



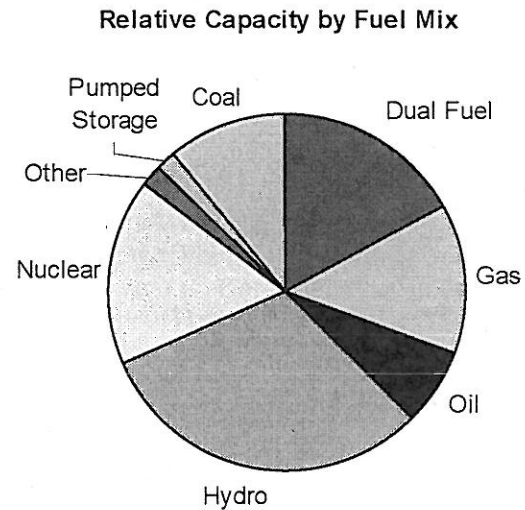
DOCUMENT A

2004-2005 WINTER ASSESSMENT

NPCC/QUÉBEC

NPCC

Projected Internal Demand	112,905 MW
Interruptible Demand & DSM	2,080 MW
Projected Net Internal Demand	110,825 MW
Last Winter's Peak Demand	115,001 MW
Change	(1.8) %
All-Time Winter Peak Demand	115,001 MW
Net Operable Capacity	137,147 MW
Projected Purchases	3,604 MW
Projected Sales	981 MW
Adj. to Sales & Purchases	— MW
Net Capacity Resources	139,770 MW
Capacity Margin	20.7 %
Reserve Margin	26.1 %
<i>With Uncommitted Resources</i>	
Net Capacity Resources	139,775 MW
Capacity Margin	20.7 %
Reserve Margin	26.1 %



Demand

Four out of the five NPCC areas show peak load forecasts that are below the all-time peak loads that occurred last winter. The actual 2003/2004 winter peak loads occurred during an unusually long period of cold weather during January 2004.

Resources

All NPCC control areas expect to have sufficient resources available to meet projected demands during the 2004/2005 winter. Under unusually cold weather conditions, resource supplies might be tight in Quebec, and in New England, if the subregion experiences unusually high amounts of unavailable generation as occurred last winter.

Noteworthy system additions anticipated during the 2004/2005 winter include a new combined cycle Bethlehem Energy Center (750 MW) in New York, which will replace existing generation at the Albany Steam station (384 MW) that is being retired. Approximately 1,200 and 800 Mvar of shunt capacitors are being added in the Montreal and Toronto areas, respectively. These capacitor additions will provide improved voltage support.

Operations

Furthermore, it is possible that phase angle regulators will be in service in three of the four Ontario-Michigan interface circuits before the end of the 2004/2005 winter period. Full utilization of those facilities to control flows over the interface will be possible after all necessary agreements are in place.

A detailed summary of the expectations of each of the NPCC areas follows:

Subregions

Maritimes

Demand — Based on the Maritimes Area 2004/2005 demand forecast, a peak load of 5,606 MW is predicted to occur for the winter period, December through February. The coincident peak load experienced by the Maritimes area during the December 2003–December 2004 period was 5,716 MW on January 16, 2004, which was

approximately 374 MW (7.0 percent) higher than last year's forecast of 5,342 MW. This is due to below normal temperatures that resulted in a greater electric heating load than would normally be the case.

It should be noted that the Maritimes Area load is simply the mathematical sum of the sub-areas' (Nova Scotia Power, New Brunswick Power, Northern Maine Independent System Administrator, and MECL) weekly peak forecast and does not take coincident peak into account. If the total Maritimes Area load included a coincident factor, the forecast load would be approximately 1–2 percent lower.

Resources — A total of 137 MW of new gas-fired generating capacity is expected to be on line by the winter peak (Tuft's Cove #5 and Grandview units #1 and #2). The NPCC criterion for resource adequacy states that, for the area, "...the loss of load expectation [LOLE] of disconnecting firm load due to resource deficiencies shall be, on average, no more than 0.1 day per year." For the Maritimes Area, this is achieved with a capacity margin of at least 20 percent, satisfied for the winter of 2004/2005 with a projected capacity margin of 22.6 percent.

When allowances for unplanned outages (based on a discreet MW value representing an historical assessment of the total of the forced outages in MW typically realized at the time of peak for the given operating season) are considered, the Maritimes Area is projecting more than adequate surplus operating margins above its operating reserve requirement for the 2004/2005 winter assessment period. These surplus margins range from 7 to 24 percent over the period from December 2004 through February 2005, calculated as a percentage of the projected winter peak demand.

The Maritimes Area is forecasting normal hydro conditions for the 2004/2005 winter assessment period. The fuel supply in the Maritimes Area is very diverse and includes nuclear, natural gas, coal, oil (both light and residual), Orimulsion, hydro, tidal, municipal waste, and wood. The area is not anticipating any fuel supply problems impacting generation. Units that have been converted to the Orimulsion fuel retain their full capability on oil. The Maritimes Area did not anticipate, nor did it experience, any electricity shortages during the winter of 2003/2004.

Transmission — Major additions to the Maritimes bulk transmission system have not been made. Interconnection capability remains unchanged and is able to deliver up to 700 MW to New England and up to 785 MW to Québec.

Operations — The Maritimes Area closely monitors air emissions and other environmental discharges to ensure compliance with standards and limits set forth by Canadian Federal and Provincial environmental regulations. For the winter 2004/2005 period, on occasion some units are required to be derated in order to meet these regulations. However, these instances are expected to be infrequent and of short duration.

New England

Demand — ISO NE's reference forecast (50 percent chance of being exceeded) for the NEPOOL 2004/2005 winter peak demand is 22,370 MW. This projected peak is 360 MW higher than last year's projected peak of 22,010 MW, and 448 MW lower than last year's actual and all-time winter peak demand of 22,818 MW, which occurred on January 15, 2004. If extremely cold weather occurs for a prolonged period, the winter peak demand could reach 23,255 MW (10 percent chance of being exceeded).

Resources — For the winter peak load period (January 2005), ISO NE projects an installed capacity margin of approximately 11,300 MW (34 percent) under the reference case demand forecast and approximately 10,400 MW (31 percent) under the high case demand forecast. December and February capacity margins are greater than 11,000 MW for both the reference and high demand forecast (36 and 37 percent, respectively, for the reference forecast — 35 and 36 percent, respectively, for the high demand forecast). The committed resources of 33,272 MW achieve compliance with the NPCC resource adequacy criterion, which states that "...the loss of load expectation [LOLE] of disconnecting firm load due to resource deficiencies shall be, on average, no more than

0.1 day per year.” For NE, this is achieved when its committed resources meet or exceed approximately 29,600 MW.

The forecast of average monthly winter firm external capacity purchases is 437 MW, which includes 310 MW from Hydro-Québec and 127 MW from New York. Only firm purchases that are known in advance are included as capacity. Daily assistance is available and will be used if needed or contracted under a firm basis within New England. However, since New England is a summer-peaking system, the need for emergency outside assistance is minimal under normal conditions.

Operations — Issues surrounding generator natural gas supply and delivery is a growing concern in New England during the winter season. Although natural gas supplies within New England are projected to be adequate during the 2004/2005 winter, extreme weather can impact the regional supply and delivery infrastructures. As experienced by New England last winter during the January 14–16, 2004, cold snap, extreme winter weather can drive up demand for natural gas. This increase in demand caused an abnormal number of gas units to report gas and unit availability problems.

During the 2003/2004 winter period, New England experienced several days of severe winter weather, and an unusually high amount of unavailable generation occurred: approximately 9,000 MW. Nearly 7,200 MW of these units were gas-fired. During this time, ISO NE called on operating reserve procedures to manage reserve deficiencies of approximately 100 MW. If a similar situation occurs in New England during the 2004/2005 winter period, emergency operating procedures may be needed to remediate any possible deficiencies.

To avoid or mitigate this potential capacity shortage in the future, ISO NE and market participants took several actions that will result in up to 2,000 MW of capacity being available that was not available during the January 2004 cold snap. An ISO/Gas Pipeline Operating Committee was established to improve near-term planning, coordination of maintenance, and planning of pre-cold snap type operations on both the electric and gas pipeline systems. Mechanisms for cold snap periods were established that would trigger:

1. Elimination or cancellation of generator outages taken for economic reasons (i.e., fuel arbitrage);
2. Efficient switching to alternative fuels for dual-fueled units; and
3. Developing unit commitment processes allowing generators to obtain, in a timely fashion, the information needed to procure the fuel requirements necessary to meet their energy obligations.

Transmission — No critical transmission circuits are scheduled to be out of service during the 2004/2005 winter. Both generator and transmission maintenance schedules are continually reviewed and coordinated to ensure that the necessary facilities are available during the peak winter months.

New York

Demand and Energy — The 2004/2005 winter forecast peak for the New York ISO (NYISO) is 25,620 MW, which is 6 percent (1,490 MW) higher than the 2003/2004 winter forecast of 24,130 MW. The forecast load is 1 percent (358 MW) higher than the all-time winter period peak load of 25,262 MW that occurred on January 15, 2004.

Resources — The NYISO total capacity for the coming winter is 38,138 MW. When allowances are taken for planned and unplanned outages (based on the historical performance of unavailable capacity), the net available resources will be 32,305 MW, which provides a 21 percent (6,685 MW) capacity margin, or a 26 percent reserve margin as a percentage of projected peak load. This will be sufficient to meet the NYISO load and operating reserve requirement during the peak load hours. A total of 1,500 MW of external generator participants are in the NYISO ICAP market for which firm transmission capacity has been secured for the winter operating period.

During the winter 2004/2005 period, the existing four 96 MW steam turbines at the Albany Steam station (384 MW) will be retired and replaced with the new combined cycle Bethlehem Energy Center (750 MW). The

Bethlehem Energy Center will consist of three 150 MW gas turbines and a 300 MW steam turbine. The entire project is scheduled to be complete in March 2005.

Transmission — During the winter 2004/2005 period, successive outages of the Sprainbrook-to-West 49th Street 345 kV cables will occur for the installation of series reactors on these circuits. These outages are not expected to impact inter-area transfer capability, and with adequate reserve margins will not impact system reliability.

Ontario

Demand and Energy — Ontario's forecast winter peak demand is 23,905 MW based on normal weather. This is 1.7 percent lower than the 2003/2004 normalized winter peak demand of 24,320 MW, and is also less than the all-time record winter peak demand of 24,937 MW, which occurred on January 15, 2004. Slight changes in economic conditions, the addition of 98 MW of embedded load-displacement generation (behind the meter), and nominal changes in weather correction parameters contribute to this moderate decrease in forecast peak demand. Firm sales are not projected for the 2004/2005 winter. A range of approximately 260 to 400 MW of dispatchable demand is forecast to be offered into the IMO Administered Markets over the winter period.

Resources — Resources are forecast to meet or exceed IMO reserve requirements during the upcoming winter period. Since last winter, 770 MW of nuclear generation has been restarted and 610 MW of wholesale gas-fired generation added. At the time of the projected January peak, a capacity margin and a reserve margin of 18 and 22 percent, respectively, is anticipated.

Energy supplies within Ontario are expected to be adequate overall, but shorter-term energy deficiencies could arise as a result of higher than forecast forced outage situations, extreme demands, and other influencing factors. Although winter hydroelectric capability is dependent to a degree on precipitation over the fall season, current expectations are for median water conditions.

The Ontario control area does not assume interconnected assistance in the calculation of area reserve requirements. For the IMO to consider a resource to be deliverable, sufficient transmission capability into predefined zones (or sub-areas) must exist under normal operating conditions with all transmission facilities in service to meet the forecast transfer requirement identified in IMO analytical studies.

The IMO studies resource deliverability using both probabilistic and deterministic models that consider the constraints imposed by key transmission interfaces. These interfaces effectively break the province into ten sub-areas. The result of this analysis is published in quarterly and annual outlooks documents.

The Ontario fuel supply infrastructure is judged to be adequate during the winter peak demand, and no fuel delivery problems are anticipated for this period. From time to time, however, extreme low temperatures can contribute to limitations associated with frozen fuel or fuel handling facilities.

A combination of high demand levels under extreme weather conditions and lower than forecast levels of available generation could lead to potential reliance on imports, outage cancellations, or outage recalls by the IMO. This risk is less than in recent years due to increased margins during the winter.

Transmission — The Ontario transmission system is expected to be adequate to supply the coming winter's demand under the forecast conditions.

By December 16, 2004, it is expected that a new 845 MVA phase angle regulator (PAR), PS4, on the Lambton-St. Clair 230 kV circuit L4D will be placed in-service. The 230 kV PS51 PAR on the Lambton-St. Clair L51D circuit should be available by December 31, 2004. Neither PAR outage affects the import and export limits of the Ontario-Michigan interconnection. Full utilization of those facilities to control flows over the interface will be possible after all necessary agreements are in place.

Approximately 800 Mvar of shunt capacitors in the Toronto area are expected to be placed in service before year-end as part of the transmission infrastructure reinforcement required prior to the shutdown of the Lakeview coal-fired station at the end of April 2005.

Interregional transmission transfer capability studies have been conducted to determine levels of external assistance that can be imported during the forecast 2004 winter peak demand.

Québec

Demand and Energy — Assuming typical winter peak conditions, Hydro-Québec's internal peak demand for 2004/2005 winter is expected to reach 34,669 MW. This forecast represents an increase of 0.3 percent as compared to the 2003/2004 winter forecast of 34,550 MW, but is 1,599 MW less than the Québec all-time winter peak demand of 36,268 MW, which occurred on January 15, 2004. This all-time peak demand occurred during a long period of extreme cold throughout the entire Province of Québec.

For the next winter period, Hydro-Québec will maintain a firm sales commitment of 482 MW (losses included) to neighboring networks outside Québec (328 MW to New England and 154 MW to Cornwall, Ontario, isolated through the Cedars Rapids Transmission network). Since the 154 MW export to Ontario is supplied to isolated load in Cornwall, it is not reflected as a corresponding import in the data submitted by the Ontario area.

A new interruptible load program for large industrial customers has been implemented for the 2004/2005 winter. The total interruptible demand in Québec is 979 MW.

Resources — Hydro-Québec's energy is largely produced by hydro generating stations located on different river systems, and is geographically dispersed. The major systems have multi-year storage capability. For the planning and the day-to-day operation of the Hydro-Québec system, Hydro-Québec can rely on those multi-year water reserves and on some other non-hydroelectric resources, allowing Hydro-Québec to cope with periods of low inflows (lower than annual average). Those non-hydroelectric resources include fossil generation, demand-side management programs within Québec, and purchases from generators outside the Québec control area. Based on the level of current water reserves in Hydro-Québec's reservoirs, Hydro-Québec generation availability is sufficient to meet all needs throughout the winter.

The new generating capacity to be added to the system for the winter season will come from a new 220 MW hydro plant (Rocher de Grand-Mère) and the refurbishment of a unit at Outardes 3 hydro plant (75 MW). For the 2004/2005 winter, Hydro-Québec has firm capacity purchases of 6,604 MW (Churchill Falls Labrador Co.: 5,064 MW; New Brunswick: 200 MW; and Québec private producers: 1,340 MW). However, since the Labrador control area is not represented in any study model, the firm capacity purchase of 5,064 MW is reflected in the data submitted for RAS seasonal assessments as internal Québec capacity rather than a firm capacity purchase. In addition, Hydro-Québec is negotiating a firm purchase of 127 MW from New England. Until a final agreement is reached, this purchase is not considered as a full responsibility purchase.

For the next winter period, the available capacity margin exceeds the planning reserve requirement for the Québec control area. The NPCC criterion for resource adequacy states that, for the area, "... the loss of load expectation [LOLE] of disconnecting firm load due to resource deficiencies shall be, on average, no more than 0.1 day per year." For the Québec area, this is achieved with a reserve margin of at least 11 percent, satisfied for the winter of 2004/2005 with a projected reserve margin of 11.7 percent, calculated as a percentage of the projected winter peak demand.

Transmission — TransÉnergie is adding four new capacitor banks at Duvernay, Hertel, and Boucherville substations in the Montréal load area. These capacitor banks (a total of 1,200 Mvar) will improve voltage support in the Montréal area and will improve transfer capability on the southern part of the network when it is limited by reactive supply.

NPCC Load and Capacity Summary 2004/2005 Winter — Data in MW

	Maritimes	New England	New York	Ontario	Québec	NPCC Total ¹
Projected Internal Demand	5,606	22,370	25,620	23,905	34,669	112,170
Interruptible Demand & DSM	515	229	0	383	979	2,106
Projected Net Internal Demand	5,091	22,141	25,620	23,522	33,690	110,064
2003/2004 Winter Peak Demand	5,716	22,818	25,262	24,937	36,268	115,001
%-Projected 04-05W w/r 03-04W	-1.9%	-2.0%	1.4%	-4.1%	-4.4%	-2.5%
All-Time Winter Peak Demand	5,716	22,818	25,262	24,937	36,268	115,001
Net Operable Capacity & IPPs	6,780	32,955	32,305	28,680	36,432	137,152
Total Capacity Purchases	0	437	0	0	1,667	2,104
Total Capacity Sales	200	0	0	0	482	682
Net Capacity Resources	6,580	33,392	32,305	28,680	37,617	138,574
Capacity Margin	1,489	11,251	6,685	5,158	3,927	28,510
% Capacity Margin	22.6%	33.7%	20.7%	18.0%	10.4%	20.6%
% Reserve Margin	29.2%	50.8%	26.1%	21.9%	11.7%	25.9%

NPCC is a voluntary, non-profit organization. Its 37 current members represent transmission providers and transmission customers serving the northeastern United States and central and eastern Canada. Also included are five non-voting public interest memberships extended to regulatory agencies with jurisdiction over participants in the electricity market in northeastern North America as well as public-interest organizations expressing interest in the reliability of electric service in the region. The geographic area covered by NPCC, approximately one million square miles, includes the state of New York, the six New England states, and the provinces of Ontario, Québec, New Brunswick, and Nova Scotia. <http://www.npcc.org/>.

¹The results in this table are slightly different from the summary table on page 27 because the calculations for sub-regions use their individual peaks, rather than the regional peak used in the summary table.

**2004/2005 Winter Assessment
Forecast Peak Demands and Capacity Resources**

Region/Subregion: Quebec

	déc-04	janv-05	févr-05	Optional Non-Coincident Seasonal Peak**
Peak Demand in Megawatts				
1. Internal Demand	32562	34669	32931	
2. Standby Demand (If not included in Line 1)				
3. Total Internal Demand (Line 1 + Line 2)*	32562	34669	32931	
4. Load Management				
5. Interruptible Demand	979	979	979	
6. Net Internal Demand (Line 3 – Line 4 – Line 5)*	31583	33690	31952	
Capacity Resources, Net, in Megawatts				
7. Committed Resources	38065	38140	38140	
12. Uncommitted Resources				
13. Total Capacity (Line 7 + Line 12)*	38065	38140	38140	
14. Inoperable Capacity	2184	1708	1568	
15. Net Operable Capacity (Line 13 – Line 14)*	35881	36432	36572	
16. Total Capacity Purchases	1667	1667	1667	
17. Full Responsibility Purchases	1540	1540	1540	
18. Total Capacity Sales	482	482	482	
19. Full Responsibility Sales	482	482	482	
20. Adjustment to Purchases and Sales				
21. Net Capacity Resources (Line 15 + Line 16 – Line 18 + Line 20)*	37066	37617	37757	
22. Available Capacity Margin (Line 21 – Line 6)*	5483	3927	5805	

* The totals in the blue rows are automatically calculated.

** This is an optional field for those areas who use a non-coincident seasonal peak demand (as opposed to monthly) in their write-up.