NYISO OPERATING STUDY
WINTER 2007-08

Prepared by
Electric System Planning Staff
New York Independent System Operator, Inc.

Approved by NYISO Operating Committee
November 6, 2007

TABLE OF CONTENTS

NYISO OPERATING STUDY - WINTER 2007-08

I. INTRODUCTION

The following report, prepared by the Operating Studies Task Force (OSTF) at the direction and guidance of the System Operations Advisory Subcommittee (SOAS), highlights the significant results of the thermal analysis completed for the Winter 2007-08 capability period. This analysis indicates that, for the Winter 2007-08 capability period, the New York interconnected bulk power system can be operated reliably in accordance with the "NYSRC Reliability Rules for Planning and Operating the New York State Power System" and the NYISO System Operating Procedures.

Transfer limits cited in this report are based on the forecast peak load conditions and are intended as a guide to system operation. Changes in generation dispatch or load patterns that significantly change pre-contingency line loadings may change limiting contingencies or limiting facilities, and result in higher, or lower, interface transfer capabilities.

System Operators should monitor the critical facilities noted in the enclosed tables, along with other limiting conditions, while maintaining bulk system power transfers within secure operating limits.

II. SYSTEM REPRESENTATION AND BASE STUDY ASSUMPTIONS

A. System Representation

The representation was developed from the NYISO Data Bank and assumes the forecast winter coincident peak load of 25,247 MW. The other NPCC Area and adjacent Regional representations were obtained from MEN/VEM Winter 2007-08 Reliability Assessment power flow base case.

During the Winter 2007-08 peak load period, the Russell Units are scheduled to be retired in December 2007. The generator output levels for major units are summarized in Appendix B, and are consistent with typical operation for the period. The inter-Area schedules represented in the study base case are summarized in Appendix A.

Significant changes since the Winter 2006-07 capability period include:

Transmission Facilities

Mott Haven 345/138 kV station
Rochester S80 4th 345/115 kV transformer
Neptune HVdc Transmission Line

The Mott Haven 345kV connects to the existing Dunwoodie to Rainey 345kV transmission circuits. Approximately 140MW network load (transferred from the Bruckner area station) is served from the Mott Haven 138kV..

The Neptune HVdc facility is a merchant transmission project. The converter terminals are located at Raritan River 230kV (Sayreville, NJ) and Duffy Avenue 345kV (LI) near Newbridge Road. A 345kV circuit and 345/138kV transformers connect the Duffy Avenue converter station to the LIPA system at Newbridge Road. The design capacity of the facility is 660MW and it has been available for service since July 2007.

Generation Resources

Lovett 3 (retirement)	-47 MW
Lovett 4 (retirement)	-165 MW
Huntley 65 (retirement)	-82 MW
Huntley 66 (retirement)	-83 MW
Russell 1 (retirement)	-47.2 MW
Russell 2 (retirement)	-62.5 MW
Russell 3 (retirement)	-48.5 MW
Russell 4 (retirement)	-80.5 MW

B. Base Study Assumptions

The PTI MUST thermal transfer analysis program and PSS/e power flow are used to determine the Normal and Emergency Criteria thermal transfer limits. The thermal transfer limits presented have been determined for all transmission facilities scheduled in service during the Winter 2007-08 period.

The schedules used in the base case loadflows for this analysis assumed a net flow of 1000 MW from Public Service Electric & Gas (PSE&G) to Consolidated Edison via the phase-angle-regulating (PAR) transformers controlling the Hudson – Farragut and Linden – Goethals interconnections, and 1000 MW on the South Mahwah – Waldwick circuits from Consolidated Edison to PSE&G, controlled by the PARs at Waldwick. The Branchburg - Ramapo 500 kV (5018) circuit is scheduled in accordance with the "Ramapo Phase Angle Regulator Operating Procedure", December 11, 1987. These schedules are consistent with the scenarios developed in the RFC-NPCC Inter-Regional Reliability Assessment for Winter 2007-08, and the NERC/MMWG Winter 2007-08 power flow base cases. The series reactors on the Dunwoodie – Mott Haven (71 and 72) and the Sprain Brook – W. 49th St. 345kV cables (M51 and M52), as well as the E. 179th St. – Hell Gate 138kV (15055) feeder are out of service in the base case. The series reactor on the Sprain Brook – East Garden City 345kV (Y49) cable is in-service.

Thermal transfer capabilities between New York and adjacent Areas are also determined in this analysis. These transfer limits supplement, but do not change, existing internal operating limits. *There may be facilities internal to each system that may reduce the transfer capability between Areas. Reductions due to these situations are considered to be the responsibility of the respective reliability authority*. Some of these potential limitations are indicated in the summary tables by "____ Facility" limits, which supplement the "Direct Tie" limits. Transfer conditions within and between neighboring Areas can have a significant effect on inter- and intra-Area transfer capabilities. Coordination of schedules and conditions between Areas is necessary to provide optimal transfer conditions while maintaining the reliability and security of the interconnected systems.

III. DISCUSSION

A. Resource Assessment

Load and Capacity Assessment

The forecast peak demand for the Winter 2007-08 capability period is 25,324 MW. This forecast is approximately 0.1% lower than the forecast of 25,350 MW for the Winter 2005 capability period, and .86% lower than the all-time New York Control Area (NYCA) seasonal peak of 25,541 MW, which occurred on December 20, 2004. The Installed Capacity (ICAP) requirement of 38,965 MW, based on the NYSRC 16.5% Installed Reserve Margin (IRM) requirement, is anticipated to be adequate to meet forecast demand.

NYISO Peak Load and Capacity Assessment – Winter 2007-08

NYISO ICAP Requirement	38,965
Scheduled generation outages	2985
Allowance for unplanned outages	2661
Net capacity for load	33,319
NYISO Forecast Peak	25324
Operating Reserve Requirement	1,800
Available Reserve	***6,195***
Net Margin	4395

The assumed allowance for unplanned outages is an equivalent forced outage rate of 6.7% and includes forced outages and de-ratings based on historical performance of all generation in the NYCA. For Winter 2005 the equivalent forced outage rate assumed was 8.7%.

Based on the forecast load and assumed outage rates, the NYISO will have sufficient resources to meet its reserve requirement for the season peak. Installed Capacity (ICAP) resources of 38,965 MW are anticipated to be adequate to meet the forecast peak demand of 25,324 MW.

B. Cross-State Interfaces

1. TRANSFER LIMIT ANALYSIS

Figure 1 presents a comparison of the Winter 2007-08 thermal transfer limits to Winter 2005-06. Changes in these limits from the previous years are due to changes in the base case load flow generation and load patterns that result in different pre-contingency line loadings, changes in limiting contingencies, or changes in circuit ratings, or line status. Appendix H presents a summary comparison of Cross-State thermal transfer limits between Winter 2007-08 and 2005-06, with limiting element/contingency descriptions. Significant differences in these thermal transfer limits are discussed below.

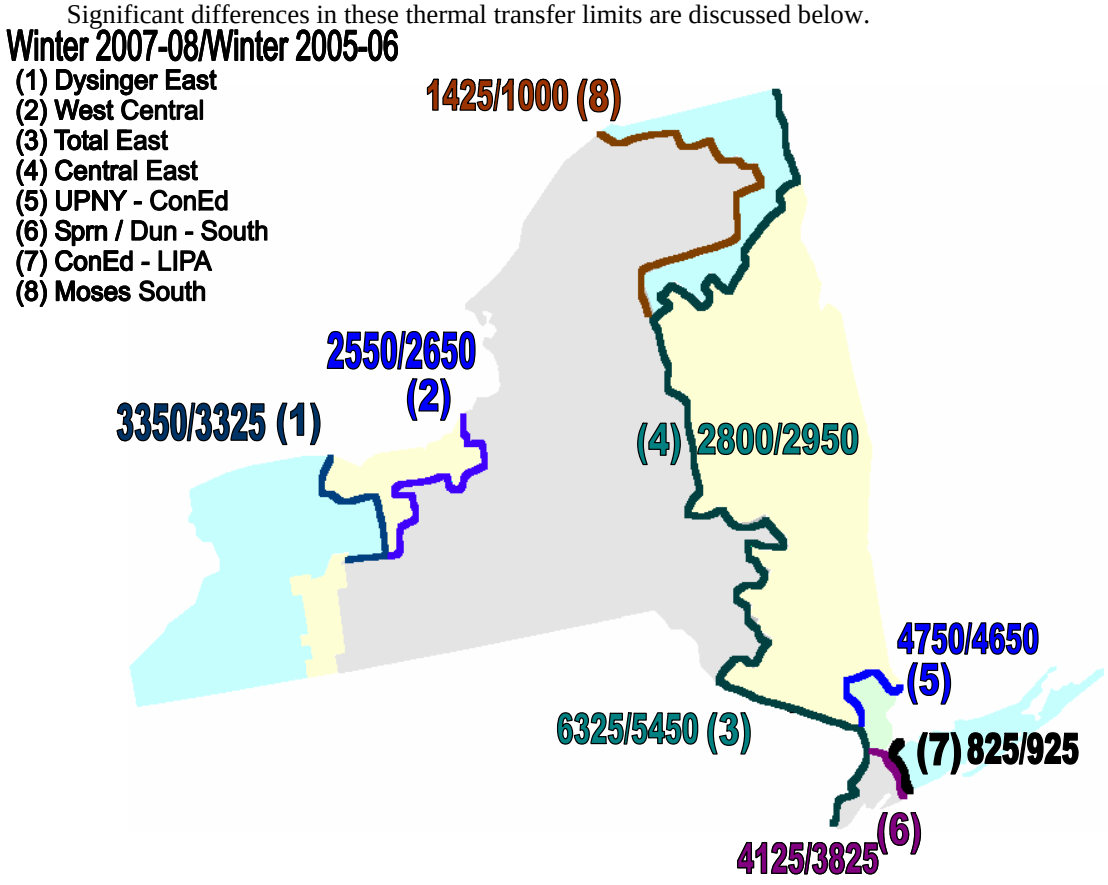

Figure 1 – Cross-State Thermal Transfer Limits

Dunwoodie South interface limit increased 300 MW. This is due to changes in the pre-contingency flow and the result of the change in the limiting element and limiting contingency with the addition of the Mott Haven 345kV station.

UPNY – ConEd interface limit increased 100 MW and is the result of changes in generation dispatch in the base case, which creates higher flows on the limiting element and contingency (Athens – Pleasant Valley 345 kV)

Central East interface limit decreased by 150 MW due to changes in base case loading resulting in a change in the limiting element and limiting contingency.

Total East interface limit has increased by 875 MW that includes a reduction due to the same changes cited for Central East (above) and an increase of 660MW capability of the Neptune HVdc line from PJM to Long Island.

Moses South interface increased by 425 MW due to change in the limiting element/contingency. (Moses-Adirondack for L/O Chat-Massena and Quebec delivery for winter 07 Vs Porter – Chases Lake for L/O Moses-Massena MMS1 and MMS2 for winter 05)

2. SENSITIVITY TESTING

The thermal limits presented in Section 4 are determined using the base conditions and schedules. The effects of various intra- and inter-Area transfers or generation patterns in the system are presented in Appendix G. Certain of graph indicate that there may not be a measurable sensitivity to the specific variable condition (winter peak load), or the sensitivity may occur at transfer levels above other transfer constraints (e.g., voltage or transient stability limitations). This analysis demonstrates how the particular constraint (thermal transfer limits) may respond to different conditions.

Phase angle regulator schedules may vary from day-to-day. Sensitivity analysis for selected interfaces has been included for the Ramapo and St. Lawrence interconnections. Graphs showing the sensitivity of the interface limit to the PAR schedule are included in Appendix G.

3. WEST WOODBOURNE TRANSFORMER

The Total-East interface may be limited at significantly lower transfer levels for certain contingencies that result in overloading of the West Woodbourne 115/69kV transformer. Should the West Woodbourne tie be the limiting facility, it may be removed from service to allow higher Total-East transfers. An overcurrent relay is installed at West Woodbourne to protect for contingency overloads.

4. CONED – LIPA TRANSFER ANALYSIS

Normal transfer limits were determined using the base case generation dispatch and PAR settings as described in Appendix B. Emergency limits are dispatch dependant and can vary based on generation and load patterns in the LIPA system.

For emergency transfer limit analysis the PARs controlling the LIPA import were adjusted to allow for maximum transfer capability into LIPA:

ConEd – LIPA PAR Settings

	Normal	Emergency
Jamaica – Lake Success 138kV	-210 MW	0 MW
Jamaica – Valley Stream 138kV	-107 MW	175 MW
Sprain Brook – E. Garden City 345kV	637 MW	637 MW

ISO-NE – LIPA PAR Settings

Norwalk Harbor – Northport 138kV	Out of Service	0 MW

The PAR schedules referenced above and the ConEd – LIPA transfer assessment assume 100% loss factor and rapid oil circulation in the determination of the facility ratings.

Emergency Transfer via the 138kV PAR-controlled Jamaica ties between ConEdison and LIPA

Con Edison and LIPA have determined possible emergency transfer levels via the Jamaica - Valley Stream (901) 138kV and Jamaica - Lake Success (903) 138kV PAR-controlled ties that could be used to transfer emergency power between the two entities during peak conditions. The emergency transfer levels were calculated in both directions, for system peak load conditions with all transmission lines in service and all generation available for full capacity.

ConEd to LIPA emergency assistance

Based on analysis of historical conditions performed by LIPA and Con Edison, Con Edison anticipates to be able to supply a total flow up to 175 MW* of emergency transfer from Con Edison to Long Island, if requested, via the ties.

LIPA to ConEd emergency assistance

LIPA anticipates to be able to supply a total flow up to 459 MW* of emergency transfer from Long Island to Con Edison, if requested, via the ties.

5. TRANSFER LIMITS FOR OUTAGE CONDITIONS

Transfer limits for scheduled outage conditions are determined by the NYISO Scheduling and Market Operations groups. The NYISO Real-Time Dispatch system monitors the EHV transmission continuously to maintain the secure operation of the interconnected system.

6. TRANSIENT STABILITY LIMITS

The thermal interface limits in Section 4 do not include the results of transient stability testing. The current all lines in service and maintenance outage transient stability and voltage stability interface limits, are summarized and available through the NYISO website located at:

http://www.nyiso.com/public/webdocs/market_data/reports_info/oper_studies_sys_perf_reports/summary_nyiso_operating_limits.doc

C. Thermal Transfer Capabilities with Adjacent Control Areas

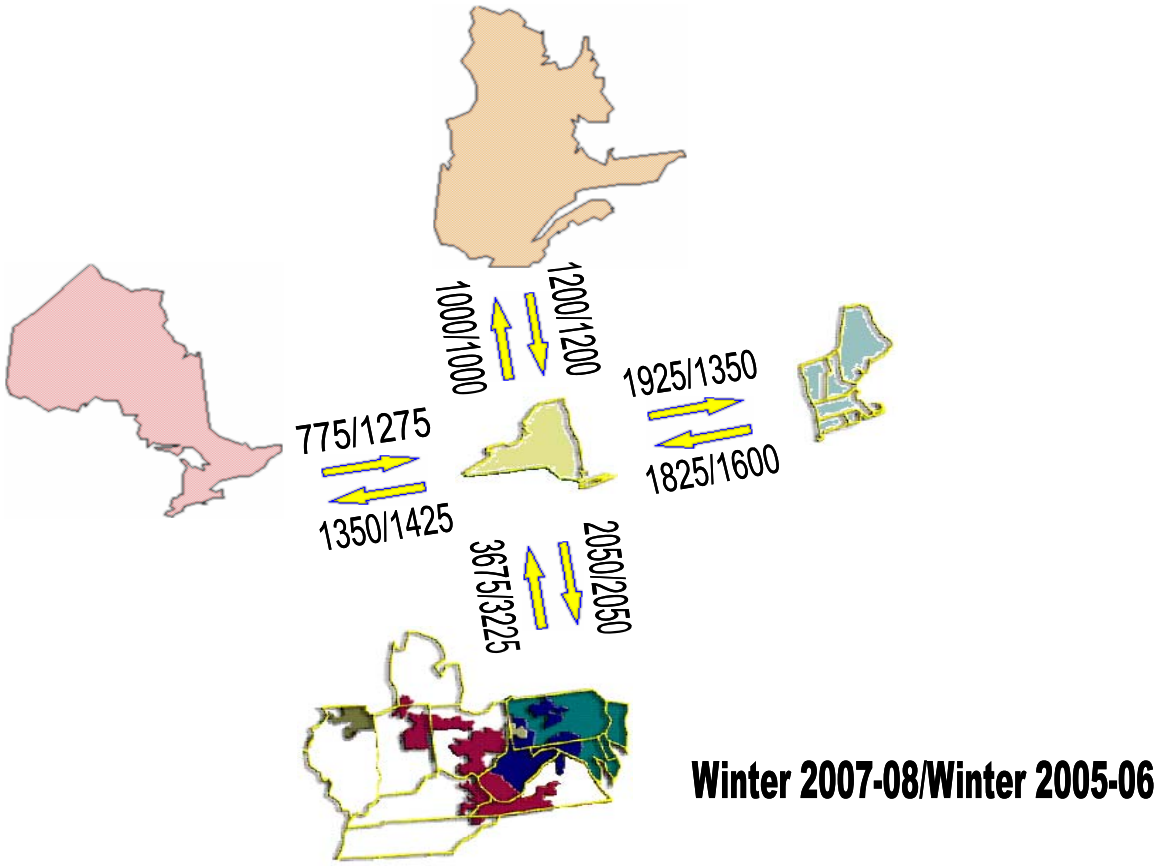

Figure 2 – Inter-Area Thermal Transfer Capabilities

1. NEW YORK – ISO NEW ENGLAND ANALYSIS

a) New England Transmission/Capacity Additions

Transmission

A new 345kV transmission circuit has been placed in service from the Plumtree to Norwalk in southwest Connecticut. Also, in Southwest CT the series reactors at Southington on the 1910 and 1950 lines will be in service. In Vermont, a phase angle regulating transformer has been placed in service on the Whitehall (NY) to Blissville (VT) 115kV circuit. Also in Vermont, a new 3454kV circuit has been place in service from West Rutland to New Haven, and two 345kV/115kV, 400MVA autotransformers at West Rutland. Two 345kV/115kV, 650MVA autotransformers have been added at the new Wachusett substation tapping the existing #314 and #343 345kV circuits between Sandy Pond and Millbury.

Capacity

In the New England Control Area, from September 2005 through January 2007, no additional capacity has been added.

b) Thermal Transfer Limit Analysis

The transfer limits between the NYISO and ISO New England for normal and emergency transfer

criteria are summarized in Section 4, Table 2. The Northport – Norwalk Harbour PAR will be out of service for the winter capability period.

c) Cross-Sound Cable

The Cross-Sound Cable is an HVdc merchant transmission facility connecting the New Haven Harbor 345kV (United Illuminating, ISO-NE) station and Shoreham 138kV (LIPA, NYISO) station. It has a design capacity of 330MW. This facility is not metered as part of NY-NE interface, and HVdc transfers are independent of transfers between the NYISO and ISO-NE.

d) Smithfield – Salisbury 69kV

CHG&E and Northeast Utilities will operate the Smithfield - Salisbury 69 kV (FV/690) line normally open during the summer period due to post-contingency limits within the Northeast Utilities system. When the ISO-NE to NYISO transfer is less than approximately 400 MW, however, the line may be closed. When closed, the maximum allowable flow on this line is 28 MVA based on limitations in the Northeast Utilities 69 kV system. The FV/690 line has directional over-current protection that will trip the line in the event of an overload when the flow is into Northeast Utilities. This facility will not limit transfers between NYISO and ISO-NE.

e) Northport - Norwalk Harbor Cable Flow

The Northport – Norwalk Harbour cable (1385) will be out of service for the winter capability period.

f) Whitehall – Blissville 115kV

The phase angle regulator on this circuit will control pre-contingency flow between the respective stations. VELCo, NationalGrid, ISO-NE and NYISO are developing a joint operating procedure. For the Winter 2007-08 analyses, the pre-contingency schedule is 50MW from Blissville (ISO-NE) to Whitehall (NYISO). The scheduled flow may be adjusted to protect the NationalGrid local 115kV transmission south of Whitehall for 345kV contingency events in southern Vermont.

g) Transient Stability Limitations

For certain system configurations, stability performance determines the transfer capability between the Areas. For those instances, the limits have been obtained from the report "1992-1996 NYPP-NEPOOL TRANSFER LIMIT STUDY - OCTOBER 1992." A new study of NYISO-ISO-NE transfer capability through 2009, including transient stability assessment, has been completed since the Spring of 2007.

The stability limits are expressed in terms of the transfer on the "Northern Ties", i.e., excluding flow on the Norwalk Harbor – Northport circuit. Stability limits for transfers from New England to New York are a function of the New England MW load level, and include the effect of Northfield and Bear Swamp in the generating and pumping mode.

2. NEW YORK - PJM ANALYSIS

a) Thermal Transfer Limit Analysis

The transfer limits for the New York - PJM interface are summarized in Section 4, Table 3. The phase angle regulating transformers controlling the Branchburg – Ramapo 500kV circuit are used to maintain flow at the normal rating of the Ramapo 500/345kV transformer (1000 MW) in the direction of the transfer.

b) Opening of PJM - New York 115 kV Ties as Required

The normal criteria thermal transfer limits presented in Section 4 were determined for an all lines in-service condition. The 115kV interconnections between GPU Energy and New York (Warren - Falconer, North Waverly - East Sayre, and Laurel Lake - Goudey) may be opened in accordance with NYISO and PJM Operating Procedures provided this does not cause unacceptable impact on local reliability in either system. Over-current protection is installed on the Warren - Falconer and the North Waverly - East Sayre 115kV circuits; either of these circuits would trip by relay action for an *actual overload* condition. There is no overload protection on the Laurel Lake - Goudey circuit, but it may be opened by operator action if there is an actual or post-contingency overload condition. However, opening the Laurel Lake – Goudey tie could potentially cause local thermal and pre- and post-contingency voltage violations for the 34.5 kV distribution system within New York. Sensitivity analysis performed indicated that the thermal and voltage conditions were exacerbated for conditions that modeled high simultaneous interface flows from NY to PJM and NY to Ontario.

3. ONTARIO – NEW YORK ANALYSIS

a) Thermal Transfer Limit Analysis

The thermal limits between the New York ISO and the Independent Electricity System Operator (IESO-Ontario) Areas for normal and emergency transfer criteria are presented in Section 4, Table 4. The transfer limits are determined for two assumed schedules on the phase angle regulating transformers controlling the L33P and L34P interconnections at St. Lawrence.

The thermal limit from Ontario to New York, with respect to NYISO facilities, has decreased 500 MW compared to Winter 2005-6. This is largely due to changes in limiting element/limiting contingency and pre contingency loading: The Winter 07 case has about 338 MW pre-contingency flow from New York through Ontario to Michigan but 0 MW in the Winter 05 base case.

The thermal limit from New York to Ontario, with respect to IESO facilities, remains approximately the same at 1350/1425 MW for normal transfer.. The direct tie interface limits decreased about 500 MW for the reason cited above.

Transient Stability Limitations

Transient stability limits for the NYISO - IESO interconnection are reported in "NYPP-OH TRANSIENT STABILITY TESTING REPORT on DIRECT TIE TRANSFER CAPABILITY - OCTOBER 1993."

b) Ontario – Michigan PARs

Phase Angle Regulating transformers are in service on the interconnections between Ontario and Michigan:

Lambton – St.Clair 345kV	L4D
Lambton – St.Clair 230kV	L51D
Keith – Waterman 230kV	J5D

The phase angle regulators controlling the Lambton – St Clair circuits (L4D and L51D) are in-service and are represented in the powerflow base case holding fixed angle (free-flow MW). These PARs will not be available to regulate power flow during normal operation on the Ontario – Michigan interface until an operating agreement among the parties has been finalized. Ontario and Michigan currently have an agreement in place to operate L4D and L51D off neutral tap in emergency conditions. The existing PAR controlling the Keith – Waterman (J5D) circuit is

controlling a schedule of 0 MW in the base case.

The Bunce Creek – Scott 230 kV circuit B3N has been returned to service. The phase angle regulating transformer controlling this circuit failed and a replacement is expected in mid-2008.

c) Generation Rejection for Loss of L33P/L34P-St. Lawrence Ties

The interface limits were determined for a particular load, transmission and generation pattern. When system conditions vary from those forecast in the study, normal interface limits may vary. Generation rejection special protection systems (SPSs) are available at Beauharnois, St. Lawrence/Saunders, and St. Lawrence/FDR to reject generation for the loss of the L33P and/or L34P interconnections. Ontario or NYPA operators consistent with system conditions can select these SPSs.

Of the two circuits, L33P is more limiting. At 0 degrees phase shift the limiting STE rating is 465 MVA (voltage regulator rating). The outage distribution factor for the loss of L34P is 0.601 and based on this, the maximum pre-contingency flow on each circuit should not exceed 290 MW. At 40 degrees phase shift the limiting STE rating is 334 MVA (PAR rating). The outage distribution factor for the loss of L34P is 0.462 and based on this, the maximum flow on each circuit should not exceed 228 MW.

4. TRANSÉNERGIE–NEW YORK INTERFACE

Thermal transfer limits between TransÉnergie (Hydro-Quebec) and New York are not analyzed as part of this study. Respecting the NYSRC and NYISO operating reserve requirements, the maximum allowable delivery into the NYCA from TransÉnergie on the Chateauguay – Massena (MSC-7040) 765kV tie is limited to 1200 MW. However the total flow has been limited to 1500 MW; the additional flow is a "wheel-through" transaction to another Control Area. Maximum delivery from NYCA to Quebec is 1000 MW.

5. SUMMARY OF RESULTS
TRANSFER LIMIT ANALYSIS

TABLE 1

NYISO CROSS-STATE INTERFACE THERMAL LIMITS- WINTER 2007-08
ALL LINES I/S

	Dysinger East	West Central	UPNY-ConEd	Sprain Brook Dunwoodie So.	ConEd-LIPA
NORMAL	3350(1)	2550(2)	4750(3)	4125(5)	825(7)
EMERGENCY	3625(1)	2775(2b)	5175(4)	4350(6)	1450(8)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Niagara – Rochester (NR2) 345kV	@LTE @STE	1745 MW 1904 MW	L/O	AES/Somerset – Rochester (SR-1) 345kV
(2)	Pannel – Clay 345 kV (PC1)	@LTE	1314 MW	L/O	Pannell – Clay 345 kV (PC2) Pannell 345/115 kV
(2b)	Pannel – Clay 345 kV (PC1)	@STE	1434 MW	L/O	Pannell – Clay 345 kV (PC2)
(3)	Leeds – Pleasant Valley (92) 345kV	@LTE	1783 MW	L/O	Athens – Pleasant Valley (91) 345kV
(4)	Leeds – Pleasant Valley (92) 345kV	@STE	1912 MW	L/O	Athens – Pleasant Valley (91) 345kV
(5)	Mott Haven - Rainey 345kV (Q11)	@SCUC	968 MW	L/O	Mott Haven - Rainey 345 kV (Q12) Rainey 345/138 kV
(6)	Mott Haven - Rainey (Q11) 345kV	@STE	1237 MW	L/O	Mott Haven – Rainey (Q12) 345kV
(7)	Dunwoodie – Shore Rd. (Y50) 345kV	@LTE	925 MW*	L/O	Sprain Brook – East Garden City (Y49) 345kV
(8)	Dunwoodie – Shore Rd. (Y50) 345kV	@Nor	664 MW*		Pre-Contingency Loading

NOTE: Some transfers may be voltage/stability limited
* LIPA rating for Y50 circuit is based on 100% loss factor and rapid oil circulation
* Sprain Brook –Dunwoodie South Normal limit (SCUC Limit) is the average of the LTE and STE rating.

TABLE 1.a

NYISO CROSS-STATE INTERFACE THERMAL LIMITS-WINTER 2007-08
ALL LINES I/S

	MSC-7040 FLOW HQ>NY@400 MW	MSC-7040 FLOW HQ>NY@0 MW	MSC-7040 FLOW NY>HQ@400 MW)
CENTRAL EAST			
NORMAL	2975(1)	2800(1)	2650(1)
EMERGENCY	3475(3)	3225(2)	2700(4)
TOTAL EAST			
NORMAL	6575(1)	6325(1)	6100(1)
EMERGENCY	7575(3)	7200(2)	6225(4)
MOSES SOUTH			
NORMAL	1700(6)	1425(5)	1075(5)
EMERGENCY	2225(7)	1925(7)	1625(7)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Oakdale - Fraser (32) 345kV	@LTE	1380 MW	L/O	(Tower 40 &41) Marcy – Coopers Corners (UCC2-41) 345kV Edic - Fraser (EF24-40) 345kV
(2)	Clay – Edic 345kV	@STE	1434 MW		Clay – Edic 345 kV
(3)	New Scotland – Leeds 345kV	@STE	1912 MW	L/O	New Scotland – Leeds 345kV
(4)	Marcy – Edic 345 kV	@STE	1793 MW	L/O	Marcy – Volney 345 kV
(5)	Moses - Adirondack 230kV	@LTE	359 MW	L/O	Moses – Massena (MMS-1) 230 kV Moses – Massena (MMS-2) 230 kV
(6)	Moses - Adirondack 230kV	@LTE	359 MW	L/O	Chateauguay–Massena (MSC-7040) 765kV Massena – Marcy (MSU-1) 765kV and TransÉnergie delivery
(7)	Moses - Adirondack 230kV	@STE	478 MW	L/O	Chateauguay–Massena (MSC-7040) 765kV Massena – Marcy (MSU-1) 765kV and TransÉnergie delivery

NOTE: Some transfers may be voltage/stability limited

TABLE 2.a

NYISO to ISO-NE INTERFACE LIMITS - WINTER 2007-08
ALL LINES I/S

New York to New England — **Northport – Norwalk 1385 Out of Service**

	DIRECT TIE	NYISO FACILITY	ISO-NE FACILITY
NORMAL	1925 (1)	2225 (3)	2425 (5)
EMERGENCY	2525 (2)	2225 (4)	2425 (5)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Long Mtn – Pleas. Valley (398) 345kV	@LTE	1386MW	L/O	Southgtn – Hadauto 345 kV Millstone – Hadauto 345 kV Mills #3 generation
(2)	Long Mtn – Pleas. Valley (398) 345kV	@STE	1685MW	L/O	Alps – Berkshire 345 kV Berkshire – Northfield 345 kV Berkshire 345/115 kV
(3)	Greenbush- Reynolds (9)115kV	@LTE	318MW	L/O	Alps - N Scotland77 (2) 345kV
(4)	Greenbush- Reynolds (9)115kV	@STE	318MW	L/O	Alps - N Scotland77 (2) 345kV
(5)	Berkshire - NorthFld	@STE	1345MW	L/O	Long Mtn – Pleas. Valley (398) 345kV

NOTE: Northport – Norwalk Harbor (1385) is out of service for the Winter 07-08 Capability period.

TABLE 2.b

ISO-NE to NYISO INTERFACE LIMITS - WINTER 2007-08
ALL LINES I/S

New England to New York		Norwalk – Northport 1385 Out of Service	
	DIRECT TIE	**NYISO FACILITY**	**ISO-NE FACILITY**
NORMAL	1825[(1)]	2275[(2)]	1725 [(3)]
EMERGENCY	2250[(1)]	3075[(4)]	1725 [(3)]

	LIMITING ELEMENT				**LIMITING CONTINGENCY**
(1)	Long Mtn – Pleas. Valley (398) 345kV	@LTE @STE	1386MW 1685MW	L/O	Alps – Berkshire 345 kV Berkshire – Northfield 345 kV Berkshire 345/115 kV
(2)	Alps - N Scotland77 (2) 345kV	@LTE	1410 MW	L/O	Long Mtn (398) – Pleasant Valley 345kV Long Mtn Frostbridge 345 kV Long Mtn Plumtree 345 kV
(3)	Southington – Canal (1950) 115 kV	@STE	352MW	L/O	Southington – FrostBridge (329) 345kV
(4)	Alps – Reynold 345 kV	@STE	796MW	L/O	Alps – N. Scotland 345 kV

NOTE: Norwalk Harbor – Northport cable schedule is positive in the direction of transfer

TABLE 3.a

PJM to NYISO INTERFACE LIMITS-WINTER 2007-08
ALL LINES I/S

PJM to NYISO	DIRECT TIE	NYISO FACILITY	PJM FACILITY
NORMAL	2725[1]	3550[4]	3800[6]
3-115-O/S	3675[2]	3825[7]	3975[3]
EMERGENCY	3450[5]	3650[4]	3800[6]
3-115-O/S	3750[2]	3850[7]	3975[3]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Warren-Falconer (171) 115 kV	@LTE	136 MW	L/O	Forest – Glade TP 230kV Glade TP- Glade 230kV Glade TP- Lewis RN 230kV
(2)	E. Towanda-Hillside (70) 230kV	@LTE @STE	564 MW 598 MW	L/O	Homer City - Watercure (30) 345kV
(3)	Oxbow – N. Meshoppen 230 KV	@NOR	567 MW		Pre – Contingency
(4)	Louns - S. Owego 115 KV	@LTE @STE	157 MW 167 MW	L/O	Oakdale - Watercure (31) 345kV
(5)	Warren-Falconer (171) 115 kV	@NOR	96 MW		Pre – Contingency Loading
(6)	Towanda – E. Sayer 115 kV	@Nor	153MW	L/O	Pre – Contingency Loading
(7)	Watercure – Shred 230 kV	@LTE @STE	435MW 440MW	L/O	Oakdale - Watercure (31) 345kV

NOTE: Emergency Transfer Limits may require line outages as described in Section 4.III. PAR schedules have been optimized for the emergency limits as described in Appendix B. Some transfers may be stability limited.

TABLE 3.b

NYISO to PJM INTERFACE LIMITS-WINTER 2007-08
ALL LINES I/S

NYISO to PJM	DIRECT TIE	NYISO FACILITY	PJM FACILITY
NORMAL	1500[1]	1450[2]	2225[3]
3-115-O/S	2050[4]	2650[5]	2650[6]
EMERGENCY	1500[1]	1450[2]	2225[3]
3-115-O/S	2100[7]	2725[8]	2650[6]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	E. Sayre - N. Waverly 115kV	@LTE @STE	139 MW	L/O	E. Towanda-Hillside (70) 230kV
(2)?	Goudey – Oakdale 115 KV	@LTE @STE	239 MW	L/O	Hillside-Watercure (69) 230kV
(3)	Laurel – Tiffany 115 kV	@NOR	116 MW		Pre-contingency loading
(4)	E. Towanda-Hillside (70) 230kV	@LTE	564 MW	L/O	Forest – Glade TP 230kV Glade TP- Glade 230kV
(5)	Dunkirk - S. Ripley 230 kV	@LTE	564 MW	L/O	E. Towanda-Hillside (70) 230kV
(6)	Erie E. – Erie S.E. 230 KV	@NOR	542 MW		Pre-contingency loading
(7)	E. Towanda-Hillside (70) 230kV	@NOR	512 MW		Pre-contingency loading
(8)	Dunkirk - S. Ripley 230 kV	@NOR	511 MW		Pre-contingency loading

NOTE: Emergency Transfer Capability Limits may have required line outages as described in Section 4.III. PAR schedules have been optimized for the emergency limits as described in Appendix B. Some transfers may be stability limited.

TABLE 4

NYISO- IESO INTERFACE LIMITS - WINTER 2007-08
ALL LINES I/S

Ontario to New York	L33/34P @ 0 MW			L33/34P @ 400 MW		
	DIRECT TIE	NYISO FACILITY	IESO FACILITY	DIRECT TIE	NYISO FACILITY	IESO FACILITY
NORMAL	2475(1)	775(3)	1725(5)	2875(1)	1150(3)	2025(5)
EMERGENCY	3175(2)	1050(3)	2050(6)	3550(2)	1425(3)	2325(6)

New York to Ontario	L33/L34P @ 0 MW		L33/34P @ 200 MW	
NORMAL	1575(2)	1350(7)	1750(2)	1575(7)
EMERGENCY	1875(4)	1500(8)	2050(4)	1700(8)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Beck A-Niagara (PA302) 345kV	@LTE	1469 MW	L/O	Beck B-Niagara(PA301) 345kV Niagara 345/230 kV
(2)	PA27 - Niagara2W 230kV	@LTE @STE	540 MW 685 MW	L/O	Beck B-Niagara2W (PA301) 345kV Niagara 345/230 kV
(3)	Niagara –Rochester (NR-2) 345kV	@LTE @STE	1745 MW 1904 MW	L/O	AES/Somerset – Rochester (SR-1) 345 KV
(4)	PA27 - Niagara2W 230kV	@NOR	480MW		Pre-Contingency Loading
(5)	Middleport2- NealJ(Q25BM) 220kV	@LTE	521MW	L/O	NealJQ23- Middleport2 (Q23BM) 220kV
(6)	Middleport2- NealJ(Q25BM) 220kV	@NOR	452 MW	L/O	Pre-Contingency Loading
(7)	Middleport1- AlanJQ30 220kV	@LTE	455MW	L/O	Beck- HannonJ29 220kV
(8)	Beck- HannonJ29 220kV	@NOR	519 MW		Pre-Contingency Loading

NOTE: Some transfers may be stability limited.