Adequate Summer Electricity Supplies Expected

Summer 2004 Reliability Assessments

Comprehensive reliability assessments have been completed by NPCC that indicate the region's electric system reliability criteria will be met, assuming that existing and planned resources are available and typical weather is experienced during the upcoming summer season. On a regional basis, the assessments indicate that New England, New York and Ontario will have sufficient supplies of electricity under normal summer weather conditions.

The Canadian Provinces of Québec and the Maritimes experience their highest electricity demand in the winter and are also expected to have ample resources throughout the summer 2004 period.

Under extreme weather conditions, such as a wide spread and prolonged heat wave with high humidity and near record temperatures, the implementation of operating procedures and programs are expected to keep electricity supplies and demand in balance. The potential use of these operating procedures is more likely to be required in southwest Connecticut and Boston, MA and New York City and Long Island, NY if reductions in anticipated resources and/or transfer capability materialize coincident with higher than expected loads.

Projected NPCC Load Growth

The non-coincident (sum of the individual Areas) forecasted peak demand for NPCC during the summer of 2004 is 106,642 MW (May – September period). The forecasted coincident peak demand for NPCC during the summer of 2004 of 104,520 MW is expected to occur during July. This forecast is 2,080 MW (2%) higher than last year’s actual coincident NPCC peak demand of 102,440 MW, which occurred on June 26, 2003. Ambient weather conditions are the single most important variable impacting the demand forecasts during the summer months. Historically the peak loads and temperatures between New England and New York have a high correlation due to the relative locations of their respective load centers. Depending upon the extent and duration of a summer weather system, there is a potential for the Ontario summer peak demand to also be coincident with that of New England and New York.

New England

The Independent System Operator of New England’s (ISO-NE’s) forecasted summer 2004 peak demand is 25,735 MW. This demand is 1,050 MW (4.2%) higher than last year's actual peak electrical load of 24,685 MW that occurred on August 22, 2003.
New York
The forecast peak for this summer by the New York Independent System Operator (NYISO) is 31,800 MW, which is 1,467 MW (4.8%) higher than last year’s actual summer peak load of 30,333 MW that occurred on June 26, 2003.

Ontario
The 2004 summer peak Ontario demand forecasted by the Ontario Independent Market Operator (the IMO) for normal weather conditions is 23,668 MW. This normal weather forecast is 1,085 MW (4.4%) lower than last summer’s peak of 24,753 MW that occurred on June 26, 2003. The load model and resultant demands have been updated to reflect the impact of weather and the latest economic growth forecasts for Ontario.

Québec
The forecasted 2004 summer peak for Québec is 21,517 MW. This is 296 MW (1.3%) lower than the peak load of 21,813 MW experienced on May 2, 2003, which was an unseasonably cold day. If this is excluded, the forecasted summer peak for 2004 is 966 MW (4.7%) higher than the June - September 2003 peak of 20,551 MW that occurred on June 26, 2003.

Maritimes Area
The Maritimes Area represents the Provinces of New Brunswick, Nova Scotia, Prince Edward Island, and the area administrated by the Northern Maine Independent System Administrator. Based on the Maritimes Area 2004 demand forecast, a summer peak of 3,604 MW is predicted to occur in June 2004. This is 298 MW (7.6%) lower than the peak load of 3,902 MW experienced on May 12, 2003. The forecasted summer peak for 2004 is 81 MW (2.3%) higher than the 2003 June – September peak of 3,523 MW that occurred on June 27, 2003.

Resource Adequacy Summary

NPCC 2004 Summary
With the addition of resources, the overall net margin for NPCC has improved over last year’s assessment. The majority of the resources projected for this summer are already in-service.

During the July peak load period, the overall spare operable capacity (capacity over and above reserve requirements) for NPCC is forecasted to be slightly greater than 14,300 MW. Over half of this spare operable capacity is in the Québec and Maritimes Areas. The transfer capability between the Québec and Maritimes Areas to the remainder of NPCC will not permit the usage of all this forecasted spare operable capacity. This limitation could reduce the overall available capacity by approximately 3,900 MW. As a result of additional northern New England transmission constraints, the spare operable
capacity available to the remainder of NPCC in the July peak period is approximately 10,000 MW.

For the week in June with the lowest net margin, approximately 8,800 MW of spare operable capacity is forecasted to be available. By comparison, in last year’s assessment, the projected spare operable capacity for the week with the lowest net margin was approximately 5,300 MW.

**New England**
Capacity within New England is forecasted to be sufficient to meet operating reserve requirements during all weeks of the summer peak load period. ISO-NE projects 521 MW of new generation to be on-line before the 2004 summer peak season. About half of this generation has already been placed in-service. The total additions include (nominal ratings shown):

<table>
<thead>
<tr>
<th>MW</th>
<th>Project</th>
<th>Location</th>
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<tbody>
<tr>
<td>490</td>
<td>Milford Units 1&amp;2</td>
<td>Southwest CT</td>
</tr>
<tr>
<td>31</td>
<td>Millstone Unit 2 Uprate</td>
<td>CT</td>
</tr>
</tbody>
</table>

While it is projected that capacity is expected to be surplus for New England, ISO-NE has indicated southwest Connecticut may face reliability problems due to transmission constraints into and within that sub-Area. To meet critical near-term electric system reliability needs in southwest Connecticut for the summer of 2004, ISO-NE has announced it has finalized agreements to secure emergency energy resources in southwest Connecticut. The resources will provide approximately 125 MW of additional capacity beginning June 1, 2004 and up to 255 MW by the summer of 2007 from demand response resources, including both emergency generation and reductions in electricity use, and from conservation resources.

**New York**
The NYISO expects 1,427 MW of resource additions to be available for service prior to the summer peak. The total New York additions include (nominal ratings shown):

<table>
<thead>
<tr>
<th>MW</th>
<th>Project</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>1,080</td>
<td>PG&amp;E Athens</td>
<td>Central New York</td>
</tr>
<tr>
<td>250</td>
<td>KeySpan Ravenswood</td>
<td>New York City</td>
</tr>
<tr>
<td>48</td>
<td>Freeport Unit 1</td>
<td>Long Island, NY</td>
</tr>
<tr>
<td>49</td>
<td>EQUUS Freeport</td>
<td>Long Island, NY</td>
</tr>
</tbody>
</table>

New York State, as a whole, should have an adequate supply of electricity, although the state could require electricity to be imported during peak demand periods. If extreme weather conditions prevail over an extended period of time, the supply situation downstate may be tight, especially on Long Island. As a result, the Long Island Power Authority is installing a total of 88 MW of emergency generation at several locations on Long Island. These units are expected to be available for service June 1 through October.
31, 2004, and are in addition to the generation included in the reserve capacity calculations.

**Ontario**

Adequate resources are expected to be available to meet forecast summer peak demand and energy requirements within Ontario. During extreme weather conditions and at a time when generator outages are greater than anticipated, support from neighbors may be required.

The return to service of three nuclear units that were removed from service in the late 1990’s began in 2003. Bruce A units G4 and G3 and the Pickering G4 unit began generating electricity in the later half of 2003. This represented a net capacity addition of 2,065 MW to Ontario.

The IMO is anticipating an additional 755 MW for the 2004 summer operating period:

<table>
<thead>
<tr>
<th>MW</th>
<th>Project</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>625</td>
<td>ATCO/Brighton Beach</td>
<td>Windsor, Ontario</td>
</tr>
<tr>
<td>98</td>
<td>Imperial Oil</td>
<td>Sarnia, Ontario</td>
</tr>
<tr>
<td>32</td>
<td>Northland Power</td>
<td>Kirkland Lake, Ontario</td>
</tr>
</tbody>
</table>

**Québec and the Maritimes Areas**

The Québec and the Maritimes Areas are winter peaking. Adequate resources are expected to be available to serve forecast summer peak demand and meet operating reserve requirements.

**Load Response Programs**

Each Area utilizes various methods of demand management associated with interruptible loads. In those Areas where market based structures have been implemented or are evolving, there has been a shift in contractual obligations of the interruptible loads in order to give industrial and commercial customers the ability to respond to price signals in the wholesale electricity marketplace. The following is a summary of current interruptible load programs available, or in development to be available, for the summer period in each Area.

**New England**

ISO-NE and NEPOOL Participants are continuing the Load Response Program (LRP), which reduces peak electricity demand by large power users. As of March 29, 2004 there were 425 customers signed up for the LRP representing 333 MW of projected load relief. Through the LRP, NEPOOL Participants or Demand Response Providers enrolled directly with ISO-NE can enter into agreements with retail customers to encourage them to reduce their electricity consumption during periods of high prices or peak demand.
New York
The NYISO estimates that 877 MW of load relief will be available this summer to support the New York State power system during capacity emergency periods through these programs. Special Case Resources are loads capable of being interrupted on demand, and distributed generators that are not directly telemetered. The Emergency Demand Response Program is a separate program that allows registered interruptible loads and standby generators to participate on a voluntary basis.

Ontario
The IMO has 300 MW of price responsive loads. These loads are treated as a resource dispatched off the system by the IMO once the price of energy in the real time market has exceeded the bid price submitted by the load. The load must reduce their demand according to the dispatch instructions or face compliance proceedings.

Estimated Need for Implementation of Operating Procedures
A wide range of assumptions were analyzed, including extreme weather conditions derived through almost 40 years of experience, unexpected plant outages, reductions in transfer capability between and within regions, implementation of operating procedures and estimated impact of demand response programs.

Figure 1 (below) shows the estimated potential range of use (from normal to extreme weather assumptions) of the indicated operating procedures for Base Case assumptions this summer. Recent capacity added in New England, New York and Ontario, in addition to the capacity planned and Demand Response Programs expected to be available this year are some of the contributing factors that tend to reduce the need for the use of operating procedures designed to mitigate resource shortages in 2004.
New England and New York may experience conditions during the summer of 2004 that require the use of operating procedures designed to mitigate resource shortages. Use of these operating procedures is not anticipated for the Québec, Ontario, or the Maritimes Areas during the summer of 2004.

**Operational Readiness**

The Reliability Assessments are key elements in determining NPCC’s ability to meet the demands of the summer. To mitigate the uncertainty surrounding load forecasts, forced outages and other conditions that cannot be controlled or predicted, the Areas of NPCC are prepared to deal with contingencies in real time.

To be prepared to deal with the constantly changing conditions on the power system, NPCC routinely conducts weekly operational planning calls between Areas to coordinate short-term system operations. NPCC has also refined and expanded its pre-emergency conference call mechanism to enable Areas and neighboring regions to communicate current operating conditions and facilitate the procurement of assistance under emergency conditions.

**Who is NPCC?**

The Northeast Power Coordinating Council (NPCC) is the international, regional reliability organization responsible for the development, compliance assessment and enforcement of operating and planning criteria for the Northeastern United States and Eastern Canada. NPCC provides the common foundation of regionally specific reliability criteria necessary to support open and competitive markets.