August 2003

Independent
Electricity
Market Operator

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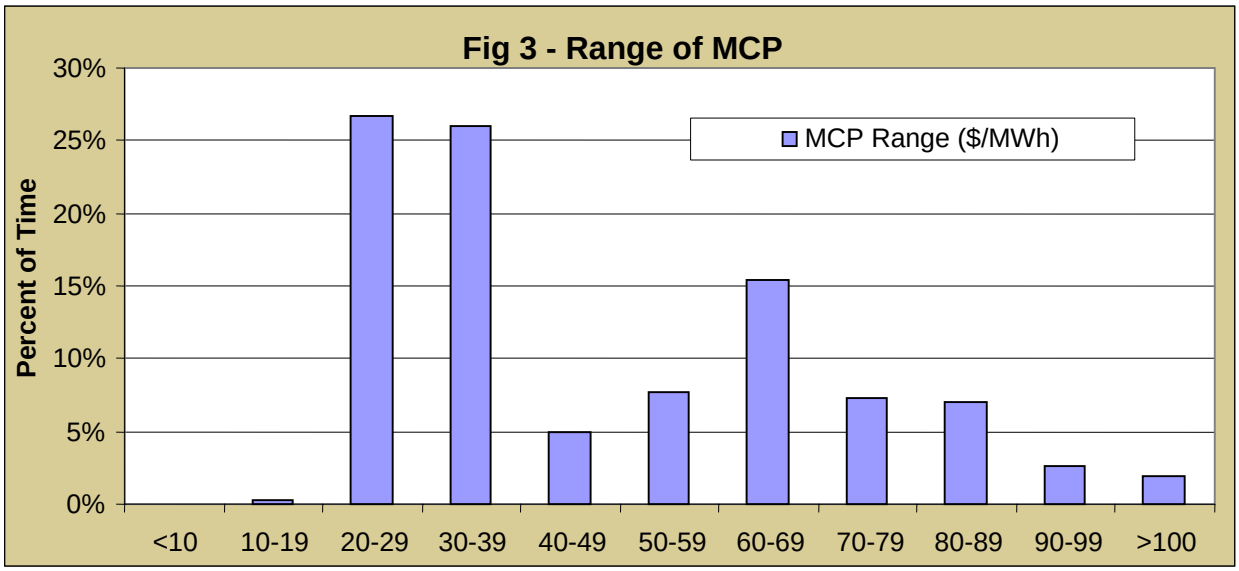
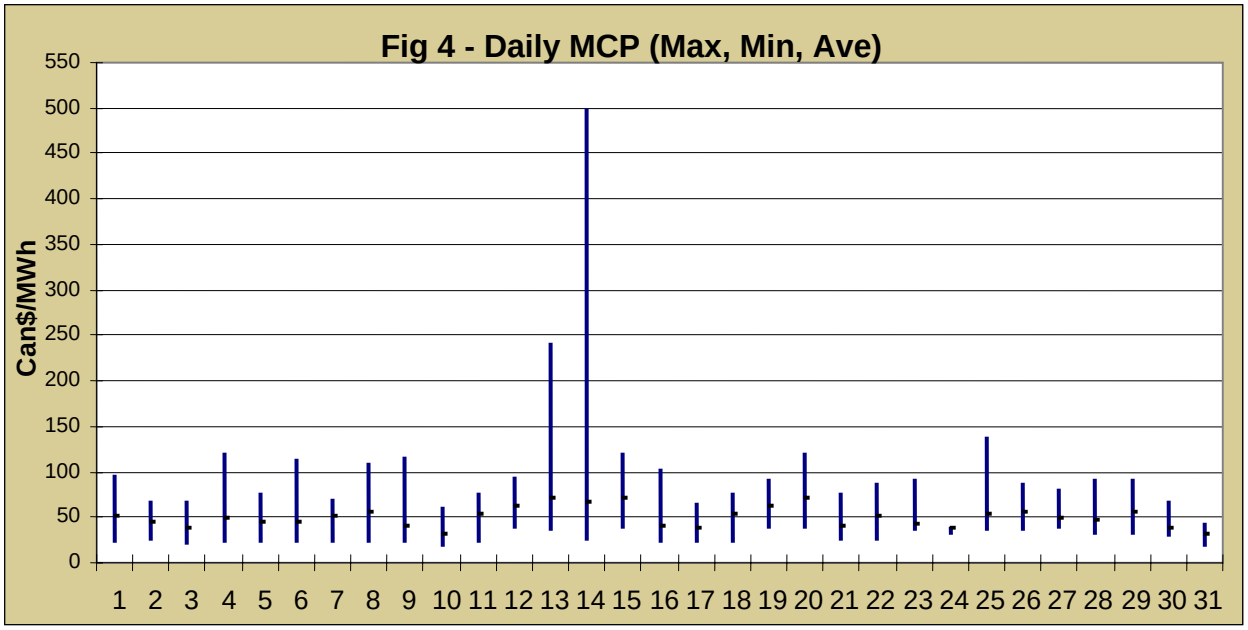
1.3 Ontario 5-Minute Market Clearing Price (MCP)

The Ontario 5-minute MCP is the price paid to dispatchable generators and charged to dispatchable loads. All other participants are charged or paid using hourly pri The 5-minute price is calculated immediately after the fact for every 5-minute interval, using the unconstrained dispatch algorithm. The algorithm takes generator offers to sell and price-sensitive loads' bids to buy and dispat these resources to achieve a supply-demand balance, and resulting price. The price is posted on the Market Data page on the IMO Web site, within 5-minutes of the conclusion of an interval. The 5-minute price, by nat ure, will fluctuate more than the HOEP (an arithmetic average of the 12 MCPs for any par ticular hour), as it more directly reflects the short-term supply/demand variations caused by unexpected fluctuations in the demand for electricity or by equipment breakdowns.



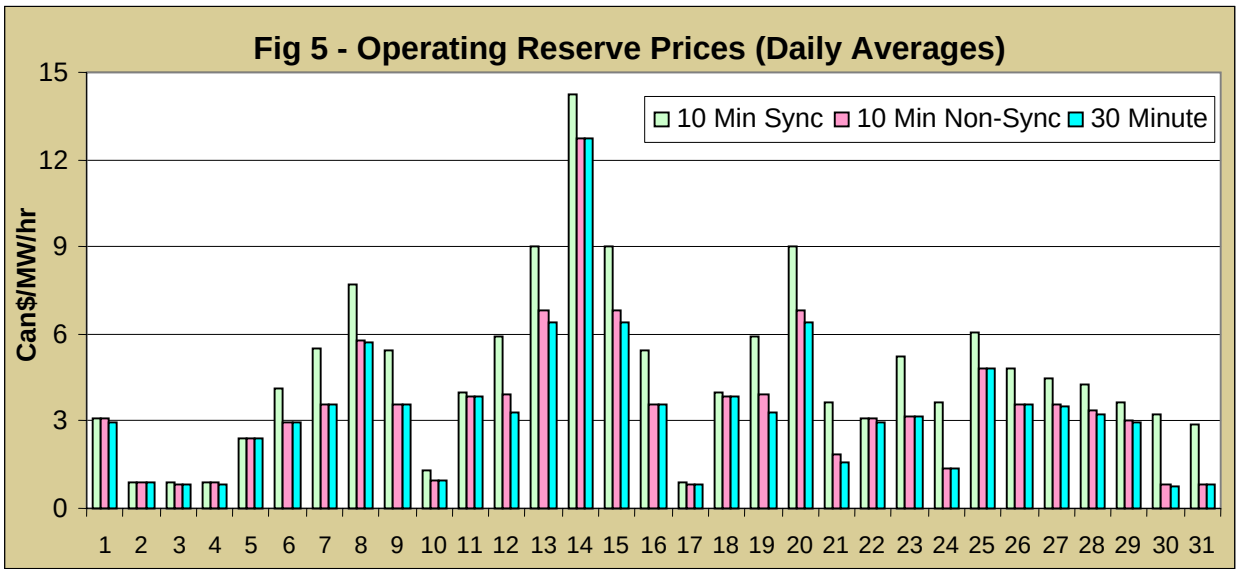


1.4 Operating Reserve Prices

Operating Reserve is generation capacity or load reduction capacity that the IMO can call upon on short notice. Operating Reserve is purchased by the IMO in amounts needed to meet the reliability rules established by the North American Electricity Reliability Council (NERC), and the Northeast Power Coordinating Council (NPCC). The IMO recovers the required funds to pay for the purchased operating reserve from all customers in the wholesale market, via the Hourly Uplift Settlement Charges. These charges are discussed further and presented in Section 1.5 of this report.

The IMO purchases defined amounts of Operating Reserve from Participants via three real-time markets; a 10 minute synchronized reserve market, a 10 minute non-synchronized reserve market, and a 30-minute reserve market.

The operating reserve is like a buffer - a shock absorber to maintain the reliability of the system by allowing for sudden unexpected surges in demand or unanticipated reductions in supply - that is, in available generation. Like energy dispatch instructions, Operating Reserve schedules are determined every 5 minutes, with a resultant price for each type of operating reserve for every 5-minute interval. The IMO's decisions, on who will provide the market with operating reserve, and who will supply the market with energy, are integrated to arrive at the optimum market outcome. This creates a strong correlation between the energy price fluctuations and the fluctuations in reserve prices.



Average Operating Reserve prices for August, 2003 were:

10 minute synchronized reserve:	$4.66/MW/hr
10 minute non-synchronized reserve:	$3.47/MW/hr
30 minute reserve:	$3.36/MW/hr

1.5 Hourly Uplift Settlement Charges

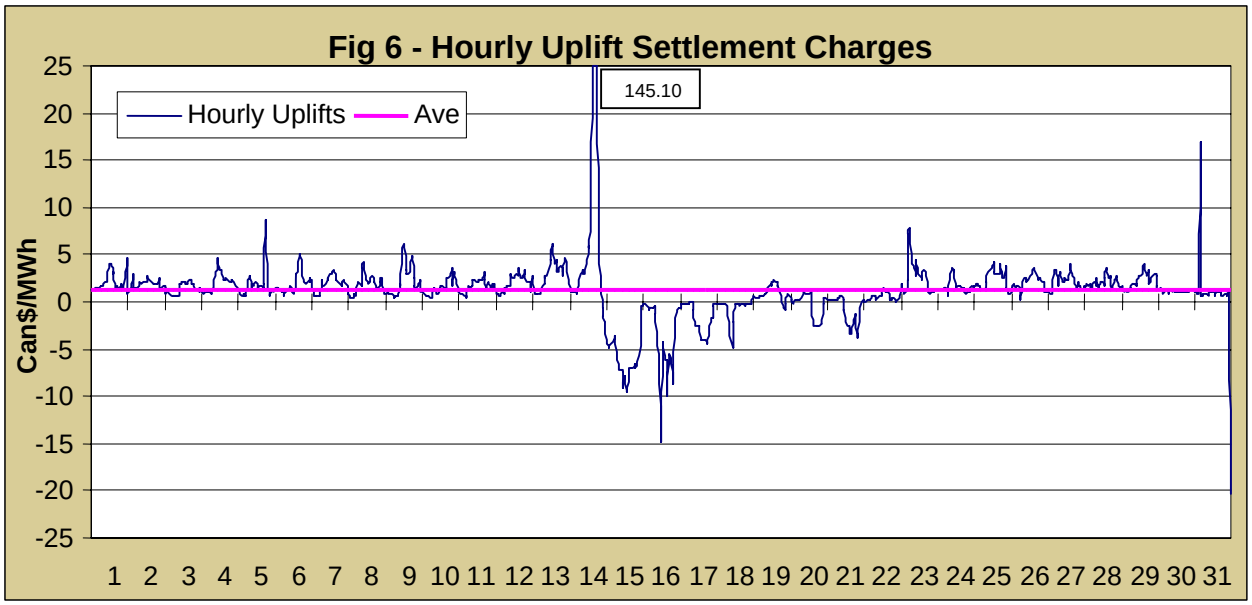
Hourly Uplift Settlement Charges are applied to all customers in the wholesale market. The IMO uses funds collected under these charges to pay for such items as the three types of Operating Reserve, any Congestion Management Settlement Credits owed to dispatchable loads, Intertie Offer Guarantee payments and other incurred hourly costs such as energy losses on the IMO-controlled grid.

For a description of Operating Reserve, and information on Operating Reserve prices, please see Section 1.4 above.

Congestion Management Settlement Credits are payments made by the IMO to all dispatchable resources, such as generators or large consumers, who responded to instructions from the IMO to take specific actions to avoid possible overloads of the transmission system, or to maintain the balance between supply and demand.

Energy losses occur when electricity flows across transmission lines. The resistance in the lines causes them to heat up, consuming power in the same way, as does a heating element in a toaster. This is referred to as line losses. Since the IMO pays generators using the same price as it uses to charges customers, and since the presence of line losses requires generators to produce more than is actually consumed by customers, the IMO must recoup the additional money required to pay all generators in full, and does so via the Hourly Uplift Settlement Charge.

The information on Hourly Uplift Settlement Charges graph shown below is collected from Market Participant Settlement Statements.



Average Hourly Uplift Settlement Charges to wholesale customers for August, 2003 = $1.35 / MWh or 0.14 ¢/kWh
Average Hourly Uplift Settlement Charges to wholesale customers since May 1, 2003 = $1.95 / MWh or 0.20 ¢/kWh
Weighted Average Hourly Uplift Settlement Charges to wholesale customers for August, 2003 = $1.27 / MWh or 0.13 ¢/kWh
Weighted Average Hourly Uplift Settlement Charges to wholesale customers since May 1, 2003 = $2.06 / MWh or 0.21 ¢/kWh

Note: The above averages exclude the Local Market Power Rebates.

1.6 Monthly Uplift Charges

The IMO incurs some monthly costs in purchasing services required to ensure the reliability of the Ontario power network, and to meet commitments to other system operators throughout the North America. Specifically, there are three services that the IMO must purchase under contract from suppliers; Black Start Capability, Voltage Support, and Regulation Service. The monthly costs incurred by the IMO under these contracts are shared among all wholesale customers on a pro rata basis. This month, payments made by the IMO for these services resulted in charges to wholesale customers totalling $0.24/MWh, or 0.024 ¢/kWh. For the combined effects of monthly and hourly uplifts, please see Section 7 of this report.

1.7 Transmission Rights Auction

The Transmission Rights Market is a financial market that is based on the import and export of electricity on the interconnection lines between Ontario and its surrounding markets in Manitoba, Quebec, New York, Michigan and Minnesota. The transmission capacity of these interconnections is limited. When the interconnection lines reach their limits, energy prices can differ between Ontario and its surrounding markets. The Transmission Rights Market allows participants to buy financial protection ahead of time, to hedge against the possible price differences. These transmission rights are financial only. They do not give the holder of these rights any scheduling priority and do not limit other participants' access to physical transmission across the interconnection lines.

The Transmission Rights contracts are auctioned off by the IMO. Successful bidders pay the market clearing price for the particular Transmission Right, in return for the right to receive revenues from the IMO in amounts proportional to the financial congestion which occur over that interface for the duration of the contract.

There were no Transmission Rights Contract auctions in August, 2003, as all available contracts for the future were purchased in previous auctions.

Intertie Zone	1st Long Term Auction October, 2003 to September, 2004 $/MW/Year		Short Term Auction September, 2003 $/MW/Month	
	Import to Ontario	Export from Ontario	Import to Ontario	Export from Ontario
New York	2500	3504	n/a	n/a
Michigan	2500	252	n/a	n/a
Minnesota	n/a	n/a	n/a	n/a
Manitoba	1500	225	n/a	n/a
Quebec - D5A	225	n/a	n/a	n/a
Quebec - D4Z	550	n/a	n/a	n/a
Quebec - P33C	350	n/a	n/a	n/a
Quebec - X2Y	700	n/a	125	n/a
Quebec - H4Z	n/a	584	n/a	n/a
Quebec - B5D/B31L	250	n/a	n/a	n/a

1.8 Transmission Rights Payments

The holders of Transmission Rights Contracts own the right to receive congestion payments from the IMO whenever congestion results in differences between the Ontario price and the relevant external zone price. The table in this section shows the payments that a holder of a 1 MW Transmission Rights Contract received from the IMO in the month of August. These payments would be made to holders of either Long-Term Transmission Rights Contracts that encompass the month of August, or Short-Term August Transmission Rights contracts.

Intertie Zone	Import to Ontario ($ per 1 MW August contract)	Export from Ontario ($ per 1 MW August Contract)
Manitoba	**19.00**	**158.84**
Minnesota	**0.0**	**251.65**
Michigan	**0.0**	**0.0**
New York	**0.0**	**671.50**
Quebec - B5D/B31L	**0.0**	**0.0**
Quebec - D4Z	**117.24**	**0.0**
Quebec - D5A	**0.0**	**0.0**
Quebec - H4Z	**0.0**	**0.0**
Quebec - P33C	**3.86**	**0.0**
Quebec - X2Y	**0.0**	**0.0**

2. Market Demand

2.1 Market Demand Definitions and Graphs

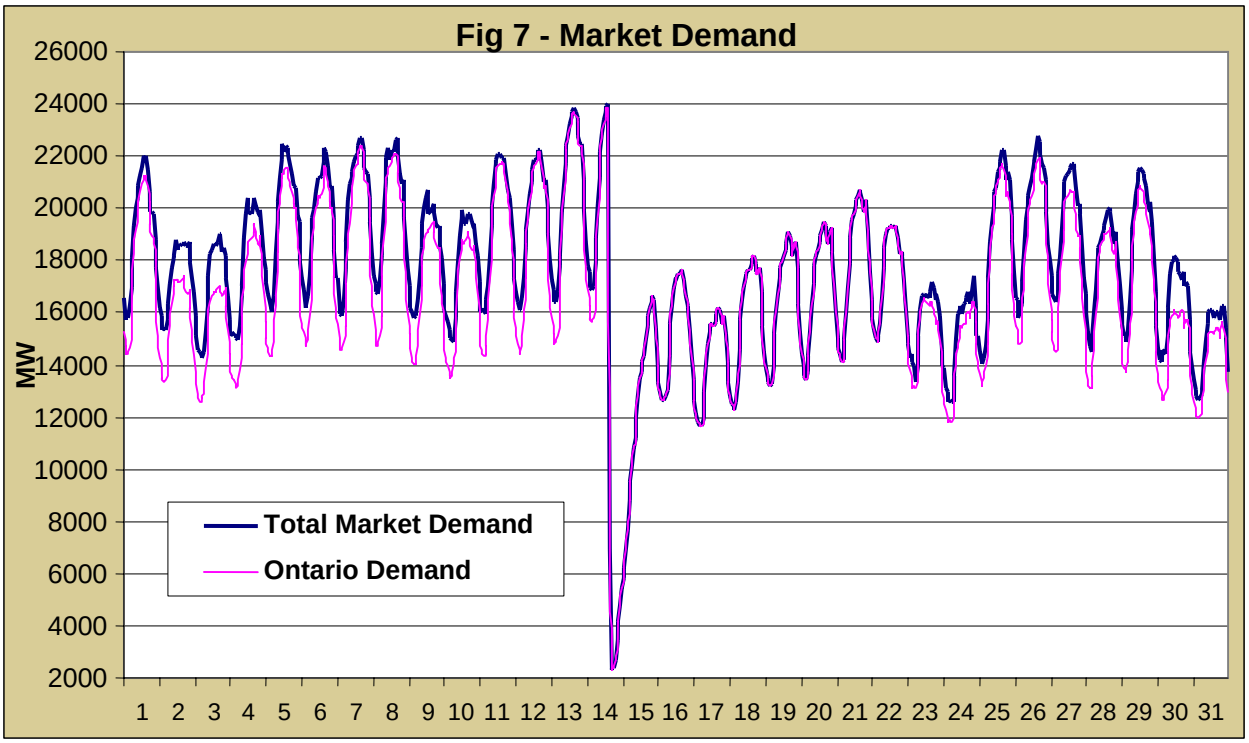
The graph below plots values for both Total Market Demand and Ontario Demand.

Total Market Demand represents the total energy that was supplied from the IMO-Administered Market.

The IMO calculates Total Market Demand by summing all output from generators registered in the Market plus all scheduled imports to the province. It is also equal to the sum of all load supplied from the Market plus exports from the province, plus all line losses incurred on the IMO-controlled grid.

Ontario Demand represents the total energy that was supplied from the IMO-Administered Market for the sake of supplying load within Ontario.

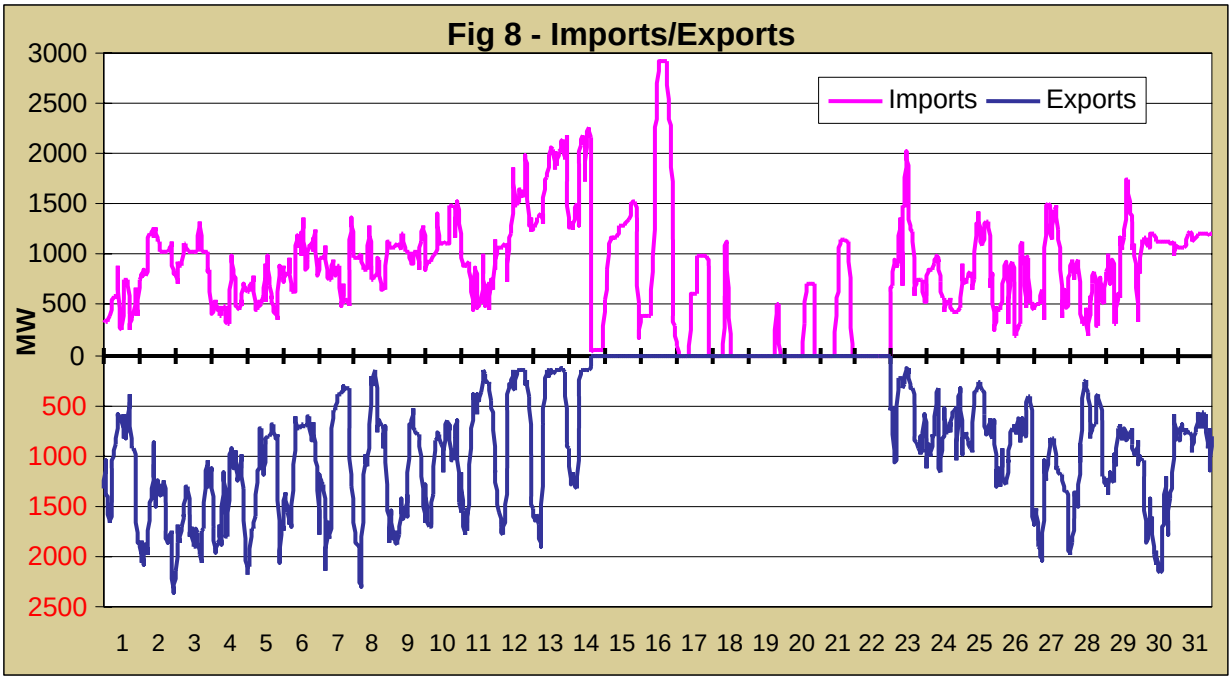
The IMO calculates Ontario Demand by subtracting exports from the Total Market Demand quantity. It is also equal to the sum of all load within Ontario which is supplied from the Market, plus all line losses incurred on the IMO-controlled grid.



	Total Market Demand	Ontario Demand
Average hourly values for the month:	17,569 MW	16,820 MW
Maximum hourly values for the month:	24,001 MW	23,891 MW
Minimum hourly values for the month:	2,270 MW	2,270 MW
Total Demand for the month:	13,071,603 MWh	12,514,376 MWh

2.2 Imports & Exports

The graph below plots both imports to Ontario and exports from Ontario during the month. Economic imports and exports are scheduled into/out of Ontario on an hourly basis, up to the physical capabilities of the Grid and the interconnections between the systems.



Average export schedule for the month = 749 MW
Average import schedule for the month = 817 MW
Average net intertie schedule = 68 MW net import

3. Unavailable Capacity

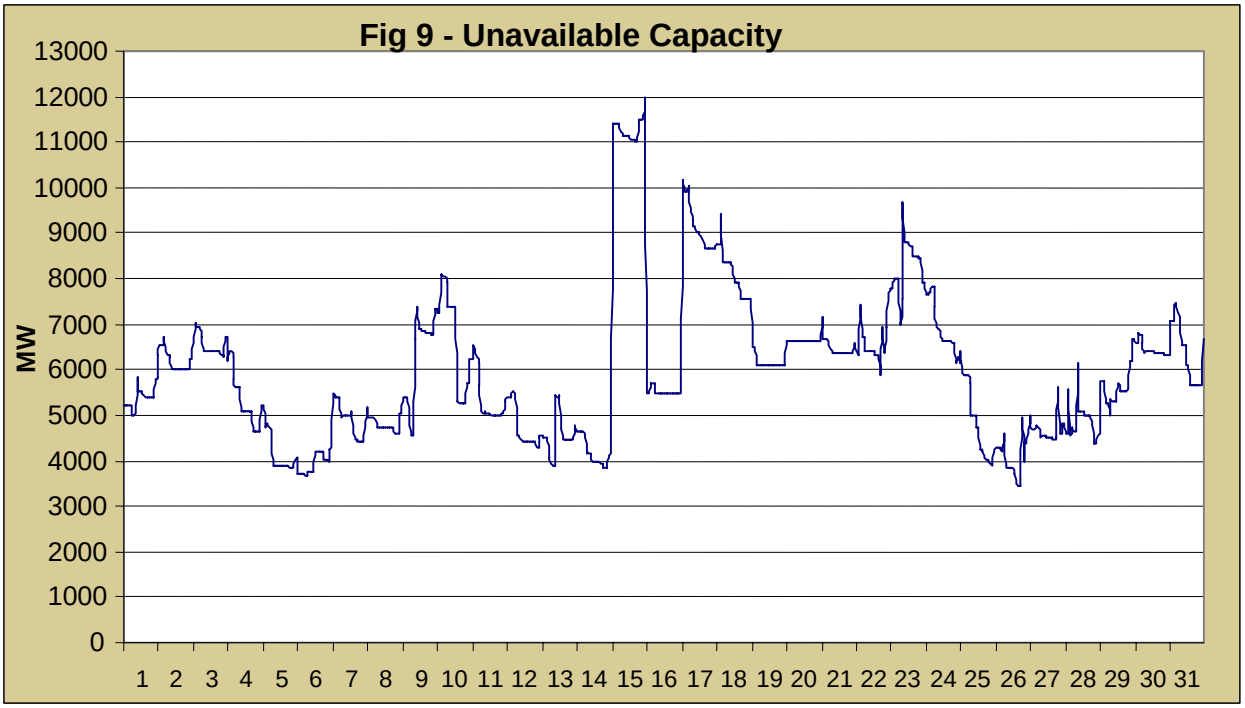
3.1 Unavailable Capacity

It is clear from the various graphs in this report that the demand for electricity varies greatly; from hour to hour, from day to day, and from season to season. The amount of generation available for operation also varies greatly over these same timeframes. The graph in this section shows the total capability of generation within Ontario that is unavailable for operation. These quantities are published by the IMO several times per day in the System Status Reports (SSR). The values in this graph are calculated by summing the following quantities (all in MW):

- capacity of generators on planned and forced outages
- capacity of planned and forced deratings
- unscheduled capacity from Intermittent, Self-Scheduling , and Transitional Scheduling Generators
- constrained capacity due to operating security limits

and plotting the highest value for each day. The values are taken from the most up-to-date SSR at any point in time.

In addition, in accordance with the Market Rules, the IMO is publishing the Generator Disclosure Report on a monthly basis, six months after the fact. This report provides generating station capability and actual energy production factors of all stations with output greater than 20 MW. The report is located on the Market Data page of the IMO Web site.



4. Compliance

4.1 Compliance and Sanctions

Ensuring compliance with the market rules is key to the operation of a competitive and reliable electricity market. The Market Assessment and Compliance Division (MACD) of the IMO monitors, assesses and enforces compliance by reviewing breaches of the market rules. Market participants who breach market rules August be subject to sanctions if the IMO considers it appropriate. The sanctions cover a range of possible actions from a simple directive instructing a market participant to rectify a market breach or undertake more stringent record keeping, to financial penalties or termination from the market, depending on the nature of the breach. The process for compliance enforcement and sanctions for breaches of the market rules is described in Chapter 3, section 6 of the market rules. Described below is a summary of reviews and investigations, since Market Opening.

The Compliance page on the IMO Web site provides more information about the Compliance functions of the IMO.

	Current Month Compliance Activities					Compliance Activities Since May 1, 2002				
	Under Prelim Review	Under Investi-gation	Discon-tinued	Sanctions		Under Prelim Review	Under Investi-gation	Discon-tinued	Sanctions	
				Letter	Financial				Letter	Financial
Operations:										
Failed Intertie Transactions	9	6	7		3	32	297	213		4
Deviation from Dispatch			5		1	51	18	42		5
Outages	2	2	1			5	2	6		
Metering & Settlements	10	6	3		2	32	18	16	5	6
Confidentiality						6		4	4	2
Other							6	6	1	1

Note: This data excludes the period under market suspension.

The Sanctions page on the IMO Web site provides more information on sanctions issued by MACD.

The Compliance Activities page on the IMO Web site provides information on other MACD activities.

To assist market participants, MACD has prepared an Overview of Intertie Transaction Failures which is available on the IMO Web site.

4.2 Dispute Resolution

Dispute Resolution is a process to resolve disputes involving the application and interpretation of the Market Rules by the IMO, and disputes that arise between market participants, including the IMO participant. The process is designed to resolve disputes in the most expeditious and least expensive way. The process most often includes three stages - good faith negotiations, mediation and arbitration. Disputes are confidential until they reach the arbitration stage, at which time the process becomes public. The Dispute Resolution process is described in Chapter 3, section 2 of the market rules. Described below is a summary of the disputes that have been commenced since Market Opening.

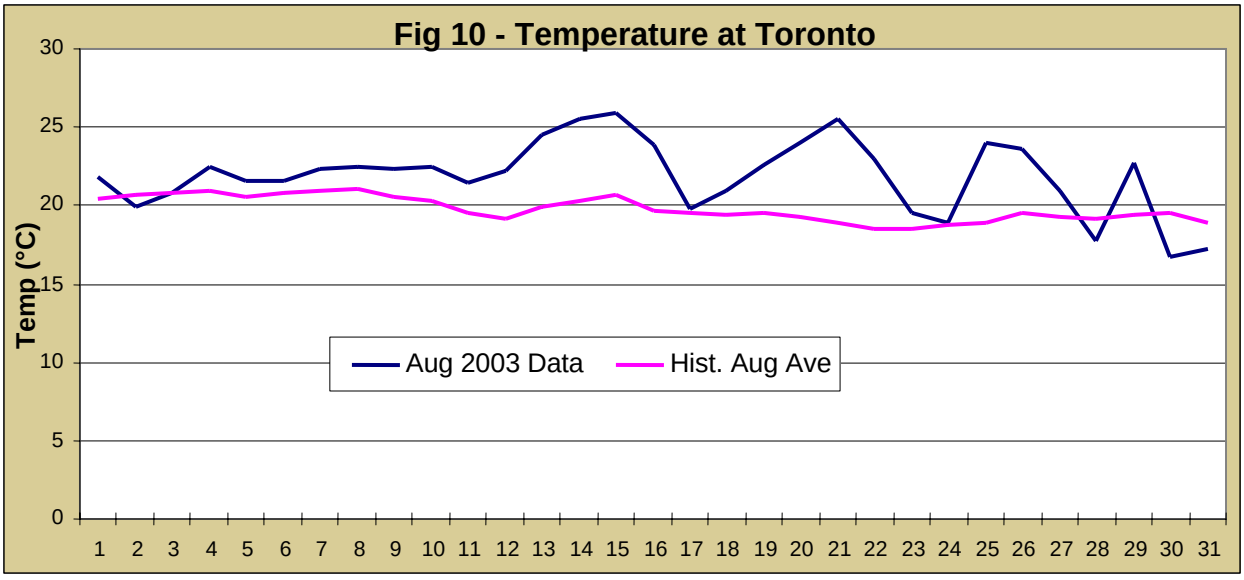
The Dispute Resolution page on the IMO Web site provides more information on the Dispute Resolution process.

Notices of Disputes Served		Number Ongoing	Number Resolved
Current Month	Since May 1, 2002		
0	4	0	4

5. Weather

5.1 Temperature

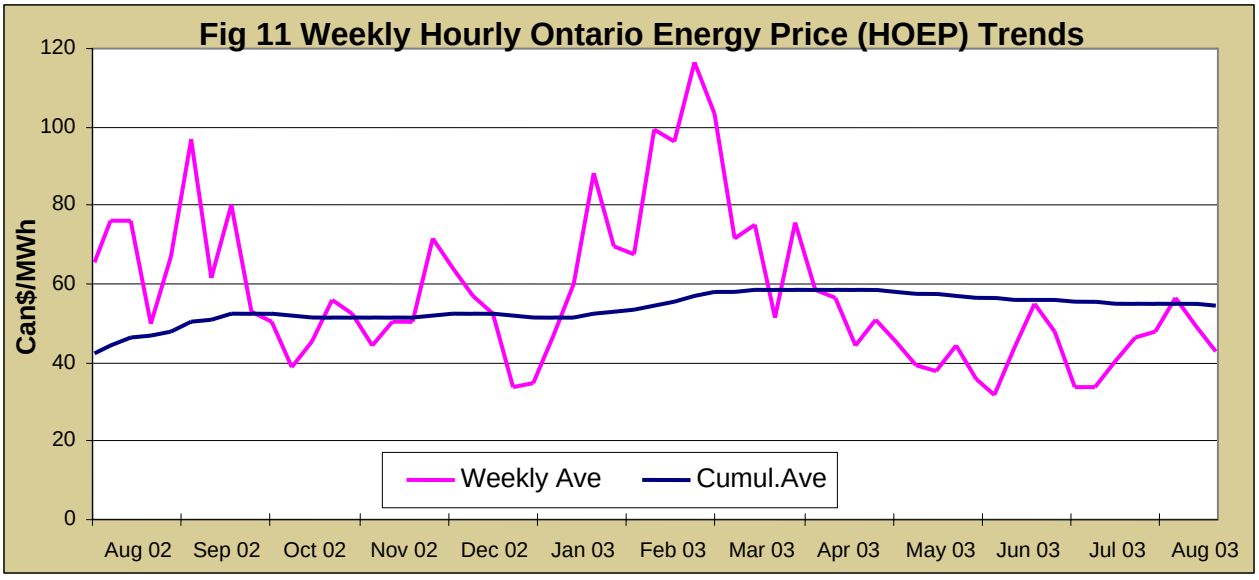
Demand for electricity is affected by weather in many ways. By far the most significant factor is temperature, with warm summer-like temperatures causing an increase in load due to air conditioning use, and cold winter temperatures resulting in additional heating load. The graph below shows the average daily temperature in Toronto throughout this month, and compares it to historic average temperatures for the corresponding days. This graph displays Toronto temperatures. However, the IMO monitors weather conditions (temperature, humidity, wind speed, illumination, storm activities) across the entire province and factors these conditions into our demand forecasting and our operational decisions.



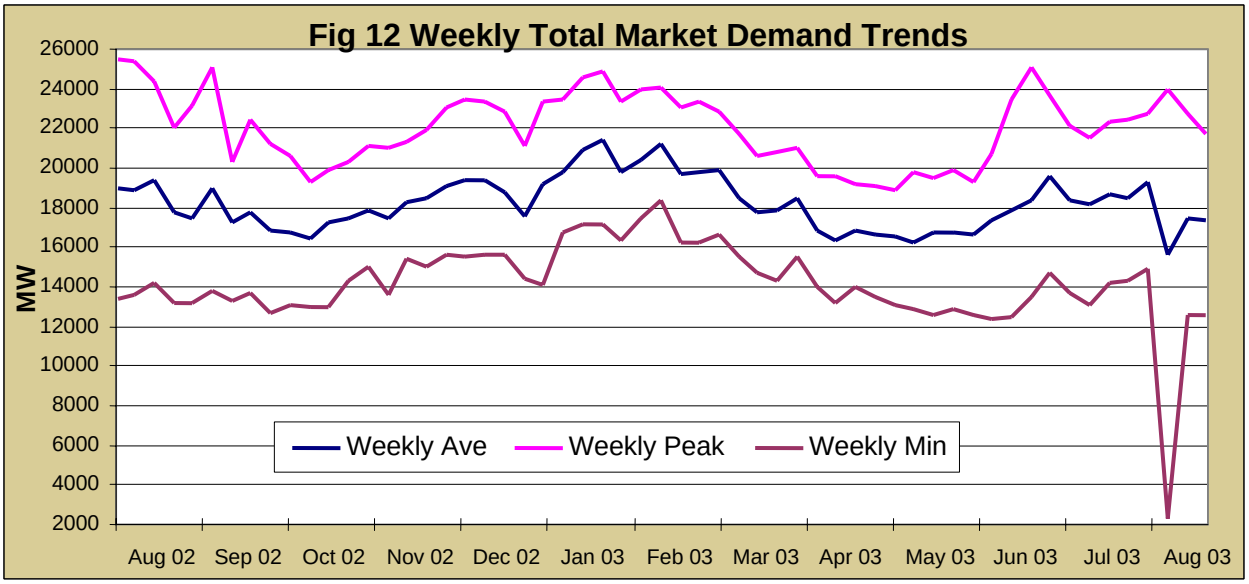
6. Longer-Term Trends

This section provides graphs that display average quantities over longer periods of time than what is available in either the Monthly graphs or in the IMO's Weekly Market Reports. This longer-term perspective will allow seasonal variations to be observed. For additional background on the particular information being graphed, please refer to the relevant monthly graph and write-up presented earlier in this report.

6.1 Weekly Hourly Ontario Energy Price (HOEP) Trends



6.2 Weekly Market Demand Trends



6.3 Weekly Average Hourly Uplift Charges Trends

6.4 Weekly Maximum Unavailable Capacity Trends