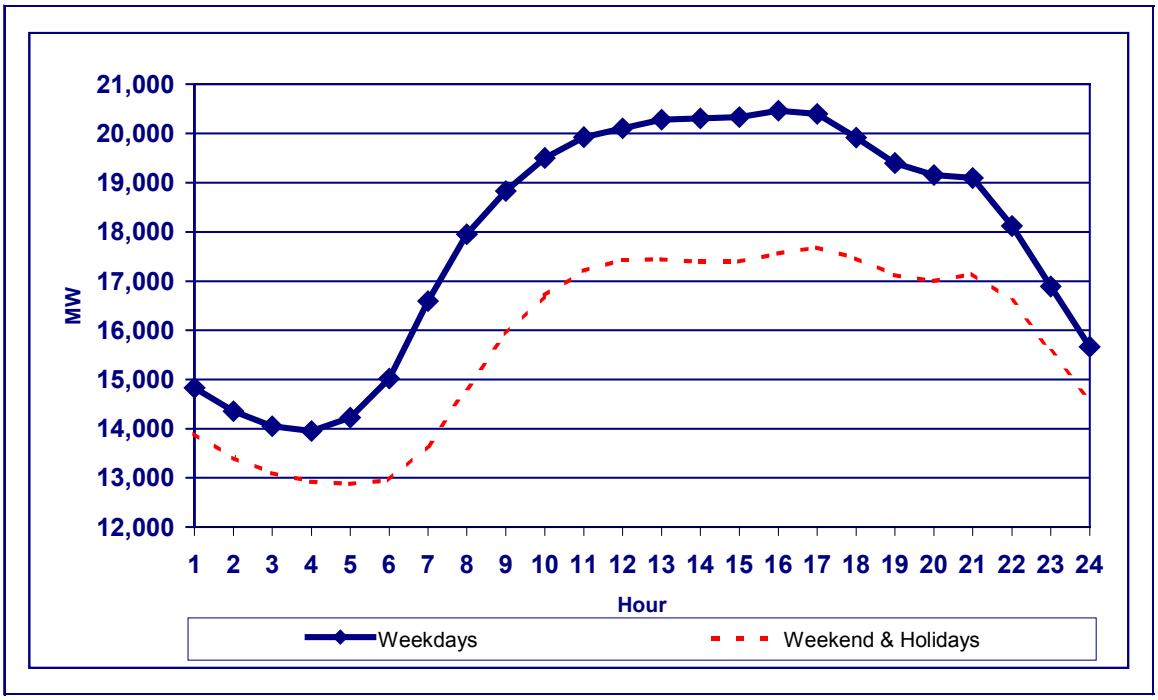


Figure 3.3 Summer 2001 Average Hourly Load Profile



4.0 Demand Forecast

The demand forecast is split into two separate parts, the energy demand forecast and the 20-minute peak demand forecast. In this section, the discussion focuses on the system, more detailed information for the individual zones can be found in Appendices A and B.

4.1 Energy Demand Forecast

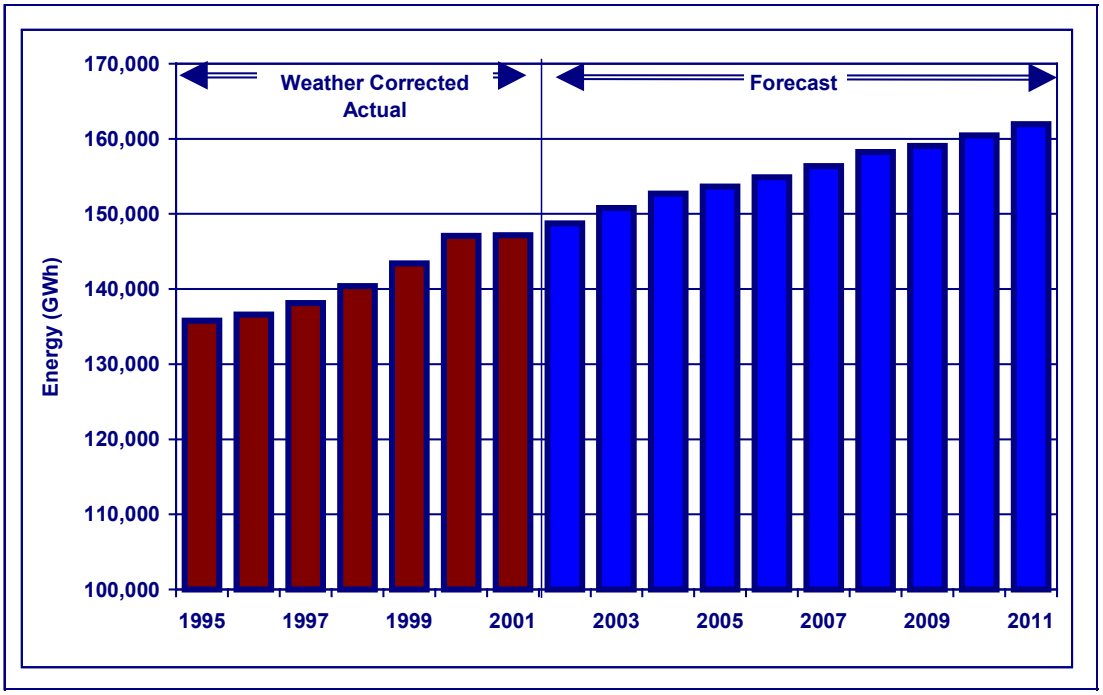
The predicted annual energy demand for the system for the time frame 2003 through to 2012 is contained in Table 4.1. This table contains the forecast of energy demand under both the Normal and Extreme weather scenarios. Figure 4.1 shows the annual energy demand. Energy demand is expected to exhibit average annual growth of 0.9% throughout the forecast. Growth in demand is driven by changes in economic activity, the number of end-users and the penetration of electric powered devices.

Although this section of the report deals with summary details at the system level, the demand forecast is produced on an hourly basis for all ten zones within the system. A forecast of zonal energy demand by month is provided in Appendix A. Energy demand growth varies across the zones as they are subject to different economic forces.

Table 4.1 Ontario Annual Energy Demand, Normal & Extreme Weather

Calendar Year	Energy Demand - Normal Weather	Energy Demand - Extreme Weather
	(TWh)	(TWh)
2003	150.74	162.90
2004	152.68	164.82
2005	153.63	165.77
2006	154.86	167.01
2007	156.33	168.48
2008	158.24	170.44
2009	159.05	171.16
2010	160.46	172.60
2011	161.95	174.09
2012	163.76	175.96

Figure 4.1 Annual System Energy Demand – Normal Weather



4.2 Peak Demand Forecast

The forecast of monthly peak demand is contained in Table 4.2. This table contains the forecast under both the Normal and Extreme weather scenarios. A forecast of zonal monthly peak demand (both coincident and non-coincident) is contained in Appendix B. The Normal weather winter peak is expected to climb from just under 24,000 MW in 2003 to roughly 25,300 MW in 2012. The Normal weather summer peak for 2003 is projected to be just over 23,400 MW rising to 25,900 MW in 2012. The system is expected to switch from winter to summer peaking in 2008. These values represent the combination of the forecast of economic activity and the Normal weather scenario. Figure 4.2 displays the forecast of summer and winter system peaks for the Normal weather scenario. The forecast assumes 300 MW of dispatchable demand.

Normal weather represents "an average" of historical weekly peak weather values. As such, there is a likelihood that actual weather may be less severe or may be more severe than Normal weather, and hence actual demands may be higher or lower than the Normal weather peak demand forecast. The Extreme weather scenario is based on the most severe weather events of the past 30 years. As such, the Extreme scenario endeavors to capture the outer limit of where the peak potential could be. The probability of various peaks occurring can be calculated in conjunction with the Load Forecast Uncertainty. For further discussion on LFU please refer to the document Methodology to Perform Demand Forecasts, Resource Adequacy Assessments and Transmission Adequacy Assessments (IMP_REP_0044). Table B1 contains the LFU numbers for the monthly peaks.

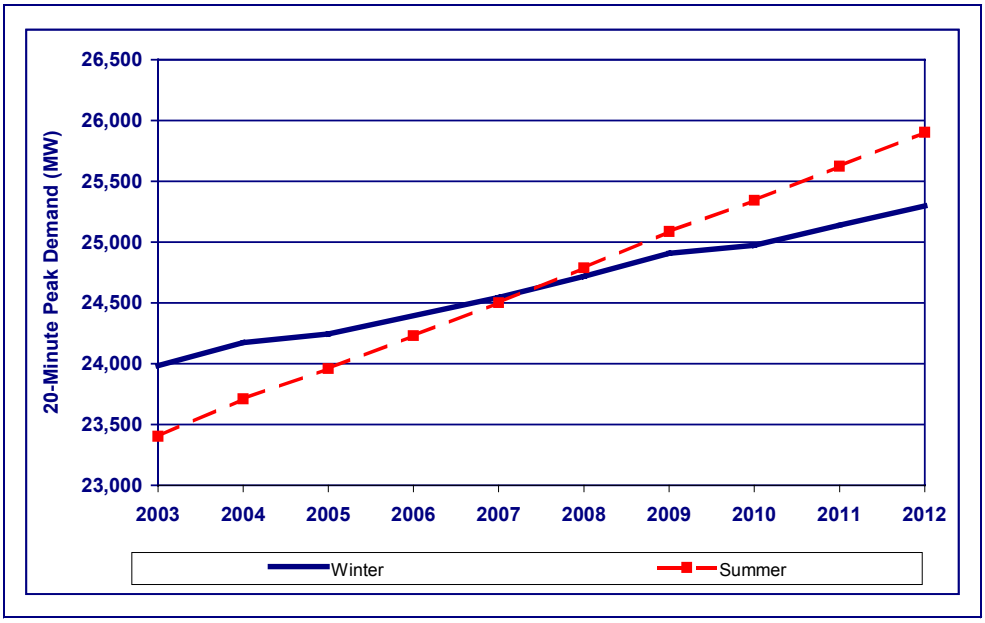
The resource adequacy assessments described in the companion document, "An Assessment of the Adequacy of the Ontario Electricity System from January 2003 to December 2012" (IMP_REP_0050, take into consideration the full range of possible weather conditions on a

probabilistic basis. Results are presented assuming Normal weather as a base. Allowance for the probability of demand being higher than those assumed in the base case is made in the calculation of the required reserve level.

Table 4.2 Forecast of Summer and Winter 20-Minute Peak Demand, Normal & Extreme Weather

Month	Normal Weather Winter Peak Demand	Normal Weather Summer Peak Demand	Extreme Weather Winter Peak Demand	Extreme Weather Summer Peak Demand
	(MW)	(MW)	(MW)	(MW)
2003	23,984	23,404	25,741	25,910
2004	24,175	23,711	25,932	26,218
2005	24,245	23,959	26,002	26,466
2006	24,394	24,230	26,151	26,737
2007	24,545	24,503	26,302	27,010
2008	24,720	24,787	26,477	27,294
2009	24,908	25,087	26,666	27,593
2010	24,973	25,342	26,731	27,849
2011	25,138	25,623	26,895	28,130
2012	25,297	25,903	27,054	28,409

Figure 4.2 Forecast of Summer and Winter 20-Minute System Peak Demand, Normal Weather



4.3 Comparison of Current Forecast to Previous Forecasts

This 10-Year forecast can be compared to the previous one published June 28, 2001, covering the period January 2002 to June 2011. There have been a number of substantial changes to the forecasting methodology and process since that time. As well, the economic outlook has been revised downward by a significant degree.

With respect to the forecasting methodology, the treatment of cloud and wind has been changed to a seasonal approach. Adjustments were made to the model to more accurately capture the trends in summer and winter peaks. The Normal weather scenario was updated to include the weather of 2001 through to the end of August. The methodology for calculating the Extreme weather scenario was completely revised and updated. As well, the model has been re-estimated so that the coefficients can incorporate the most recent data.

Since the previous forecast, major political and economic events have significantly changed the economic expectations over the near term. A much weaker 2002 and to some extent 2003, have had a substantial impact on the demand forecast.

In terms of electricity demand we see two different impacts. The model revisions and updated weather scenarios lend themselves to higher summer, but lower winter peak values. This 10-Year demand forecast predicts summer Normal peaks of 23,400 MW in 2003 rising to 25,900 MW in 2012. These numbers are higher than the 22,850 for 2003 and 24,950 for 2011 in the previous 10-Year forecast. Over the common timeframe of the forecasts, the current forecast's summer peaks are roughly 500-600 MW higher. The growth rates are relatively similar - the current forecast is slightly higher - so the majority of the change is attributable to the starting point. The Extreme summer peaks are substantially higher in this forecast as compared to the previous forecast. This is due to the changes in the calculation methodology of the Extreme weather.

The winter Normal peaks start just under 24,000 MW in 2003 and increase to 25,300 MW in 2012. This is lower than the previous forecast, which rose from 24,050 in 2003 to 26,050 in 2011. Therefore, the main difference is the expected growth in the winter peak which is expected to average growth of 0.6% versus the 1.0% in the previous forecast. Due to the changes to the Extreme weather scenario, the Extreme winter peaks are higher in this updated forecast. However, the difference shrinks throughout the forecast as the lower growth rate in the current forecast causes the difference to diminish.

The energy demand outlook has been revised downward as a result of the lower economic growth expectations and a much lower starting point in 2001. The lower starting point is compounded throughout the forecast, as the lower growth rate never makes up the difference in the starting point. In 2011, the difference between the current and previous forecast is 6.1 TWh. Almost 60% or 3.5 TWh of the difference is due to the lower starting point compounded by the lower growth rate. The remainder is a result of methodological changes.

Appendix A - Energy Demand Forecast Details

Table A1 Monthly Zonal Energy Forecast, Normal Weather

	(GWh)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System
Jan-03	733	1,121	1,666	722	789	4,195	565	77	2,589	1,493	13,950
Feb-03	659	978	1,479	641	700	3,723	512	69	2,326	1,341	12,429
Mar-03	689	1,019	1,522	660	721	3,832	554	72	2,425	1,412	12,907
Apr-03	626	891	1,433	514	598	3,500	500	67	2,239	1,298	11,665
May-03	617	849	1,425	511	595	3,482	504	66	2,220	1,318	11,589
Jun-03	597	791	1,504	525	651	3,640	519	70	2,358	1,433	12,089
Jul-03	601	806	1,663	580	720	4,025	558	76	2,556	1,603	13,186
Aug-03	623	859	1,600	558	692	3,872	551	75	2,516	1,590	12,936
Sep-03	610	860	1,425	497	617	3,449	500	66	2,223	1,356	11,603
Oct-03	669	944	1,421	537	701	3,656	512	70	2,331	1,357	12,197
Nov-03	673	1,001	1,457	551	719	3,750	533	70	2,340	1,386	12,479
Dec-03	709	1,085	1,570	709	840	4,118	559	77	2,564	1,482	13,713
Jan-04	733	1,123	1,675	726	793	4,217	576	78	2,615	1,517	14,052
Feb-04	678	1,011	1,532	664	725	3,856	536	72	2,418	1,400	12,893
Mar-04	687	1,021	1,549	672	734	3,901	565	74	2,472	1,443	13,117
Apr-04	628	889	1,438	592	601	3,455	502	67	2,253	1,311	11,736
May-04	618	853	1,434	514	599	3,503	504	67	2,238	1,328	11,657
Jun-04	600	798	1,551	553	671	3,772	531	73	2,436	1,478	12,462
Jul-04	601	809	1,664	580	720	4,027	559	77	2,580	1,615	13,233
Aug-04	622	861	1,625	567	703	3,933	561	77	2,578	1,622	13,150
Sep-04	610	859	1,436	501	622	3,476	504	67	2,248	1,365	11,689
Oct-04	663	954	1,431	528	706	3,663	519	70	2,352	1,367	12,252
Nov-04	674	1,007	1,496	565	738	3,851	547	72	2,401	1,423	12,775
Dec-04	703	1,081	1,565	613	836	4,175	560	76	2,560	1,487	13,658
Jan-05	733	1,124	1,679	728	795	4,227	583	79	2,630	1,530	14,106
Feb-05	658	984	1,507	654	714	3,794	528	71	2,380	1,379	12,667
Mar-05	691	1,031	1,577	684	747	3,971	574	75	2,513	1,467	13,330
Apr-05	633	896	1,469	527	614	3,588	509	69	2,301	1,336	11,942
May-05	620	853	1,452	521	607	3,548	511	68	2,279	1,342	11,799
Jun-05	600	799	1,548	540	670	3,745	532	73	2,458	1,481	12,447
Jul-05	599	810	1,665	581	721	4,030	562	78	2,602	1,622	13,269
Aug-05	621	860	1,675	584	725	4,054	575	79	2,657	1,666	13,497
Sep-05	606	851	1,460	509	632	3,534	514	68	2,292	1,402	11,869
Oct-05	661	943	1,432	541	707	3,686	522	71	2,367	1,378	12,308
Nov-05	670	999	1,487	562	734	3,826	553	72	2,400	1,431	12,733
Dec-05	702	1,076	1,558	704	833	4,086	567	77	2,566	1,496	13,666
Jan-06	730	1,125	1,692	734	801	4,260	590	79	2,656	1,547	14,215
Feb-06	656	984	1,513	656	716	3,810	534	72	2,397	1,393	12,732
Mar-06	690	1,031	1,585	687	751	3,992	582	76	2,535	1,485	13,413
Apr-06	632	894	1,465	607	614	3,523	510	69	2,307	1,342	11,963
May-06	619	850	1,477	530	617	3,609	519	69	2,324	1,368	11,982

Notes to Table A1:
Figure may not add due to rounding.

Table A1 – continued

	(GWh)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System
Jun-06	598	804	1,559	557	674	3,792	535	74	2,493	1,499	12,585
Jul-06	598	812	1,688	589	731	4,086	569	79	2,653	1,648	13,454
Aug-06	620	863	1,694	591	733	4,101	582	81	2,704	1,691	13,661
Sep-06	606	853	1,463	510	633	3,541	515	69	2,308	1,407	11,907
Oct-06	662	940	1,455	536	715	3,719	528	72	2,410	1,399	12,438
Nov-06	669	1,001	1,499	566	739	3,856	560	72	2,425	1,448	12,835
Dec-06	700	1,080	1,561	611	832	4,160	572	77	2,576	1,506	13,676
Jan-07	732	1,129	1,719	745	814	4,328	600	81	2,700	1,574	14,421
Feb-07	656	985	1,519	659	719	3,825	540	72	2,414	1,407	12,797
Mar-07	689	1,032	1,580	685	748	3,978	587	76	2,536	1,492	13,402
Apr-07	633	890	1,484	532	620	3,626	516	70	2,341	1,362	12,074
May-07	619	848	1,493	535	623	3,646	524	70	2,354	1,387	12,100
Jun-07	598	804	1,576	550	682	3,814	543	76	2,534	1,520	12,696
Jul-07	597	817	1,716	599	743	4,154	577	81	2,711	1,679	13,675
Aug-07	619	864	1,708	595	739	4,132	588	82	2,743	1,711	13,782
Sep-07	606	855	1,469	512	636	3,556	518	69	2,326	1,413	11,960
Oct-07	664	938	1,475	557	728	3,796	535	73	2,453	1,423	12,642
Nov-07	670	1,004	1,507	569	743	3,877	567	73	2,443	1,463	12,915
Dec-07	702	1,086	1,578	713	844	4,138	582	78	2,612	1,531	13,864
Jan-08	731	1,132	1,731	751	820	4,359	608	81	2,725	1,593	14,530
Feb-08	678	1,020	1,580	685	748	3,977	567	75	2,517	1,471	13,318
Mar-08	684	1,031	1,566	679	741	3,942	589	75	2,525	1,491	13,325
Apr-08	626	890	1,509	621	630	3,625	523	72	2,396	1,379	12,269
May-08	618	847	1,498	537	626	3,659	526	71	2,371	1,395	12,148
Jun-08	596	804	1,599	570	692	3,888	550	77	2,583	1,547	12,906
Jul-08	598	817	1,760	614	762	4,260	592	83	2,790	1,725	14,000
Aug-08	618	870	1,698	592	735	4,110	588	82	2,754	1,713	13,761
Sep-08	608	851	1,495	521	647	3,617	525	71	2,373	1,435	12,144
Oct-08	665	939	1,491	550	736	3,817	540	74	2,488	1,440	12,741
Nov-08	669	1,011	1,506	569	743	3,875	571	73	2,449	1,470	12,936
Dec-08	704	1,091	1,619	634	865	4,320	596	80	2,677	1,569	14,156
Jan-09	730	1,132	1,724	748	816	4,341	613	81	2,726	1,601	14,513
Feb-09	654	986	1,532	664	726	3,858	553	73	2,449	1,434	12,929
Mar-09	686	1,031	1,589	689	752	4,001	600	77	2,568	1,520	13,512
Apr-09	627	886	1,513	543	632	3,696	526	72	2,410	1,390	12,294
May-09	618	847	1,505	540	629	3,676	529	71	2,392	1,407	12,214
Jun-09	595	807	1,633	570	707	3,953	562	79	2,649	1,586	13,141
Jul-09	596	818	1,776	619	768	4,297	598	85	2,832	1,744	14,133
Aug-09	617	869	1,714	598	742	4,148	594	84	2,797	1,735	13,896

Notes to Table A1:
Figure may not add due to rounding

Table A1 – continued

	(GWh)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System
Sep-09	607	853	1,511	527	654	3,657	531	72	2,406	1,450	12,268
Oct-09	666	936	1,495	565	738	3,847	542	75	2,506	1,450	12,819
Nov-09	670	1,013	1,526	577	753	3,928	581	74	2,486	1,495	13,103
Dec-09	702	1,091	1,624	733	868	4,258	601	80	2,692	1,581	14,230
Jan-10	728	1,134	1,718	745	813	4,325	618	81	2,726	1,607	14,495
Feb-10	656	994	1,554	674	736	3,913	561	74	2,483	1,457	13,101
Mar-10	689	1,042	1,634	709	774	4,115	613	79	2,636	1,557	13,847
Apr-10	631	892	1,539	637	646	3,700	533	73	2,455	1,413	12,518
May-10	619	849	1,516	544	633	3,704	534	72	2,424	1,414	12,309
Jun-10	595	809	1,639	585	708	3,987	565	80	2,682	1,594	13,245
Jul-10	595	820	1,775	619	768	4,295	600	85	2,853	1,753	14,163
Aug-10	616	871	1,758	613	761	4,255	606	86	2,871	1,776	14,212
Sep-10	604	845	1,539	537	666	3,726	540	73	2,453	1,491	12,475
Oct-10	660	939	1,503	553	738	3,841	547	75	2,523	1,459	12,838
Nov-10	667	1,006	1,529	578	754	3,935	589	75	2,502	1,511	13,145
Dec-10	697	1,084	1,609	629	858	4,288	604	80	2,679	1,581	14,109
Jan-11	729	1,136	1,739	754	823	4,378	628	83	2,766	1,632	14,668
Feb-11	655	994	1,561	677	739	3,931	568	75	2,502	1,471	13,173
Mar-11	688	1,043	1,643	712	778	4,136	620	79	2,657	1,574	13,932
Apr-11	631	890	1,546	554	646	3,776	536	74	2,471	1,424	12,546
May-11	618	845	1,539	552	643	3,759	541	74	2,466	1,438	12,474
Jun-11	594	811	1,661	579	719	4,020	572	82	2,731	1,621	13,390
Jul-11	593	823	1,783	622	772	4,315	603	86	2,884	1,768	14,249
Aug-11	616	873	1,793	625	776	4,339	617	88	2,940	1,812	14,479
Sep-11	605	844	1,545	539	669	3,740	543	74	2,475	1,498	12,531
Oct-11	660	937	1,515	572	747	3,899	552	76	2,556	1,476	12,991
Nov-11	667	1,010	1,546	584	762	3,977	597	76	2,533	1,531	13,284
Dec-11	698	1,088	1,617	730	864	4,240	612	81	2,704	1,600	14,235
Jan-12	727	1,137	1,753	760	830	4,414	635	83	2,792	1,650	14,782
Feb-12	677	1,030	1,629	706	771	4,100	596	78	2,616	1,542	13,745
Mar-12	684	1,041	1,629	707	771	4,102	624	79	2,649	1,577	13,865
Apr-12	631	883	1,554	640	649	3,733	540	74	2,493	1,440	12,638
May-12	616	841	1,565	561	654	3,824	549	75	2,511	1,467	12,665
Jun-12	594	812	1,671	596	723	4,065	577	83	2,763	1,637	13,521
Jul-12	592	827	1,815	633	785	4,393	612	88	2,949	1,804	14,498
Aug-12	615	878	1,807	630	782	4,374	624	89	2,984	1,835	14,617
Sep-12	606	848	1,540	537	667	3,728	542	74	2,479	1,493	12,514
Oct-12	662	935	1,547	571	763	3,961	561	78	2,616	1,506	13,201
Nov-12	667	1,013	1,557	588	768	4,007	605	76	2,558	1,548	13,388
Dec-12	699	1,096	1,628	638	870	4,344	621	81	2,729	1,619	14,325

Notes to Table A1:
Figure may not add due to rounding
.

Appendix B - Peak Demand Forecast Details

Table B1 Monthly Zonal Coincident Peak Demand Forecast, Normal Weather

	20-Minute Coincident Peak Demand (MW)											
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System	Load Forecast Uncertainty
Jan-03	1,065	1,598	3,004	1,303	1,422	7,563	917	134	4,479	2,499	23,984	878
Feb-03	1,039	1,554	2,916	1,265	1,381	7,343	906	131	4,392	2,419	23,346	723
Mar-03	1,011	1,458	2,740	1,188	1,297	6,898	875	124	4,169	2,340	22,100	788
Apr-03	888	1,349	2,521	904	1,053	6,160	790	115	3,856	2,084	19,721	553
May-03	840	1,221	2,552	915	1,066	6,235	848	110	3,696	2,300	19,783	1,451
Jun-03	879	1,166	2,956	1,031	1,279	7,155	947	132	4,425	2,703	22,673	1,196
Jul-03	843	1,146	3,075	1,072	1,331	7,441	974	136	4,540	2,847	23,404	1,120
Aug-03	890	1,252	2,963	1,033	1,282	7,170	962	136	4,552	2,856	23,096	1,348
Sep-03	864	1,282	2,749	959	1,190	6,653	920	121	4,042	2,569	21,348	1,248
Oct-03	983	1,365	2,491	941	1,229	6,409	799	120	4,027	2,196	20,561	373
Nov-03	1,021	1,492	2,790	1,054	1,376	7,178	910	129	4,305	2,429	22,684	601
Dec-03	1,053	1,573	2,863	1,293	1,530	7,507	933	134	4,491	2,512	23,890	740
Jan-04	1,062	1,592	3,027	1,313	1,433	7,621	933	135	4,526	2,533	24,175	878
Feb-04	1,037	1,553	2,937	1,274	1,390	7,394	920	133	4,438	2,453	23,528	723
Mar-04	1,012	1,462	2,764	1,199	1,309	6,960	886	126	4,211	2,369	22,298	788
Apr-04	941	1,360	2,520	1,042	1,053	6,050	821	114	3,833	2,180	19,914	463
May-04	845	1,231	2,577	924	1,077	6,297	853	112	3,744	2,326	19,985	1,451
Jun-04	873	1,160	3,069	1,070	1,328	7,427	984	137	4,593	2,819	23,460	1,290
Jul-04	844	1,156	3,109	1,084	1,345	7,524	987	138	4,635	2,889	23,711	1,120
Aug-04	887	1,248	2,994	1,044	1,296	7,247	975	138	4,637	2,899	23,365	1,348
Sep-04	861	1,287	2,770	966	1,199	6,704	931	122	4,098	2,595	21,534	1,248
Oct-04	936	1,399	2,523	931	1,245	6,460	827	120	4,026	2,202	20,669	373
Nov-04	1,020	1,508	2,838	1,072	1,400	7,304	924	131	4,399	2,480	23,077	774
Dec-04	1,050	1,566	2,881	1,128	1,540	7,686	944	136	4,542	2,541	24,014	740
Jan-05	1,059	1,591	3,030	1,314	1,434	7,628	945	136	4,557	2,551	24,245	878
Feb-05	1,039	1,563	2,981	1,293	1,412	7,506	934	134	4,493	2,486	23,841	607
Mar-05	1,018	1,475	2,796	1,213	1,324	7,041	902	127	4,265	2,403	22,564	823
Apr-05	949	1,367	2,576	924	1,076	6,294	833	117	3,919	2,224	20,279	553
May-05	846	1,223	2,538	910	1,060	6,199	847	111	3,705	2,303	19,743	1,367
Jun-05	882	1,168	3,022	1,054	1,308	7,313	969	137	4,594	2,793	23,239	1,196
Jul-05	846	1,156	3,135	1,093	1,357	7,586	996	141	4,708	2,943	23,959	1,120
Aug-05	892	1,274	3,024	1,054	1,309	7,317	986	141	4,732	2,941	23,671	1,348
Sep-05	868	1,278	2,791	973	1,208	6,754	938	123	4,131	2,618	21,684	1,248
Oct-05	930	1,372	2,492	941	1,229	6,412	829	119	4,001	2,191	20,516	432
Nov-05	1,017	1,493	2,828	1,068	1,395	7,278	940	132	4,405	2,490	23,047	601
Dec-05	1,049	1,558	2,878	1,300	1,539	7,547	957	136	4,569	2,564	24,097	924
Jan-06	1,059	1,589	3,046	1,321	1,442	7,670	957	137	4,594	2,579	24,394	878
Feb-06	1,038	1,564	2,999	1,300	1,420	7,549	947	135	4,531	2,514	23,997	607
Mar-06	1,018	1,477	2,814	1,220	1,332	7,086	915	129	4,308	2,428	22,727	823
Apr-06	950	1,360	2,599	1,075	1,086	6,240	840	119	3,970	2,248	20,486	553
May-06	845	1,233	2,618	939	1,094	6,397	869	115	3,841	2,360	20,313	1,451

Notes to Table B1:
Load Forecast Uncertainty (LFU) is the impact on peak demand of one standard deviation in the weather elements.

Table B1 - continued

	20-Minute Coincident Peak Demand (MW)											
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System	Load Forecast Uncertainty
Jun-06	883	1,171	3,054	1,091	1,322	7,429	980	140	4,680	2,827	23,575	1,196
Jul-06	844	1,157	3,167	1,105	1,371	7,665	1,007	143	4,794	2,978	24,230	1,120
Aug-06	891	1,272	3,057	1,066	1,323	7,399	998	144	4,819	2,983	23,953	1,348
Sep-06	867	1,284	2,812	981	1,217	6,805	947	125	4,184	2,644	21,865	1,248
Oct-06	981	1,343	2,530	933	1,248	6,476	816	124	4,151	2,253	20,856	359
Nov-06	1,016	1,489	2,840	1,073	1,401	7,308	952	133	4,441	2,515	23,167	601
Dec-06	1,049	1,555	2,893	1,133	1,546	7,718	969	138	4,605	2,590	24,197	924
Jan-07	1,059	1,589	3,062	1,328	1,450	7,710	970	138	4,632	2,606	24,545	878
Feb-07	1,035	1,544	2,980	1,292	1,411	7,502	958	136	4,541	2,523	23,921	696
Mar-07	1,002	1,462	2,803	1,216	1,327	7,058	923	129	4,311	2,437	22,667	788
Apr-07	951	1,355	2,621	940	1,095	6,404	846	120	4,019	2,270	20,623	553
May-07	847	1,240	2,640	947	1,103	6,450	879	116	3,889	2,389	20,499	1,451
Jun-07	881	1,180	3,083	1,075	1,334	7,462	989	142	4,759	2,862	23,770	1,196
Jul-07	843	1,158	3,200	1,116	1,385	7,744	1,019	146	4,877	3,017	24,503	1,120
Aug-07	890	1,271	3,090	1,078	1,337	7,479	1,011	146	4,903	3,026	24,231	1,348
Sep-07	867	1,290	2,834	988	1,226	6,858	957	127	4,237	2,669	22,052	1,248
Oct-07	984	1,349	2,579	974	1,272	6,636	835	127	4,237	2,295	21,289	373
Nov-07	1,017	1,489	2,857	1,079	1,409	7,351	965	133	4,465	2,542	23,308	601
Dec-07	1,050	1,554	2,909	1,314	1,555	7,627	982	139	4,653	2,614	24,397	924
Jan-08	1,060	1,588	3,084	1,337	1,460	7,763	983	139	4,670	2,635	24,720	878
Feb-08	1,036	1,544	2,997	1,300	1,419	7,546	971	137	4,579	2,553	24,081	685
Mar-08	1,003	1,463	2,822	1,224	1,336	7,104	936	130	4,350	2,465	22,833	788
Apr-08	883	1,350	2,639	1,091	1,102	6,335	827	123	4,104	2,195	20,649	553
May-08	849	1,242	2,661	954	1,112	6,501	888	118	3,936	2,419	20,680	1,451
Jun-08	880	1,183	3,115	1,112	1,348	7,577	1,001	145	4,847	2,903	24,110	1,196
Jul-08	842	1,161	3,233	1,127	1,399	7,824	1,031	148	4,967	3,054	24,787	1,120
Aug-08	888	1,271	3,122	1,089	1,351	7,556	1,023	149	4,985	3,067	24,501	1,348
Sep-08	866	1,295	2,856	996	1,236	6,912	967	128	4,290	2,696	22,242	1,248
Oct-08	983	1,346	2,600	959	1,283	6,656	843	128	4,290	2,317	21,405	373
Nov-08	1,018	1,488	2,868	1,084	1,415	7,381	977	134	4,499	2,567	23,431	601
Dec-08	1,049	1,563	2,941	1,152	1,572	7,847	997	140	4,680	2,646	24,587	740
Jan-09	1,060	1,586	3,107	1,347	1,471	7,823	998	141	4,710	2,665	24,908	878
Feb-09	1,035	1,547	3,017	1,308	1,428	7,595	985	138	4,621	2,585	24,259	687
Mar-09	1,005	1,464	2,845	1,234	1,347	7,162	950	131	4,397	2,494	23,028	788
Apr-09	890	1,334	2,661	954	1,112	6,501	832	124	4,162	2,225	20,796	553
May-09	848	1,249	2,683	962	1,121	6,556	897	119	3,989	2,447	20,871	1,451
Jun-09	878	1,189	3,146	1,097	1,361	7,613	1,011	147	4,929	2,944	24,314	1,196
Jul-09	840	1,168	3,267	1,139	1,414	7,906	1,045	151	5,061	3,095	25,087	1,120
Aug-09	884	1,261	3,152	1,099	1,364	7,628	1,034	151	5,063	3,106	24,744	1,348

Notes to Table B1:
Load Forecast Uncertainty (LFU) is the impact on peak demand of one standard deviation in the weather elements.

Table B1 - continued

	20-Minute Coincident Peak Demand (MW)											
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total System	Load Forecast Uncertainty
Sep-09	864	1,304	2,878	1,004	1,245	6,964	977	130	4,347	2,720	22,433	1,248
Oct-09	979	1,342	2,619	989	1,292	6,740	850	130	4,345	2,337	21,624	373
Nov-09	1,018	1,485	2,881	1,088	1,421	7,414	990	135	4,524	2,593	23,549	601
Dec-09	1,048	1,559	2,959	1,336	1,582	7,758	1,010	141	4,729	2,675	24,798	740
Jan-10	1,057	1,587	3,109	1,348	1,472	7,827	1,009	142	4,741	2,683	24,973	878
Feb-10	1,036	1,557	3,059	1,326	1,448	7,701	998	140	4,673	2,615	24,555	554
Mar-10	1,008	1,479	2,876	1,247	1,361	7,240	965	133	4,449	2,528	23,286	823
Apr-10	942	1,358	2,692	1,113	1,124	6,463	873	125	4,179	2,337	21,204	553
May-10	850	1,242	2,645	949	1,105	6,462	891	118	3,950	2,424	20,634	1,367
Jun-10	879	1,180	3,178	1,135	1,375	7,732	1,038	150	5,019	2,998	24,683	1,196
Jul-10	843	1,164	3,294	1,149	1,425	7,972	1,053	153	5,137	3,151	25,342	1,120
Aug-10	875	1,234	3,209	1,119	1,389	7,767	1,043	153	5,125	3,155	25,070	991
Sep-10	861	1,325	2,986	1,041	1,292	7,226	1,007	133	4,467	2,813	23,151	1,232
Oct-10	929	1,360	2,607	962	1,286	6,673	870	128	4,272	2,311	21,397	432
Nov-10	1,015	1,476	2,890	1,092	1,426	7,438	1,002	136	4,549	2,612	23,637	591
Dec-10	1,047	1,553	2,954	1,157	1,579	7,881	1,022	142	4,757	2,697	24,789	924
Jan-11	1,056	1,586	3,127	1,356	1,481	7,874	1,023	143	4,780	2,712	25,138	878
Feb-11	1,036	1,558	3,079	1,335	1,458	7,752	1,012	141	4,716	2,645	24,731	552
Mar-11	1,009	1,479	2,895	1,255	1,370	7,288	978	134	4,491	2,555	23,453	823
Apr-11	943	1,352	2,715	974	1,134	6,633	881	126	4,229	2,361	21,349	553
May-11	851	1,244	2,666	956	1,114	6,514	900	120	4,003	2,450	20,819	1,367
Jun-11	878	1,183	3,212	1,120	1,390	7,773	1,038	153	5,108	3,041	24,896	1,196
Jul-11	842	1,171	3,326	1,160	1,439	8,049	1,065	156	5,222	3,193	25,623	1,120
Aug-11	889	1,291	3,214	1,121	1,391	7,779	1,056	157	5,249	3,192	25,338	1,348
Sep-11	871	1,298	2,922	1,019	1,264	7,071	993	132	4,435	2,770	22,776	1,248
Oct-11	929	1,353	2,624	991	1,295	6,753	877	129	4,322	2,333	21,606	432
Nov-11	1,014	1,487	2,927	1,106	1,444	7,531	1,019	138	4,633	2,654	23,953	601
Dec-11	1,047	1,552	2,973	1,343	1,589	7,796	1,036	143	4,797	2,727	25,004	924
Jan-12	1,057	1,584	3,145	1,364	1,489	7,918	1,036	144	4,820	2,741	25,297	878
Feb-12	1,043	1,594	3,087	1,339	1,462	7,773	1,014	142	4,766	2,678	24,897	607
Mar-12	993	1,464	2,884	1,250	1,365	7,260	986	134	4,500	2,564	23,401	788
Apr-12	944	1,345	2,739	1,133	1,144	6,576	889	128	4,282	2,387	21,567	553
May-12	850	1,254	2,748	986	1,148	6,714	924	124	4,142	2,509	21,398	1,451
Jun-12	880	1,186	3,244	1,159	1,404	7,893	1,050	155	5,196	3,077	25,244	1,196
Jul-12	841	1,172	3,359	1,172	1,454	8,130	1,078	159	5,310	3,229	25,903	1,120
Aug-12	888	1,288	3,249	1,133	1,406	7,863	1,069	159	5,338	3,235	25,629	1,348
Sep-12	878	1,243	2,947	1,028	1,275	7,132	993	137	4,574	2,758	22,966	1,104
Oct-12	985	1,331	2,693	1,017	1,328	6,929	876	135	4,509	2,419	22,223	373
Nov-12	1,014	1,483	2,939	1,110	1,450	7,564	1,032	139	4,671	2,680	24,083	601
Dec-12	1,047	1,549	2,989	1,171	1,598	7,975	1,049	144	4,835	2,754	25,111	924

Notes to Table B1:
Load Forecast Uncertainty (LFU) is the impact on peak demand of one standard deviation in the weather elements.

Table B2 Monthly Zonal Non-Coincident Peak Demand Forecast, Normal Weather

	20-Minute Non-Coincident Peak Demand (MW)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total
Jan-03	1,071	1,717	3,004	1,303	1,422	7,563	917	134	4,479	2,499	24,109
Feb-03	1,055	1,653	2,916	1,265	1,381	7,343	906	131	4,392	2,420	23,462
Mar-03	1,021	1,517	2,740	1,188	1,297	6,898	877	124	4,169	2,340	22,171
Apr-03	961	1,426	2,521	904	1,053	6,160	825	115	3,856	2,153	19,976
May-03	914	1,325	2,555	916	1,067	6,242	848	111	3,705	2,300	19,983
Jun-03	891	1,258	2,958	1,032	1,280	7,159	961	132	4,425	2,703	22,800
Jul-03	873	1,209	3,075	1,072	1,331	7,441	981	136	4,540	2,873	23,530
Aug-03	907	1,341	2,993	1,044	1,295	7,244	969	136	4,552	2,856	23,338
Sep-03	944	1,370	2,751	959	1,191	6,658	920	121	4,045	2,569	21,529
Oct-03	997	1,456	2,491	941	1,229	6,409	810	120	4,027	2,196	20,676
Nov-03	1,023	1,620	2,790	1,054	1,376	7,178	911	129	4,305	2,429	22,816
Dec-03	1,059	1,703	2,863	1,293	1,530	7,507	934	135	4,511	2,512	24,047
Jan-04	1,068	1,716	3,027	1,313	1,433	7,621	933	135	4,526	2,533	24,304
Feb-04	1,051	1,616	2,937	1,274	1,390	7,394	920	133	4,438	2,453	23,606
Mar-04	1,022	1,497	2,764	1,199	1,309	6,960	889	126	4,211	2,369	22,346
Apr-04	964	1,426	2,520	1,042	1,053	6,050	827	114	3,833	2,180	20,009
May-04	920	1,336	2,580	925	1,078	6,304	853	112	3,753	2,326	20,187
Jun-04	896	1,255	3,069	1,070	1,328	7,427	991	137	4,593	2,819	23,584
Jul-04	882	1,215	3,109	1,084	1,345	7,524	993	138	4,635	2,910	23,837
Aug-04	906	1,339	3,025	1,055	1,309	7,321	982	138	4,637	2,899	23,610
Sep-04	939	1,373	2,773	967	1,200	6,710	931	122	4,102	2,595	21,712
Oct-04	960	1,497	2,523	931	1,245	6,460	829	120	4,026	2,202	20,793
Nov-04	1,023	1,625	2,838	1,072	1,400	7,304	924	131	4,399	2,480	23,198
Dec-04	1,056	1,700	2,881	1,128	1,540	7,686	944	136	4,551	2,541	24,163
Jan-05	1,064	1,712	3,030	1,314	1,434	7,628	945	136	4,557	2,551	24,370
Feb-05	1,053	1,635	2,981	1,293	1,412	7,506	934	134	4,493	2,486	23,926
Mar-05	1,026	1,522	2,796	1,213	1,324	7,041	906	127	4,265	2,403	22,623
Apr-05	970	1,441	2,576	924	1,076	6,294	836	117	3,919	2,224	20,377
May-05	925	1,338	2,541	911	1,061	6,208	847	112	3,756	2,303	20,003
Jun-05	896	1,260	3,022	1,054	1,308	7,313	980	137	4,594	2,793	23,356
Jul-05	878	1,223	3,135	1,093	1,357	7,586	1,001	141	4,708	2,967	24,088
Aug-05	907	1,332	3,063	1,068	1,326	7,413	992	141	4,732	2,944	23,919
Sep-05	941	1,376	2,795	975	1,209	6,764	938	124	4,141	2,618	21,880
Oct-05	988	1,474	2,492	941	1,229	6,412	832	120	4,032	2,194	20,714
Nov-05	1,019	1,608	2,828	1,068	1,395	7,278	941	132	4,405	2,490	23,165
Dec-05	1,052	1,693	2,878	1,300	1,539	7,547	957	136	4,569	2,564	24,235
Jan-06	1,063	1,715	3,046	1,321	1,442	7,670	957	137	4,594	2,579	24,525
Feb-06	1,051	1,640	2,999	1,300	1,420	7,549	947	135	4,531	2,514	24,086
Mar-06	1,025	1,524	2,814	1,220	1,332	7,086	919	129	4,308	2,428	22,786
Apr-06	970	1,440	2,599	1,075	1,086	6,240	841	119	3,970	2,248	20,588
May-06	929	1,343	2,622	940	1,095	6,405	869	115	3,851	2,360	20,531

Table B2 - continued

	20-Minute Non-Coincident Peak Demand (MW)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total
Jun-06	906	1,330	3,054	1,091	1,322	7,429	991	140	4,680	2,827	23,768
Jul-06	876	1,231	3,167	1,105	1,371	7,665	1,013	143	4,794	3,006	24,370
Aug-06	905	1,330	3,093	1,079	1,339	7,486	1,005	144	4,819	2,983	24,183
Sep-06	941	1,380	2,816	982	1,219	6,815	947	125	4,193	2,644	22,062
Oct-06	986	1,467	2,530	933	1,248	6,476	840	124	4,151	2,253	21,010
Nov-06	1,019	1,605	2,840	1,073	1,401	7,308	952	133	4,441	2,515	23,287
Dec-06	1,051	1,704	2,893	1,133	1,546	7,718	969	138	4,605	2,590	24,348
Jan-07	1,063	1,716	3,062	1,328	1,450	7,710	970	138	4,632	2,606	24,676
Feb-07	1,050	1,644	2,980	1,292	1,411	7,502	958	136	4,542	2,530	24,044
Mar-07	1,022	1,527	2,803	1,216	1,327	7,058	923	129	4,311	2,437	22,753
Apr-07	971	1,441	2,621	940	1,095	6,404	848	120	4,019	2,270	20,730
May-07	924	1,344	2,644	948	1,104	6,459	879	116	3,900	2,389	20,708
Jun-07	897	1,275	3,084	1,076	1,335	7,464	1,002	142	4,759	2,862	23,895
Jul-07	877	1,313	3,200	1,116	1,385	7,744	1,024	146	4,877	3,045	24,725
Aug-07	910	1,334	3,123	1,089	1,351	7,558	1,017	146	4,903	3,026	24,456
Sep-07	941	1,384	2,838	990	1,228	6,868	957	127	4,254	2,669	22,255
Oct-07	985	1,463	2,579	974	1,272	6,636	848	127	4,237	2,295	21,417
Nov-07	1,020	1,606	2,857	1,079	1,409	7,351	965	133	4,465	2,542	23,427
Dec-07	1,053	1,704	2,909	1,314	1,555	7,627	982	139	4,653	2,614	24,550
Jan-08	1,063	1,719	3,084	1,337	1,460	7,763	983	139	4,670	2,635	24,853
Feb-08	1,050	1,650	2,997	1,300	1,419	7,546	971	137	4,583	2,558	24,210
Mar-08	1,013	1,528	2,822	1,224	1,336	7,104	936	130	4,350	2,465	22,908
Apr-08	960	1,430	2,639	1,091	1,102	6,335	856	123	4,104	2,266	20,906
May-08	923	1,345	2,665	956	1,113	6,511	888	118	3,948	2,419	20,885
Jun-08	899	1,278	3,116	1,113	1,349	7,581	1,013	145	4,847	2,903	24,244
Jul-08	875	1,247	3,233	1,127	1,399	7,824	1,036	148	4,967	3,085	24,943
Aug-08	909	1,365	3,153	1,099	1,364	7,630	1,029	149	4,985	3,067	24,750
Sep-08	941	1,375	2,860	997	1,238	6,921	967	129	4,318	2,696	22,441
Oct-08	996	1,457	2,600	959	1,283	6,656	857	128	4,290	2,317	21,544
Nov-08	1,020	1,633	2,868	1,084	1,415	7,381	977	134	4,499	2,567	23,579
Dec-08	1,054	1,704	2,941	1,152	1,572	7,847	997	140	4,690	2,646	24,742
Jan-09	1,063	1,719	3,107	1,347	1,471	7,823	998	141	4,710	2,665	25,044
Feb-09	1,047	1,618	3,017	1,308	1,428	7,595	985	138	4,625	2,588	24,350
Mar-09	1,014	1,516	2,845	1,234	1,347	7,162	950	131	4,397	2,494	23,091
Apr-09	962	1,431	2,661	954	1,112	6,501	865	124	4,162	2,294	21,066
May-09	928	1,344	2,688	964	1,123	6,566	897	120	4,003	2,447	21,079
Jun-09	897	1,278	3,148	1,098	1,362	7,619	1,025	147	4,929	2,944	24,448
Jul-09	881	1,251	3,267	1,139	1,414	7,906	1,056	151	5,061	3,116	25,242
Aug-09	907	1,361	3,183	1,110	1,378	7,704	1,038	151	5,063	3,106	25,002

Table B2 - continued

	20-Minute Non-Coincident Peak Demand (MW)										
Month	Northwest	Northeast	East	Essa	Ottawa	Toronto	Niagara	Bruce	Southwest	West	Total
Sep-09	939	1,380	2,881	1,005	1,247	6,974	977	131	4,387	2,720	22,641
Oct-09	993	1,483	2,619	989	1,292	6,740	865	130	4,345	2,337	21,793
Nov-09	1,022	1,629	2,881	1,088	1,421	7,414	990	135	4,524	2,593	23,697
Dec-09	1,054	1,691	2,959	1,336	1,582	7,758	1,010	142	4,738	2,675	24,944
Jan-10	1,060	1,718	3,109	1,348	1,472	7,827	1,009	142	4,741	2,683	25,108
Feb-10	1,053	1,632	3,059	1,326	1,448	7,701	998	140	4,680	2,620	24,658
Mar-10	1,017	1,545	2,876	1,247	1,361	7,240	966	133	4,449	2,528	23,362
Apr-10	969	1,454	2,692	1,113	1,184	6,463	876	125	4,179	2,337	21,390
May-10	932	1,352	2,649	950	1,107	6,473	891	120	4,025	2,424	20,923
Jun-10	904	1,284	3,179	1,135	1,376	7,734	1,043	150	5,019	2,998	24,822
Jul-10	878	1,260	3,294	1,149	1,425	7,972	1,057	153	5,137	3,177	25,502
Aug-10	907	1,366	3,223	1,124	1,395	7,801	1,047	153	5,125	3,155	25,296
Sep-10	937	1,377	2,990	1,043	1,294	7,236	1,007	135	4,509	2,813	23,340
Oct-10	960	1,477	2,607	962	1,286	6,673	876	128	4,272	2,312	21,552
Nov-10	1,017	1,613	2,890	1,092	1,426	7,438	1,002	136	4,549	2,612	23,775
Dec-10	1,049	1,700	2,954	1,157	1,579	7,881	1,022	142	4,757	2,697	24,939
Jan-11	1,059	1,717	3,127	1,356	1,481	7,874	1,023	143	4,780	2,712	25,271
Feb-11	1,054	1,638	3,079	1,335	1,458	7,752	1,012	141	4,724	2,649	24,841
Mar-11	1,017	1,551	2,895	1,255	1,370	7,288	979	134	4,491	2,555	23,534
Apr-11	970	1,453	2,715	974	1,134	6,633	883	126	4,229	2,361	21,479
May-11	935	1,349	2,671	958	1,116	6,526	900	122	4,082	2,450	21,109
Jun-11	905	1,291	3,212	1,120	1,390	7,773	1,047	153	5,108	3,041	25,039
Jul-11	876	1,268	3,326	1,160	1,439	8,049	1,069	156	5,222	3,217	25,781
Aug-11	906	1,373	3,254	1,135	1,408	7,876	1,060	157	5,249	3,195	25,612
Sep-11	943	1,381	2,927	1,021	1,267	7,084	993	135	4,510	2,770	23,031
Oct-11	988	1,471	2,624	991	1,295	6,753	884	130	4,354	2,338	21,828
Nov-11	1,017	1,613	2,927	1,106	1,444	7,531	1,019	138	4,633	2,654	24,082
Dec-11	1,049	1,699	2,973	1,343	1,589	7,796	1,036	143	4,797	2,727	25,153
Jan-12	1,058	1,720	3,145	1,364	1,489	7,918	1,036	144	4,820	2,741	25,434
Feb-12	1,053	1,643	3,096	1,343	1,466	7,796	1,026	142	4,766	2,678	25,007
Mar-12	1,019	1,534	2,884	1,250	1,365	7,260	986	134	4,500	2,564	23,497
Apr-12	971	1,451	2,739	1,133	1,144	6,576	890	128	4,282	2,387	21,701
May-12	926	1,353	2,753	987	1,150	6,726	924	125	4,179	2,509	21,631
Jun-12	905	1,300	3,244	1,159	1,404	7,893	1,059	155	5,196	3,077	25,392
Jul-12	875	1,328	3,359	1,172	1,454	8,130	1,081	159	5,310	3,257	26,125
Aug-12	909	1,375	3,285	1,146	1,422	7,951	1,073	159	5,338	3,235	25,894
Sep-12	942	1,383	2,947	1,028	1,275	7,132	1,002	137	4,574	2,795	23,214
Oct-12	986	1,464	2,693	1,017	1,328	6,929	893	135	4,509	2,419	22,375
Nov-12	1,017	1,610	2,939	1,110	1,450	7,564	1,032	139	4,671	2,680	24,213
Dec-12	1,049	1,709	2,989	1,171	1,598	7,975	1,049	144	4,835	2,754	25,273

Appendix C - Analytical Factors

Table C1 Factors Affecting Demand

Factors Affecting Daily Energy Demand			
Variable Class	Variable	Change in Variable	Impact On Daily Energy Demand (MWh)
Weather	Daily Avg Temperature		
	> 16 °C	1 °C Increase	6,450 MWh Increase
	10 °C > and < 16 °C	1 °C Increase	375 MWh Increase
	< 10 °C	1 °C Increase	2,525 MWh Increase
	Daily Avg Humidity - Dewpoint		
	> 16 °C	1 °C Increase	2,350 MWh Increase
	10 °C > and < 16 °C	1 °C Increase	125 MWh Increase
	< 10 °C	1 °C Decrease	925 MWh Increase
	Wind		
	Summer	1 km/hr Decrease	225 MWh Increase
	Winter	1 km/hr Increase	225 Mwh Increase
	Cloud		
	Summer	Decrease of 1 on Scale	1,000 MWh Increase
	Winter	Increase of 1 on Scale	1,625 MWh Increase
Economic	Employment	Increase of 1,000 jobs	20 MWh Increase
	Housing Stock	Increase of 1,000 houses	30 MWh Increase
Calendar	Holidays	New Year's Day	65,000 MWh Decrease
		Good Friday	45,000 MWh Decrease
		Victoria Day	48,000 MWh Decrease
		Canada Day	25,000 MWh Decrease
		Simcoe Day	37,000 MWh Decrease
		Labour Day	54,000 MWh Decrease
		Thanksgiving Day	53,000 MWh Decrease
		Rememberance Day	3,000 MWh Decrease
		Christmas	83,000 MWh Decrease
		Boxing Day	51,000 MWh Decrease
		New Year's Eve	14,000 MWh Decrease
		Week Between Christmas and New Years Eve	37,500 MWh Decrease
	Day of Week	Monday vs Sunday	44,250 MWh Increase
		Tuesday vs Sunday	45,800 MWh Increase
		Wednesday vs Sunday	46,300 MWh Increase
		Thursday vs Sunday	46,550 MWh Increase
		Friday vs Sunday	43,300 MWh Increase
		Saturday vs Sunday	11,550 MWh Increase

Table C1 – continued

Factors Affecting Daily Peak Demand			
Variable Class	Variable	Change in Variable	Impact On Daily Peak Demand (MW)
Weather	Temperature		
	> 16 °C	1 °C Increase	370 MW Increase
	10 °C > and < 16 °C	1 °C Increase	50 MW Increase
	< 10 °C	1 °C Increase	110 MW Increase
	Daily Avg Humidity - Dewpoint		
	> 16 °C	1 °C Increase	130 MW Increase
	10 °C > and < 16 °C	1 °C Increase	20 MW Increase
	< 10 °C	1 °C Decrease	40 MW Increase
	Wind		
	Summer	1 km/hr Decrease	10 MW Increase
	Winter	1 km/hr Increase	15 MW Increase
	Cloud		
	Summer	Decrease of 1 on Scale	80 MW Increase
	Winter	Increase of 1 on Scale	70 MW Increase
Economic	Employment	Increase of 1,000 jobs	1 MW Increase
	Housing Stock	Increase of 1,000 houses	2 MW Increase
Calendar	Holidays	New Year's Day	2,900 MW Decrease
		Good Friday	2,000 MW Decrease
		Victoria Day	2,200 MW Decrease
		Canada Day	900 MW Decrease
		Simcoe Day	1,400 MW Decrease
		Labour Day	2,250 MW Decrease
		Thanksgiving Day	2,300 MW Decrease
		Rememberance Day	425 MW Decrease
		Christmas	4,600 MW Decrease
		Boxing Day	2,400 MW Decrease
		New Year's Eve	800 MW Decrease
		Week Between Christmas and New Years Eve	1,500 MW Decrease
	Day of Week	Monday vs Sunday	2,000 MW Increase
		Tuesday vs Sunday	1,950 MW Increase
		Wednesday vs Sunday	1,950 MW Increase
		Thursday vs Sunday	1,900 MW Increase
		Friday vs Sunday	1,650 MW Increase
		Saturday vs Sunday	250 MW Increase