NYISO OPERATING STUDY - WINTER 2002-03

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1. 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 2002-03 capability period. This analysis indicates that, for the WINTER 2002-03 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" (September 10, 1999) 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.

2. RECOMMENDATIONS

The following recommendations are presented based on the analysis and results documented in this report.

1) 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.

2) Installed Capacity (ICAP) resources of 35,961 MW are anticipated to be adequate to meet the forecast peak demand of 24,550 MW. The NYISO should have adequate operating reserve during the period.

3. SYSTEM REPRESENTATION AND BASE STUDY ASSUMPTIONS

I. System Representation

The representation was developed from the NYISO Databank and assumes the

forecast winter coincident peak load of 24,550 MW. The other NPCC members and adjacent regions representations were obtained from MEN/VEM WINTER 2002-03 Reliability Assessment power flow.

The generator output levels for major EHV-connected units are summarized in Appendix B, and are consistent with typical operation for the period. The inter-Area transactions represented in the study base case are summarized in Appendix A, and are consistent with those modeled in the MEN/VEM WINTER 2002-03 Reliability Assessment.

Significant changes in the transmission system since winter 2001-02 include:

Dunwoodie – Shore Rd. 345kV (Y50)	In service 03/2002
New Northport PAR	In service
RECO Load transfer to PJM control area	4/2002

New transmission facilities represented in this study include:

Rock Tavern Transformer 345/115 kV	In service 08/2002
Cross-Sound Cable	In service 08/2002
Athens 345 kV station	In service 5/2002

Loop existing Leeds – Pleasant Valley 345kV circuit #91, establishing a Leeds – Athens #95 and Athens – Pleasant Valley #91 circuits.

Cross-Sound Cable is an HVdc facility between the New Haven Harbor 345kV (United Illuminating, ISO-NE) station and Shoreham 138kV (LIPA). It has a design capacity of 330MW. The facility completed testing during Summer 2002, and is expected to be commercially available for operation in November 2002.

II. Base Study Assumptions

The Normal and Emergency Criteria thermal limits have been determined by the PTI MUST thermal transfer analysis program and PSS/E power Flow. The thermal limits presented have been determined for all transmission facilities scheduled in service during the WINTER 2002-03 period.

The schedules used in the base case loadflows for this analysis assumed a net flow of 1000 MW from 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 MAAC-ECAR-NPCC (MEN) Inter-regional Reliability Assessment for WINTER 2002-03, and the NERC/MMWG WINTER 2002-03 load

flow base case.

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 operating authority.* Some of these potential limitations are indicated in the summary tables by "____ Internal" 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.

4. DISCUSSION

I. Resource Assessment

Load and Capacity Assessment

The forecast peak demand for the WINTER 2002-03 capability period is 24,550MW. This forecast is approximately 1.0% below the forecast for Winter 2001-02 capability period, and 1.02% above the all-time New York control area seasonal peak of 24,051 MW, which occurred on January 18, 2000. The Installed Capacity (ICAP) requirement of 35,961 MW, based on the NYSRC 18% reserve requirement, is anticipated to be adequate to meet forecast demand.

NYISO Peak Load and Capacity Assessment – WINTER 2002-03

NYISO ICAP Requirement	35961
Net of full-responsibility purchases/sales	0
Scheduled generation outages	2459
Allowance for unplanned outages	4053
Net capacity for load	29449
NYISO Forecast Peak	24550
Operating Reserve Requirement	1800
Available Reserve	***4899***
Net Margin	3099

The assumed allowance for unplanned outages is an equivalent rate of 11.2% and includes forced outages and de-rating based on historical performance of all generation in the New York control area.

The NYISO load forecast for winter 2002-03 is lower than the forecast for winter 2001-02 primarily due to the transfer of the Rockland Electric Company (Orange & Rockland load in northern New Jersey) load to the PJM Control Area.

II. Cross-State Interfaces

A. Transfer Limit Analysis

Figure 1 presents a comparison of the WINTER 2002-03 thermal transfer limits to Winter 2001-02. Changes in these limits from last year 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. The detailed comparison of Cross-State limits between WINTER 2002-03 and 2001-02, with limiting element/contingency descriptions, is located in Appendix H.

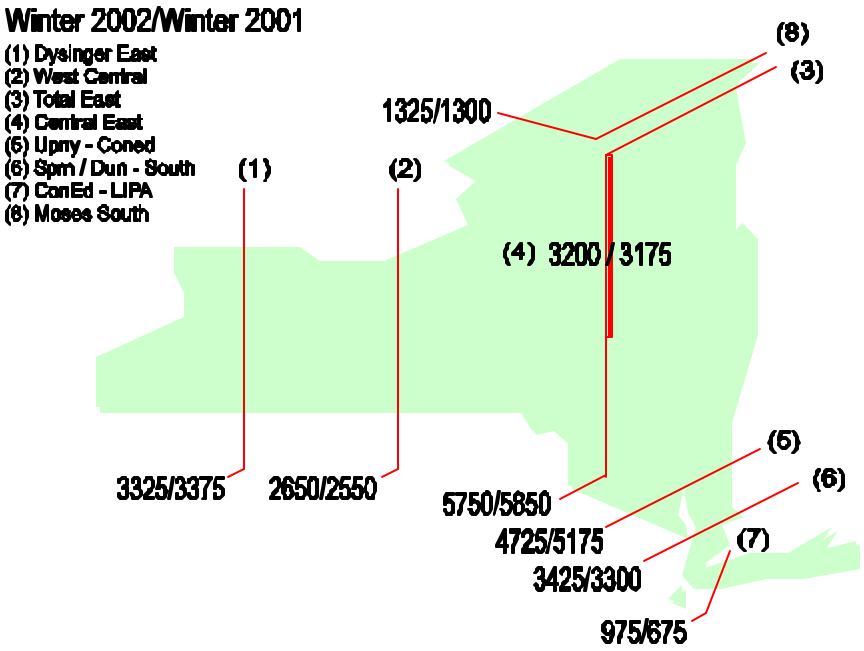

Figure 1 – Cross-State Transfer Limits

- ***Dysinger East*** decreased by 50 MW and ***West Central*** limits have increased by 100 MW.

- ***UPNY – ConEd*** interface limit has decreased 450 MW largely due to changes in the base case dispatch, and lower base schedule on the Ramapo phase angle regulators. The slight increase in the impedance of the Leeds-Athens-Pleasant Valley #95/91 circuits resulting in slightly higher loading of the Leeds-Pleasant Valley circuit #92.

- ***Sprain Brook/Dunwoodie – South*** interface limit has increased 125 MW due to changes in pre-contingency circuit loading. With Ravenswood 3 (980 MW) represented in service in this winter base case, the result is a decreased loading on the Dunwoodie – Rainey 345kV circuits compared to winter 2001 case and increased loading on the Sprain Brook – West 49th Street 345kV circuits.

- ***Con Edison – LIPA*** interface limit has increased 300 MW largely due to the return in service of the Dunwoodie – Shore Road 345kV circuit Y50. This has significantly increased LIPA import capability.

- ***Total East*** thermal transfer limits have a net decrease of 100 MW due to the change in the Total East interface definition due to RECO load and changes in the base case schedule of the Phase Angle Regulators, however this will not result in decreased overall transfer capability, as this interfaces will continue to be limited by voltage and stability performance.

B. Sensitivity Testing

The thermal limits presented in Section 5 were determined using the base conditions and transactions. The effects of various intra- and inter-Area transfers or generation patterns in the system are presented in Appendix G.

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

C. 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.

D. Con Ed – LIPA Analysis

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

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

ConEd - LIPA PAR Settings for Emergency Conditions

	Normal	**Emergency**
Jamaica – Lake Success 138kV	-235MW	0MW
Jamaica – Valley Stream 138kV	0MW	160MW
Sprain Brook – E. Garden City 345kV	693MW	693MW
Norwalk Harbor – Northport 138kV	200MW	286MW

Dunwoodie – Shore Road 345kV circuit Y50 was out of service for replacement of cable in the 2001 winter transfer analysis (ConEd–LIPA and New York– New England) into the Long Island load zone. The return in service of Y50 has significantly increased LIPA import capability between the ConEd and LIPA.

Norwalk Harbor – Northport 138kV circuit 1385 – A new Northport PAR with an increased angle capability is being installed and is expected to be in service this winter. With this PAR, the problem of maintaining the scheduled power flow on the Norwalk Harbor – Northport 138kV circuit due to angle limitations on the phase angle regulator at Northport will no longer be an issue. This generally has occurred during periods with low generation on Long Island and high generation in southwest New England.

E. 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 Security Constrained Dispatch system monitors the EHV transmission continuously to maintain the secure operation of the interconnected system.

F. UPNY-ConEd Sensitivity to Athens Generation

New generation at the Athens site is expected to be in service prior to the end of the Winter capability period. Athens Generation connects directly to the Leeds – Pleasant Valley 345kV circuits. The chart on page G-14 in Appendix G demonstrates the relationship between generation at Athens and the UPNY – ConEd transfers as limited by the Leeds – Pleasant Valley 345kV transmission path.

G. Transient Stability Limits

The transient stability limit for all lines in service and selected maintenance conditions are summarized in Appendix I.

III. Transfer Capabilities with Adjacent Control Areas

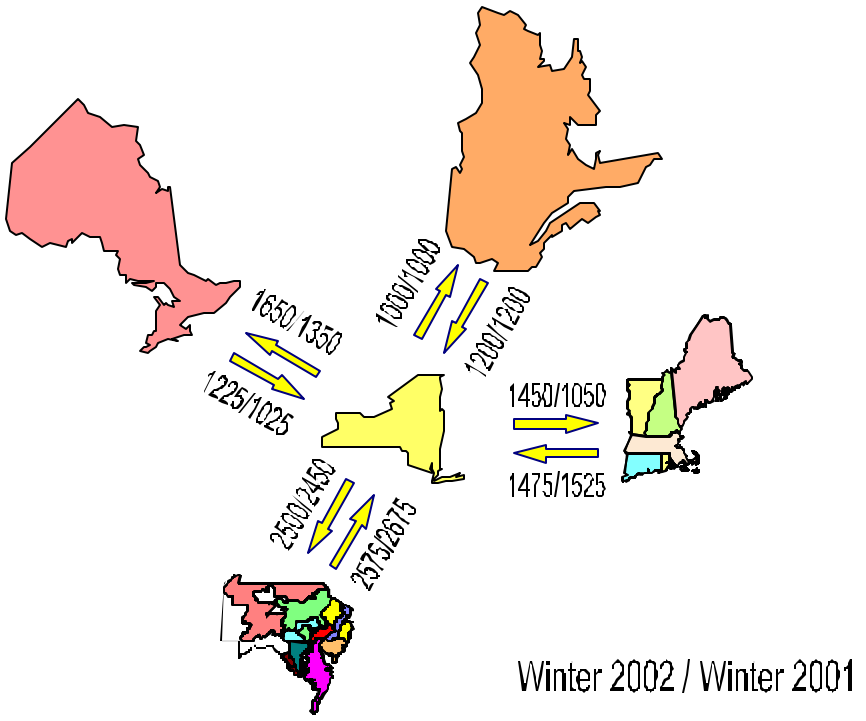

Figure 2 – Inter-Area Transfer Capabilities

A. New York – ISO New England Analysis

1. New England Capacity Additions

In the New England Control Area, from April 2001 through January 2002, approximately 1,370 MW (winter capability) of new capacity has been added with an additional 5890 MW expected to be in service prior to the start of the Winter 2002-2003 capability period. During the Winter 2002-2003 period, an additional 520 MW of capacity is expected to become available. Since the beginning of the previous winter (2001-2002) capability period, the following new generation has become available or is expected to be available:

Millenium	350 MW
Westbrook	520 MW
ANP-Blackstone	500 MW
PPL-Wallingford	250 MW
PGE-Lake Road	750 MW
Con-Ed West Springfield	100 MW
PDC-Waterside	70 MW
AES Granite Ridge	750 MW
Con-Ed Newington	520 MW
Mirant-Kendall	180 MW
ANP-Bellingham	500 MW
Sithe Mystic #8	750 MW
FPL-RISE	520 MW
Sithe Fore River	750 MW
Sithe Mystic #9	750 MW

2. Thermal Analysis

The transfer limits between the NYISO and ISO New England for normal and emergency transfer criteria are summarized in Section 5, Table 2. Referring to Figure 2, above, the transfer capability from NY to NE has increased by 400 MW due to a reduced pre-transfer loading on the limiting element, Greenbush-Reynolds Road 115kV line (toward Reynolds Road), and the limiting contingency, Alps – New Scotland 345 kV. This change in loading also results in a 50MW decrease in the NE to NY transfer capability.

3. Cross-Sound Cable

The Cross-Sound Cable is an HVdc facility between the New Haven Harbor 345kV (United Illuminating, ISO-NE) station and Shoreham 138kV (LIPA). 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.

4. CHG&E and Northeast Utilities will operate the Smithfield-Falls Village 69kV line (FV/690) normally closed during the winter period. The maximum allowable transfer on this line is 28 MVA, based on limitations in the Northeast Utilities 69 kV system. The FV/690 has over-current protection that will trip

the line in the event of an actual overload. This facility will not limit NYISO-ISO-NE transfers.

5. Northport - Norwalk Harbor Cable Flow

As system conditions vary the following may be used to optimize transfer capability between the Areas. Exhibits in Appendix G graphically demonstrate the optimization of transfer capability by regulating the flow on the Northport-Norwalk Harbor tie.

New York to New England: With power flowing from New York to New England on the Northport to Norwalk Harbor (1385) cable, potential overloads of the Norwalk Harbor to Rowayton Junction (1867) and the Norwalk Harbor to Rowayton Junction (1880) circuits must be considered as follows:

- The flow from Norwalk Harbor to Rowayton Junction (1867) should not exceed 237 MVA (Normal rating of Norwalk Harbor to Rowayton Junction (1867).

- The flow from Norwalk Harbor to Rowayton Junction (1880) should not exceed 214 MVA (Normal rating of Norwalk Harbor to Rowayton Junction (1880)).

New England to New York: With power flowing from New England to New York on the Norwalk Harbor to Northport (1385) cable, potential overloads of the Trumbull Junction to Weston (1730) circuit must be considered as follows:

- The algebraic sum of the flow from Trumbull Junction to Weston (1730) and 27% of the flow from Pequonnock to Trumbull Junction (1710) and 29% of the flow from Devon to Trumbull Junction (1710) should not exceed 278 MVA (STE rating of Trumbull Junction to Weston (1730)).

- The algebraic sum of the flow from Trumbull Junction to Weston (1730) and 25% of the flow from Pequonnock to Ash Creek (91001) and 21% of the flow from Bridgeport Resco should not exceed 278 MVA (STE rating of Trumbull Junction to Weston (1730)).

- In order to transfer 200 MVA from Norwalk Harbor to Northport,

Norwalk Harbor generation should be on.

6. Plattsburgh – Sandbar (PV-20) Circuit

The base case schedule on this facility is 128 MW from Plattsburgh, NY to Sandbar, VT for all transfer conditions studied.

7. 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." These stability transfer limits are presented in Appendix I.

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.

B. New York - PJM Analysis

1. Thermal Analysis

The transfer limits for the New York - PJM interface are summarized in Section 5, Table 3. The comparison with Winter 2001-02 in Figure 2 shows a decrease of 100 MW transfer capability toward NY, and the New York to PJM limit has increased by 50 MW. These changes are the result of net changes in base case PAR schedules and transfer of the RECO load to PJM, and network and rating changes within the PJM Area.

2. Opening of PJM to New York 115 kV Ties as Required

The normal criteria thermal transfer limits presented in Section 5 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 Tiffany - 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, however it may be opened by operator action if it imposes an actual or post-contingency overload condition. The results presented in Table 3 include limits that assume one (or more) of these lines removed from service to achieve higher inter-Area transfer capability.

C. Ontario – New York Analysis

1. Thermal Analysis

The thermal limits between the New York ISO and the Independent Market Operator (IMO-Ontario) Areas for normal and emergency transfer criteria are presented in Section 5, Table 4. The New York to Ontario limit has increased 300 MW. The Ontario to New York limit has increased 200 MW. This is due to a shift in the limiting element and limiting contingency in both directions. The Ontario to New York transfer was limited by Niagara-Rochester 345kV for loss of AES/Somerset-Rochester 345kV in the winter 2001-02 case and the same interface is limited by Packard-Niagara 230kV for loss Packard-Niagara 230kV and Beck (BP76) - Packard 230kV in the winter 2002-03 case. The New York to Ontario transfer was limited by a PJM facility (Beck-Middleport for loss Q24 and Q29) in the winter 2001-02 while the interface is limited by a direct tie (Beck-Niagara for loss of Beck-Niagara (PA302) and Niagara 345/230 kV) in the winter 2002-03 case.

2. Transient Stability Limitations

Transient stability limits for the NYISO - IMO interconnection are reported in "NYPP-OH TRANSIENT STABILITY TESTING REPORT on DIRECT TIE TRANSFER CAPABILITY - OCTOBER 1993." This stability testing is summarized in Appendix I of this report.

3. Ontario – Michigan PARs

Phase Angle Regulating transformers are being installed on the interconnections between Ontario and Michigan:

Lambton – St. Clair 345kV L4D

Lambton – St. Clair 230kV	L51D
Scott – Bunce Creek 230kV	B3N

They are not expected to be operational during the winter period.

4. 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. These SPSs can be selected by the Ontario or NYPA (as appropriate) operators, consistent with system conditions.

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.

D. TransEnergie–New York Interface

Thermal transfer limits between TransEnergie (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 TE is limited to 1200 MW. Maximum delivery from NYCA to TE is 1000 MW.

MUST - ANALYSIS

5. SUMMARY OF RESULTS
TRANSFER LIMIT ANALYSIS

TABLE 1

NYISO CROSS STATE INTERFACE THERMAL LIMITS-WINTER 2002-03
ALL LINES I/S

	Dysinger East	West Central	UPNY-ConEd	Sprain Brook Dunwoodie So.	ConEd-LIPA
NORMAL	3325[1]	2650[2]	4725[4]	3425[5]	975[6]
EMERGENCY	3600[1]	2700[3]	5175[4]	4025[5]	1500[7]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Niagara – Rochester (NR2) 345kV	@LTE @STE	1745 MW 1904 MW	L/O	AES/Somerset – Rochester (SR-1) 345kV
(2)	Clay – Edic 345kV	@LTE	1434 MW	L/O	(Breaker failure @ Clay 345kV) Clay – Edic 345kV Clay 345/115kV
(3)	Clay – Edic 345kV	@STE	1434 MW	L/O	Clay – Edic 345kV
(4)	Leeds - Pleasant Valley 345kV	@LTE @STE	1783 MW 1912 MW	L/O	Athens - Pleasant Valley 345kV
(5)	Dunwoodie - Rainey 345kV	@LTE @STE	871 MW 1113 MW	L/O	Dunwoodie – Rainey 345kV
(6)	Dunwoodie - Shore Road 345kV	@LTE	925 MW	L/O	Sprain Brook – E.G.C
(7)	Dunwoodie - Shore Road 345kV	@NOR	664 MW	L/O	Pre-Contingency Loading

NOTE: Some transfers may be stability limited. See Appendix I for existing transient stability limits.

TABLE 1.a

NYISO CROSS STATE INTERFACE THERMAL LIMITS-WINTER 2002-03
ALL LINES I/S

	HQ -> NY @ 400 MW	HQ -> NY @ 0 MW
CENTRAL EAST		
NORMAL	3350[3]	3200[1]
EMERGENCY	3400[4]	3250[2]
TOTAL EAST		
NORMAL	5975[3]	5750[1]
EMERGENCY	6100[4]	5850[2]
MOSES SOUTH		
NORMAL	1675[5]	1325[5]
EMERGENCY	2275[6]	2175[7]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Clay - Edic 345kV	@LTE	1434 MW	L/O	Clay – Edic 345kV Clay 345/115 kV
(2)	Clay - Edic 345kV	@STE	1434 MW	L/O	Clay – Edic 345kV
(3)	New Scotland – Leeds (92) 345 kV	@LTE	1692 MW	L/O	New Scotland – Leeds (93) 345 kV
(4)	Marcy – Coopers Corners 345 kV	@STE	1345 MW	L/O	Fraser – Coopers Corners 345 KV
(5)	Moses - Adirondack 230kV	@LTE	359 MW	L/O	Moses - Massena (MMS-1) 230 kV Moses - Massena (MMS-2) 230 kV
(6)	Marcy 765/345 kV	@STE	1654 MW	L/O	Marcy 765/345 kV
(7)	Moses – Massena MMS-1 230kV	@STE	1404 MW	L/O	Moses – Massena MMS-2 230kV

NOTE: Some transfers may be stability limited. See Appendix I for existing transient stability limits.

TABLE 2.a

NYISO to ISO-NE INTERFACE LIMITS - WINTER 2002-03
ALL LINES I/S

New York to New England		**Northport – Norwalk @ 100MW**	
	DIRECT TIE	NYISO FACILITY	ISO-NE FACILITY
NORMAL	1450(1)	1550(2)	2725(4)
EMERGENCY	2750(3)	2000(2)	2725(4)

		Northport – Norwalk @ 0 MW	
NORMAL	1850(1)	1475(2)	2700(4)
EMERGENCY	2625(3)	1950(2)	2700(4)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Norwalk - Northport (1385) 138kV	@LTE	363 MW	L/O	Long Mtn - Pleasant Valley (398) 345kV Long Mtn – Frost Bridge 345 kV Long Mtn – Plumtree 345 kV Frost Bridge 345/115 kV
(2)	Greenbush – Reynolds Rd. (9) 115kV	@LTE @STE	234 MW 278 MW	L/O	New Scotland – Alps (2) 345kV
(3)	Pleasant Val – Long Mtn (398) 345kV	@STE	1635 MW	L/O	Alps – Berkshire-Northfld (393) 345kV
(4)	Coolidge – Ascutney (K31) 115kV	@STE	299 MW	L/O	Vt.Yankee–Amherst-Scobie(379)345 KV

Note: Northport – Norwalk Harbor flow is positive in the direction of transfer.

TABLE 2.b

ISO-NE to NYISO INTERFACE LIMITS - WINTER 2002-03
ALL LINES I/S

New England to New York	**Norwalk – Northport @ 100MW**		
	DIRECT TIE	NYISO FACILITY	ISO-NE FACILITY
NORMAL	1925(1)	2325(2)	1500(4)
EMERGENCY	2100(3)	2450(5)	1500(4)

	Norwalk – Northport @ 200MW		
NORMAL	1475(1)	2375(2)	1525(4)
EMERGENCY	1925(6)	2500(5)	1525(4)

.

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Norwalk - Northport (1385) 138kV	@LTE	363 MW	L/O	Pleasant Valley – Long Mtn (398) 345kV Pleasant Valley – Fishkill 345 kV
(2)	N.Troy – Boyntonville 115kV	@LTE	159 MW	L/O	(Alps Bus Fault) Alps – Berkshire (393) 345kV Alps – Reynolds Rd. 345kV New Scotland – Alps 345kV
(3)	Bennington – Hoosick 115 kV	@STE	159 MW	L/O	Alps – Berkshire -Northfld (393) 345kV
(4)	Southington – Todd (1910) 115kV	@STE	352 MW	L/O	Southington – Frost Bridge (329) 345kV
(5)	N.Troy – Boyntonville 115kV	@STE	159 MW	L/O	Alps – Berkshire-Northfld (393) 345kV
(6)	Norwalk - Northport (1385) 138kV	@STE	428 MW	L/O	Pleasant Valley – Long Mtn (398) 345kV

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

TABLE 3.a

PJM to NYISO INTERFACE LIMITS-WINTER 2002-03
ALL LINES I/S

PJM to NYISO	DIRECT TIE	NYISO FACILITY	PJM FACILITY
NORMAL	1550[1]		
3-115-O/S	2625[2]		2575[3]
EMERGENCY	2725[2]		2925[3]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Warren-Falconer (171) 115 kV	@LTE	136 MW		Forest – Glade 230 kV
(2)	E. Towanda-Hillside (70) 230kV	@LTE @STE	564 MW 598 MW	L/O	Homer City - Watercure (30) 345kV
(3)	Oxbow – Lackawanna 230 KV	@LTE @NOR	504 MW 504 MW	L/O	Homer City - Watercure (30) 345kV Pre - Contingency

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. See Appendix I for existing transient stability limits.

TABLE 3.b

NYISO to PJM INTERFACE LIMITS-WINTER 2002-03
ALL LINES I/S

NYISO to PJM	DIRECT TIE	NYISO FACILITY	PJM FACILITY
NORMAL	2000[1]		
3-115-O/S	2500[2]		1825[3]
EMERGENCY	2025[4]		2000[3]
3-115-O/S	2575[5]		1925[3]

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	E. Sayre - N. Waverly 115kV	@LTE	139 MW	L/O	Grover -E.Towanda 230 kV E.Towanda – Hillside 230 kV E.Towanda 230/115 kV
(2)	E. Towanda – Hillside 230kV	@LTE	564 MW	L/O	Forest – Glade 230kV
(3)	Homer City 345/230 kV	@LTE @STE	742 MW 779 MW	L/O	Homer City 345/230 kV
(4)	E. Sayre - N. Waverly 115kV	@STE	139 MW	L/O	E. Towanda – Hillside 230kV
(5)	E. Towanda – Hillside 230kV	@NOR	512 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. See Appendix I for existing transient stability limits.

TABLE 4

NYISO- IMO INTERFACE LIMITS - WINTER 2002-03
ALL LINES I/S

Ontario to New York		**L33/34P @ 0 MW**			**L33/34P @ 400 MW**	
	DIRECT TIE	NYISO FACILITY	IMO FACILITY	DIRECT TIE	NYISO FACILITY	IMO FACILITY
NORMAL	2250(1)	1225(2)	2350(3)	2625(1)	1550(2)	2750(3)
EMERGENCY	2775(1)	1975(4)	2800(5)	3175(1)	2425(4)	3200(5)

New York to Ontario		**L33/L34P @ 0 MW**	**L33/34P @ 200 MW**
NORMAL	1650(6)		1825(6)
EMERGENCY	1950(7)		2125(7)

	LIMITING ELEMENT				LIMITING CONTINGENCY
(1)	Beck - Niagara 230kV (PA27)	@LTE @STE	540 MW 685 MW	L/O	Beck - Niagara (PA302) 345kV
(2)	Niagara2W - Packard 230 kV	@LTE	717 MW	L/O	Niagara2W - Packard 230 kV BP76 - Packard 230 kV
(3)	AllanQ30- Middleport 220kV	@LTE	517 MW	L/O	Beck- Hannon-Nebo-Middleport (Q24HM) 220kV Beck- Hannon-Nebo-Middleport (Q29HM) 220kV
(4)	Niagara –Rochester (NR-2) 345kV	@STE	1904 MW	L/O	AES/Somerset – Rochester (SR-1) 345 KV
(5)	AllanQ30- Middleport 220kV	@NOR	456 MW		Pre-Contingency Loading
(6)	Beck - Niagara 230kV (PA27)	@LTE	540 MW	L/O	Breaker failure@Niagara Beck - Niagara (PA302) 345kV Niagara 345/230 kV
(7)	Beck - Niagara 230kV (PA27)	@NOR	480 MW		Pre-Contingency Loading

NOTE: Some transfers may be stability limited. See Appendix I for existing transient stability limits.

APPENDIX A

SCHEDULE OF SIGNIFICANT INTERCHANGES ASSUMED FOR TRANSFER LIMITS STUDIES

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SCHEDULE OF NET INTERCHANGES

TO / FROM	NYISO	PJM	PJM-West	IMO	ISONE	NB/NS	Trans-Énergie	Other Control Areas	TOTAL EXPORT+ IMPORT-
NYISO		-112	0	0	123	0	0	82	93
PJM	112		0	0	0	0	0	-98	14
PJM-West	0	0		0	0	0	0	-385	-385
IMO	0	0	0		0	0	0	-50	-50
ISONE	-123	0	0	0		-600	-700	0	-1423
NB/NS	0	0	0	0	600		-500	0	100
Trans-Énergie	0	0	0	0	700	500		0	1200

APPENDIX A
SUMMARY OF WINTER 2002-03 BASE TRANSFERS

NEW BRUNSWICK/NOVA SCOTIA	
New Brunswick to TransÉnergie: Madawaska and Eel River HVdc	-500
New Brunswick to New England	600
Total Export (+) / Import (-)	**100**

NEW ENGLAND	
New England to New Brunswick	-600
New England to TransÉnergie: Sandy Pond and Highgate HVdc	-700
New England to New York	-123
Total Export (+) / Import (-)	**-1423**

NEW YORK ISO	
New York to TransÉnergie	0
New York to New England: NYPA to VELCO	123
New York to PJM: NYPA to PA-RECS	94
New York to PJM. (Sithe Allegheny)	-36
New York to ECAR: NYPA to AMP- Ohio	82
New York to IMO (Ontario)	0
New York to PJM (Non-Firm Energy)	-170
Total Export (+) / Import (-)	**93**

IMO (Ontario)	
IMO (Ontario) to TransÉnergie	0
IMO (Ontario) to New York	0
IMO (Ontario) to ECAR (Detroit Edison)	0
IMO (Ontario) to MAPP	-50
Total Export (+) / Import (-)	**-50**

APPENDIX A
SUMMARY OF WINTER 2002-03 BASE TRANSFERS

PJM and PJM-West	
PJM to New York: PA-RECS to NYPA	-94
PJM to New York: (Sithe Allegheny)	36
PJM to New York: (Non Firm Energy)	170
PJM to VACAR	-560
Miscellaneous Transfers to Other Control Areas	77
Total Export (+) / Import (-)	**-371**

TRANSÉNERGIE	
TransÉnergie to New Brunswick: Madawaska and Eel River HVdc	500
TransÉnergie to New England: Sandy Pond and Highgate HVdc	700
TransÉnergie to New York	0
TransÉnergie to IMO (Ontario)	0
Total Export (+) / Import (-)	**1200**

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APPENDIX B

WINTER 2002-03 BASE CASE CONDITIONS

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WINTER 2002-03 Conditions

GENERATION FACILITIES (LEVEL OF GENERATION IN CASE)

The status and dispatch of EHV-connected generation represented in this analysis is listed below.

NYISO

Huntley	382 MW	In Service
Dunkirk	360 MW	In Service
Niagara (1-13)	2595 MW	In Service
AES/Somerset	559 MW	In Service
Ginna	509 MW	In Service
Sithe/Independence	1064 MW	In Service
Oswego #5	714 MW	In Service
Oswego #6	0 MW	Out of Service
Nine Mile Pt #1	626 MW	In Service
Nine Mile Pt #2	1212 MW	In Service
J.A. Fitzpatrick	849 MW	In Service
St. Lawrence/FDR (17-32)	798 MW	In Service
Roseton 1	349 MW	In Service
Roseton 2	0 MW	Out of Service
Gilboa	500 MW	In Service
Saranac Energy	239 MW	In Service
Selkirk Cogen	213 MW	In Service
Indian Pt #2	927 MW	In Service
Indian Pt #3	1011 MW	In Service
Bowline Pt 1	0 MW	Out of Service
Bowline Pt 2	592 MW	In Service
Poletti	855 MW	In Service
Ravenswood #3	792 MW	In Service
ECP/Linden Cogen	645 MW	In Service
Arthur Kill #3	0 MW	Out of Service

ISO-NE

Millstone Point #2	868 MW	In Service
Millstone Point #3	1146 MW	In Service
Vermont Yankee	502 MW	In Service
Northfield 1 & 3	750 MW	In Service
Bear Swamp 1 & 2	440 MW	In Service
Norwalk Harbor 1 & 2	145/135 MW	In Service
Seabrook	1150 MW	In Service

IMO (Ontario)

Darlington (4 Units)	3720 MW	In Service
Beck 1 & 2	163/1352 MW	In Service
Bruce B (4 Units)	3000 MW	In Service
Lambton (3 Units)	1530 MW	In Service
Pickering (A & B, 8 Units)	1080/2160 MW	In Service
Nanticoke (5 Units)	4096 MW	In Service
St. Lawrence/Saunders (1-16)	848 MW	In Service

PJM

Peach Bottom #2	1120 MW	In Service
Peach Bottom #3	1119 MW	In Service
Salem #1	0 MW	Out of Service
Salem #2	1133 MW	In Service
Limerick #1	1182 MW	In Service
Limerick #2	1198 MW	In Service
Hope Creek	1085 MW	In Service
Susquehanna #1	1157 MW	In Service
Susquehanna #2	1121 MW	In Service

TransEnergie HVdc CONVERTER SCHEDULES

Chateauguay HVdc	0 MW	Out of Service
Sandy Pond HVdc	500 MW	In Service
Highgate HVdc	200 MW	In Service
Madawaska HVdc	250 MW	In Service
Eel River HVdc	250 MW	In Service

AREA LOADS & LOSSES

NYISO	25154 MW
ISO-NE	22301 MW
IMO (Ontario)	25300 MW
PJM	44421 MW

PHASE ANGLE REGULATOR SCHEDULES

Inghams (CD-ED)	120 MW
Plattsburgh-Sandbar (PV-20)	147 MW
St. Lawrence-Moses L33P	0 MW
St. Lawrence-Moses L34P	0 MW
Norwalk Harbor-Northport	200 MW
Jamaica-Valley Stream	0 MW
Jamaica-Lake Success	-235 MW
Hudson-Farragut (B3402)	400 MW
Hudson-Farragut (C3403)	400 MW
Linden-Goethals	200 MW
Waldwick-Hinchmans	310 MW
Waldwick-Fairlawn	300 MW
Waldwick-Hillsdale	330 MW
Ramapo PAR #1 (+ to NY)	120 MW
Ramapo PAR #2 (+ to NY)	120 MW
East Garden City #1	346 MW
East Garden City #2	346 MW

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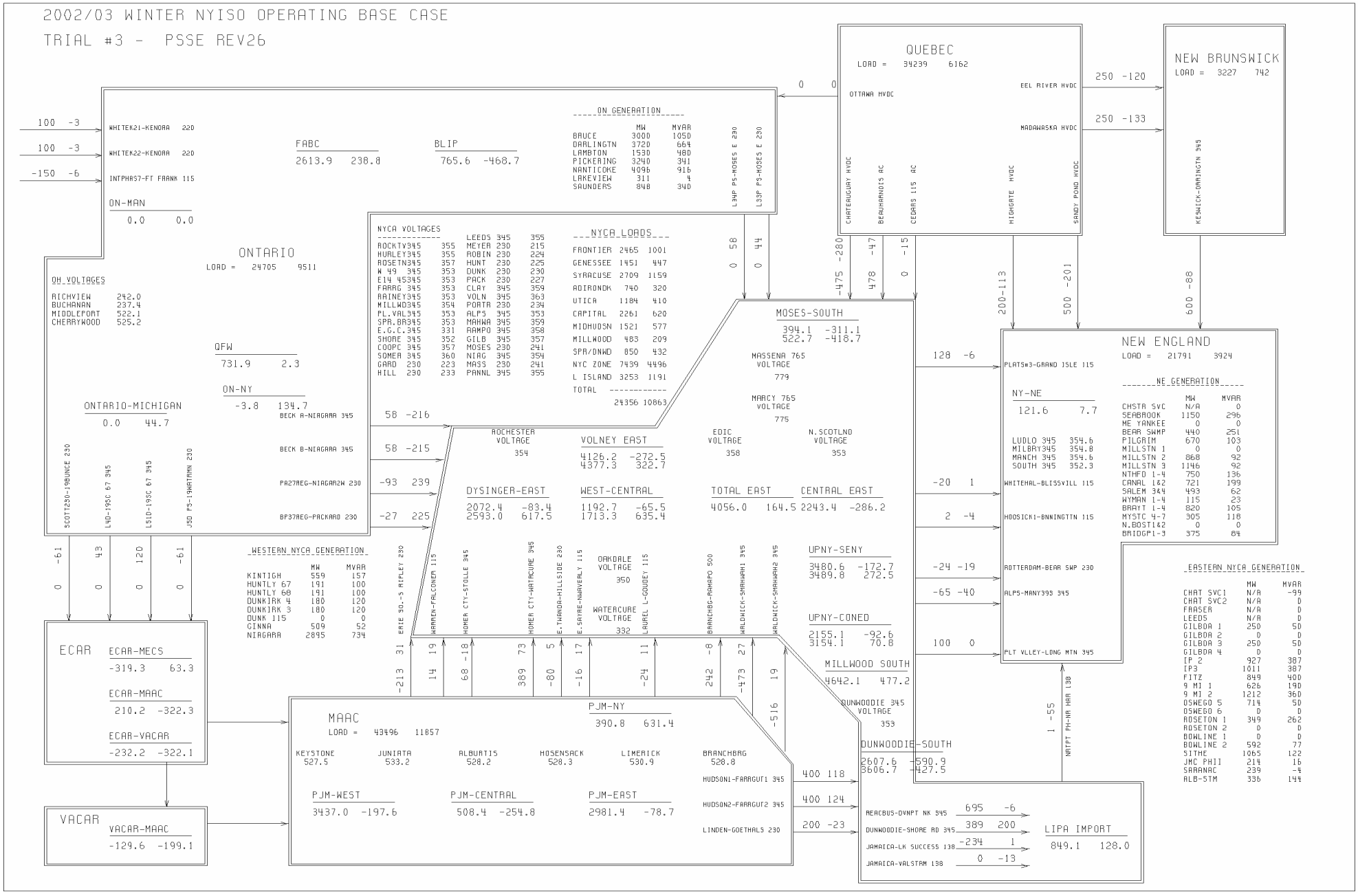
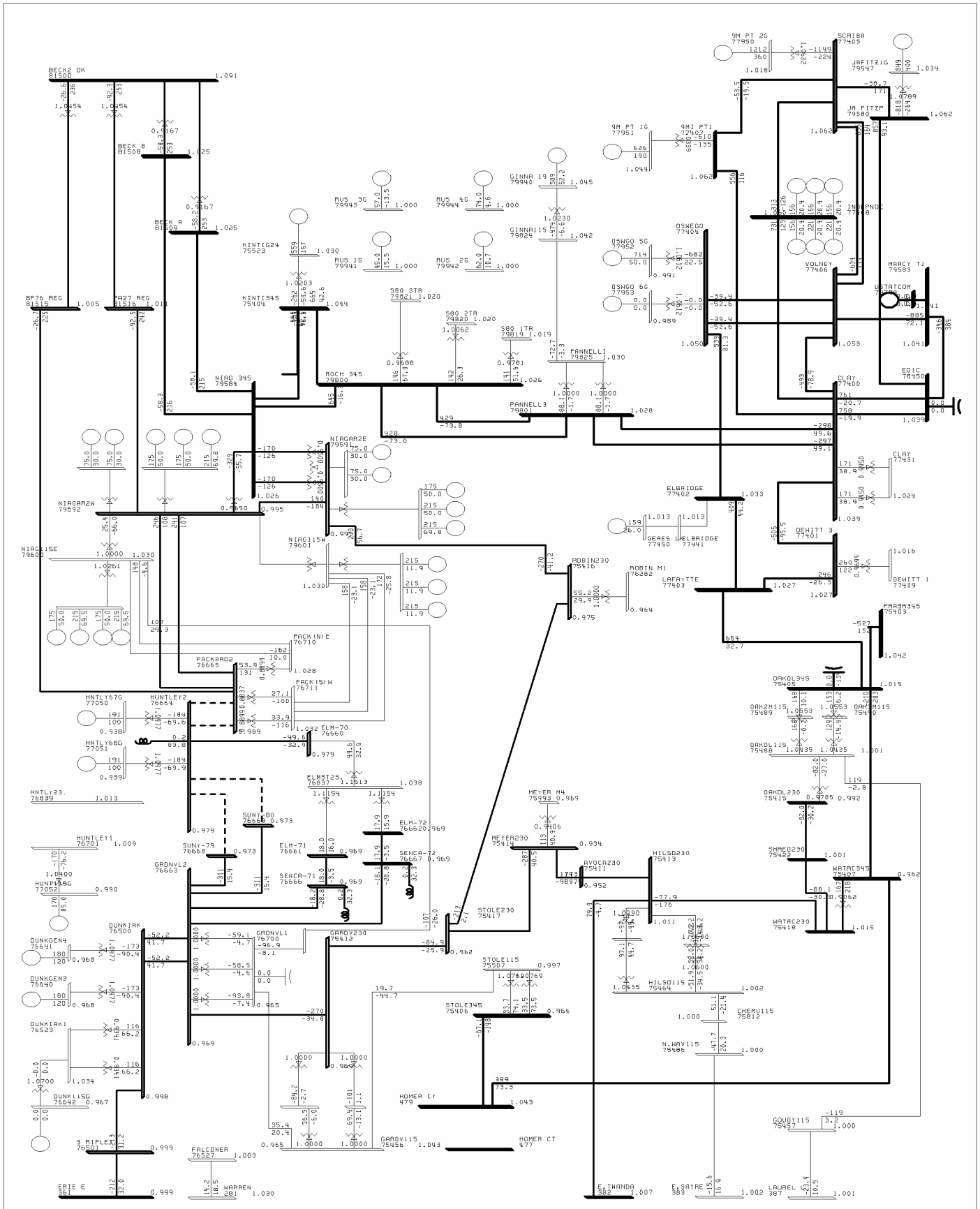
APPENDIX C

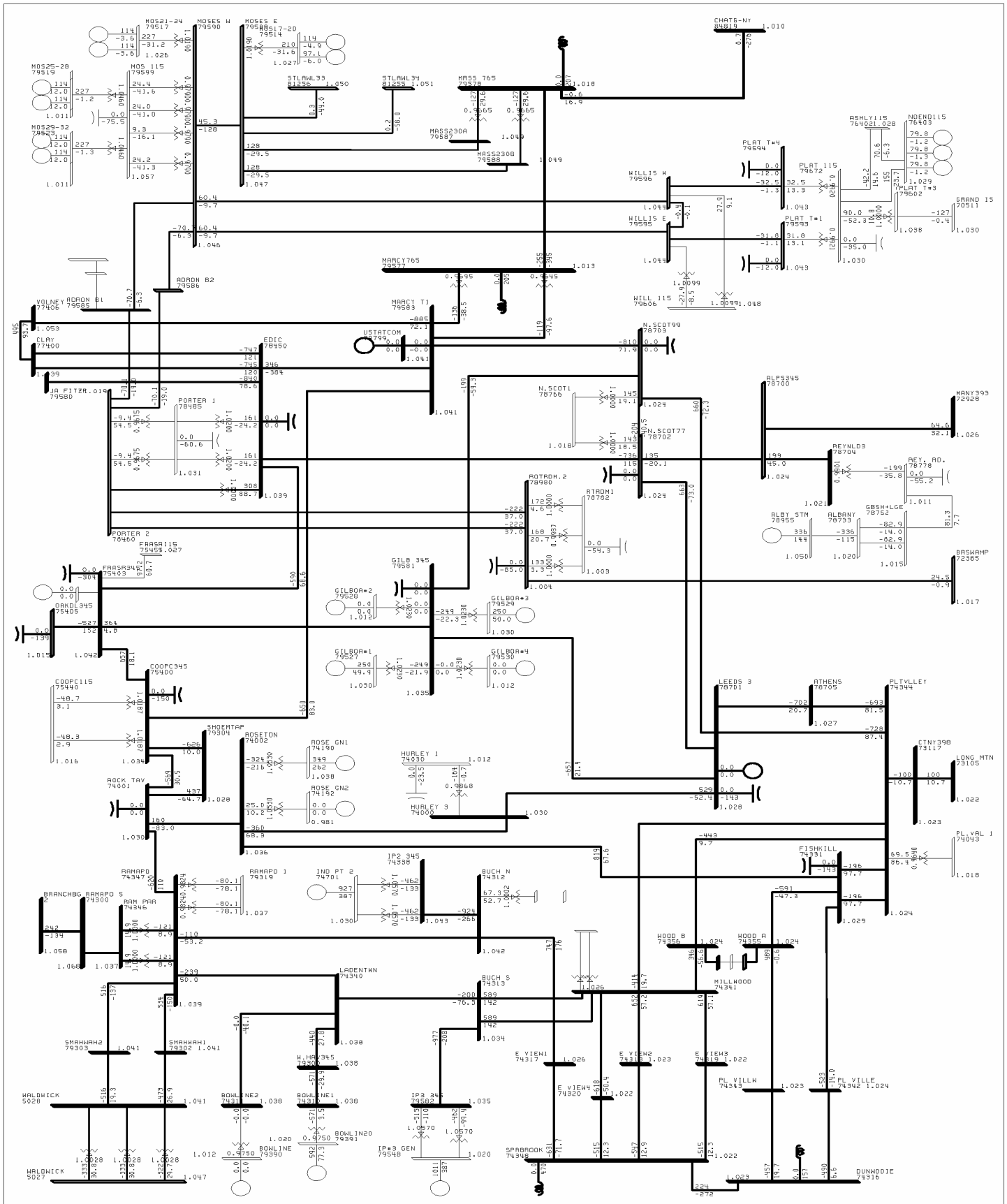
POWER FLOW TRANSCRIPTION DIAGRAMS

NYISO OPERATING STUDY
WINTER 2002-03

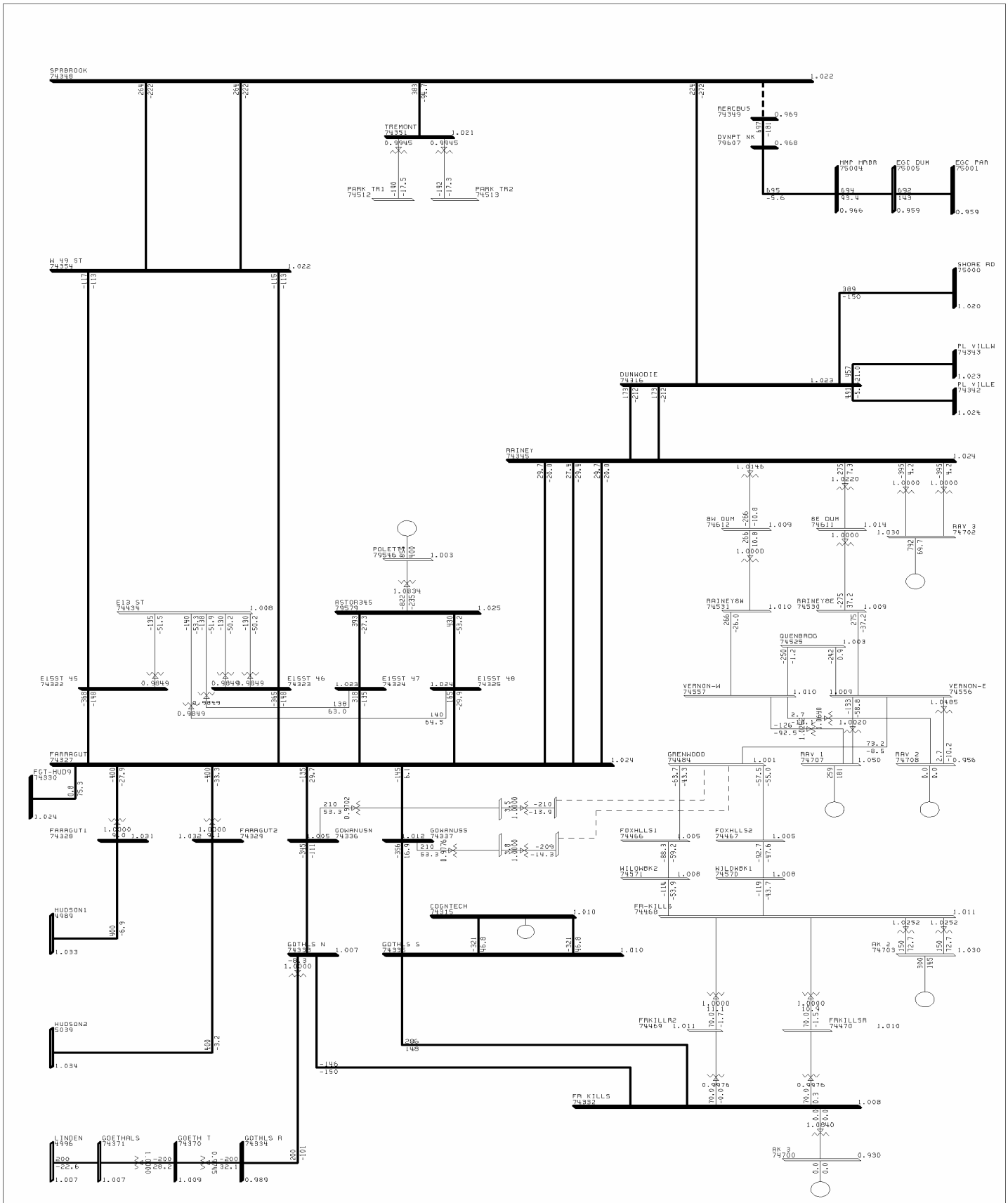
INDEX


2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
QUEBEC
LOAD = 34239 6162
OTTAWA HVDC
EEL RIVER HVDC
MADAWASKA HVDC
CHATEAUGUAY HVDC
BEAUHARNOIS AC
CEDARS 115 AC
MIDGATE HVDC
SANDY POND HVDC
NEW BRUNSWICK
LOAD = 3227 742
KEWAIGN-ORALNGTN 345
ONTARIO
LOAD = 24705 9511
ON GENERATION
MW MVAR
BRUCE 3000 1050
DARLINGTN 3720 664
LAMBTON 1530 480
PICKERING 3240 341
NANTICOKE 4096 916
LAKEVIEW 311 4
SAUNDERS 848 340
L34P PS-MOSES E 230
L33P PS-MOSES E 230
ON VOLTAGES
RICHVIEW 242.0
BUCHANAN 237.4
MIDDLEPORT 522.1
CHERRYWOOD 525.2
ON-MAN
0.0 0.0
FABC
2613.9 238.8
BLIP
765.6 -468.7
QFW
731.9 2.3
ON-NY
-3.8 134.7
ONTARIO-MICHIGAN
0.0 44.7
NYCA VOLTAGES
ROCKTV345 355
HURLEY345 355
ROSETN345 357
W 49 345 353
E14 45345 353
FARRG 345 353
RAINEY345 353
MILLWD345 354
PL.VAL345 353
SPR.BR345 353
E.G.C.345 331
SHORE 345 352
COOPC 345 357
SOMER 345 360
GARD 230 223
HILL 230 233
LEEDS 345 355
MEYER 230 215
ROBIN 230 224
HUNT 230 225
DUNK 230 230
PACK 230 227
CLAY 345 359
VOLN 345 363
PORTR 230 234
ALPS 345 353
MAHWA 345 359
RAMPO 345 358
GILB 345 357
MOSES 230 241
NIAG 345 354
MASS 230 241
PANNL 345 355
NYCA LOADS
FRONTIER 2465 1001
GENESSEE 1451 447
SYRACUSE 2709 1159
ADIRONDK 740 320
UTICA 1184 410
CAPITAL 2261 620
MIDHUDSN 1521 577
MILLWOOD 483 209
SPR/DNWD 850 432
NYC ZONE 7439 4496
L ISLAND 3253 1191
TOTAL
24356 10863
MOSES-SOUTH
394.1 -311.1
522.7 -418.7
MASSENA 765 VOLTAGE
779
MARCY 765 VOLTAGE
775
ROCHESTER VOLTAGE
354
EDIC VOLTAGE
358
N.SCOTLND VOLTAGE
353
VOLNEY EAST
4126.2 -272.5
4377.3 322.7
DYSINGER-EAST
2072.4 -83.4
2593.0 617.5
WEST-CENTRAL
1192.7 -65.5
1713.3 635.4
TOTAL EAST
4056.0 164.5
CENTRAL EAST
2243.4 -286.2
OAKDALE VOLTAGE
350
WATERCURE VOLTAGE
332
UPNY-SENY
3480.6 -172.7
3489.8 272.5
UPNY-CONED
2155.1 -92.6
3154.1 70.8
MILLWOOD SOUTH
4642.1 477.2
DUNWOODIE 345 VOLTAGE
353
DUNWOODIE-SOUTH
2607.6 -590.9
3606.7 -427.5
NEW ENGLAND
LOAD = 21791 3924
NE GENERATION
MW MVAR
CHSTR SVC N/A 0
SEABROOK 1150 296
ME YANKEE 0 0
BEAR SWMP 440 251
PILGRIM 670 103
MILLSTN 1 0 0
MILLSTN 2 868 92
MILLSTN 3 1146 92
NTHFD 1-4 750 136
CANAL 1&2 721 199
SALEM 3&4 493 62
WYMAN 1-4 115 23
BRAYT 1-4 820 105
MYSTC 4-7 305 118
N.BOST1&2 0 0
BRIDGP1-3 375 84
NY-NE
121.6 7.7
LUDLO 345 354.6
MILBRY345 354.8
MANCH 345 354.6
SOUTH 345 352.3
EASTERN NYCA GENERATION
MW MVAR
CHAT SVC1 N/A -99
CHAT SVC2 N/A 0
FRASER N/A 0
LEEDS N/A 0
GILBOA 1 250 50
GILBOA 2 0 0
GILBOA 3 250 50
GILBOA 4 0 0
IP 2 927 387
IP3 1011 387
FITZ 849 400
9 MI 1 626 190
9 MI 2 1212 360
OSWEGO 5 714 50
OSWEGO 6 0 0
ROSETON 1 349 262
ROSETON 2 0 0
BOWLINE 1 0 0
BOWLINE 2 592 77
5ITHE 1065 122
JMC PHII 214 16
SARANAC 239 -4
ALB-STM 336 144
WESTERN NYCA GENERATION
MW MVAR
KINTIGH 559 157
HUNTLY 67 191 100
HUNTLY 68 191 100
DUNKIRK 4 180 120
DUNKIRK 3 180 120
DUNK 115 0 0
GINNA 509 52
NIRGARA 2895 734
ECAR
ECAR-MECS
-319.3 63.3
ECAR-MAAC
210.2 -322.3
ECAR-VACAR
-232.2 -322.1
VACAR
VACAR-MAAC
-129.6 -199.1
MAAC
LOAD = 43496 11857
KEYSTONE 527.5
JUNIATA 533.2
ALBURTIS 528.2
HOSENSACK 528.3
LIMERICK 530.9
BRANCHBRG 528.8
PJM-NY
390.8 631.4
PJM-WEST
3437.0 -197.6
PJM-CENTRAL
508.4 -254.8
PJM-EAST
2981.4 -78.7
LIPA IMPORT
849.1 128.0
SCOTT230-19BUNCE 230
L9D-19SC 67 345
L51D-19SC 67 345
J5D PS-19WATMN 230
BECK A-NIAGARA 345
BECK B-NIAGARA 345
PA27REG-NIAGARA2W 230
BP37REG-PACKARD 230
ERIE 90.-S RIPLEY 230
WARREN-FALCONER 115
HOMER CTY-STOLLE 345
HOMER CTY-HATHCURE 345
E.TWANDA-HILLSIDE 230
E.SAYRE-WAVERLY 115
LAUREL L-GOUDEY 115
BRANCHBG-RAMAPO 500
WALDWICK-SHAHAWA1 345
WALDWICK-SHAHAWA2 345
HUDSON1-FARRGUT1 345
HUDSON2-FARRGUT2 345
LINDEN-GOETHALS 230
REACBUS-DVNPT NK 345
DUNWOODIE-SHORE RD 345
JAMAICA-LK SUCCESS 138
JAMAICA-VALSTRM 138
WATPT PH-WA HAN 138
PLATSM3-GRAND ISLE 115
WHITEHAL-BLISSVILL 115
HOOSICK1-BNNINGTTN 115
ROTTERDAM-BEAR SWP 230
ALPS-MANY399 345
PLT VLLEY-LONG MTN 345
WHITEK21-KENORA 220
WHITEK22-KENORA 220
INTPHRS7-FT FRANK 115

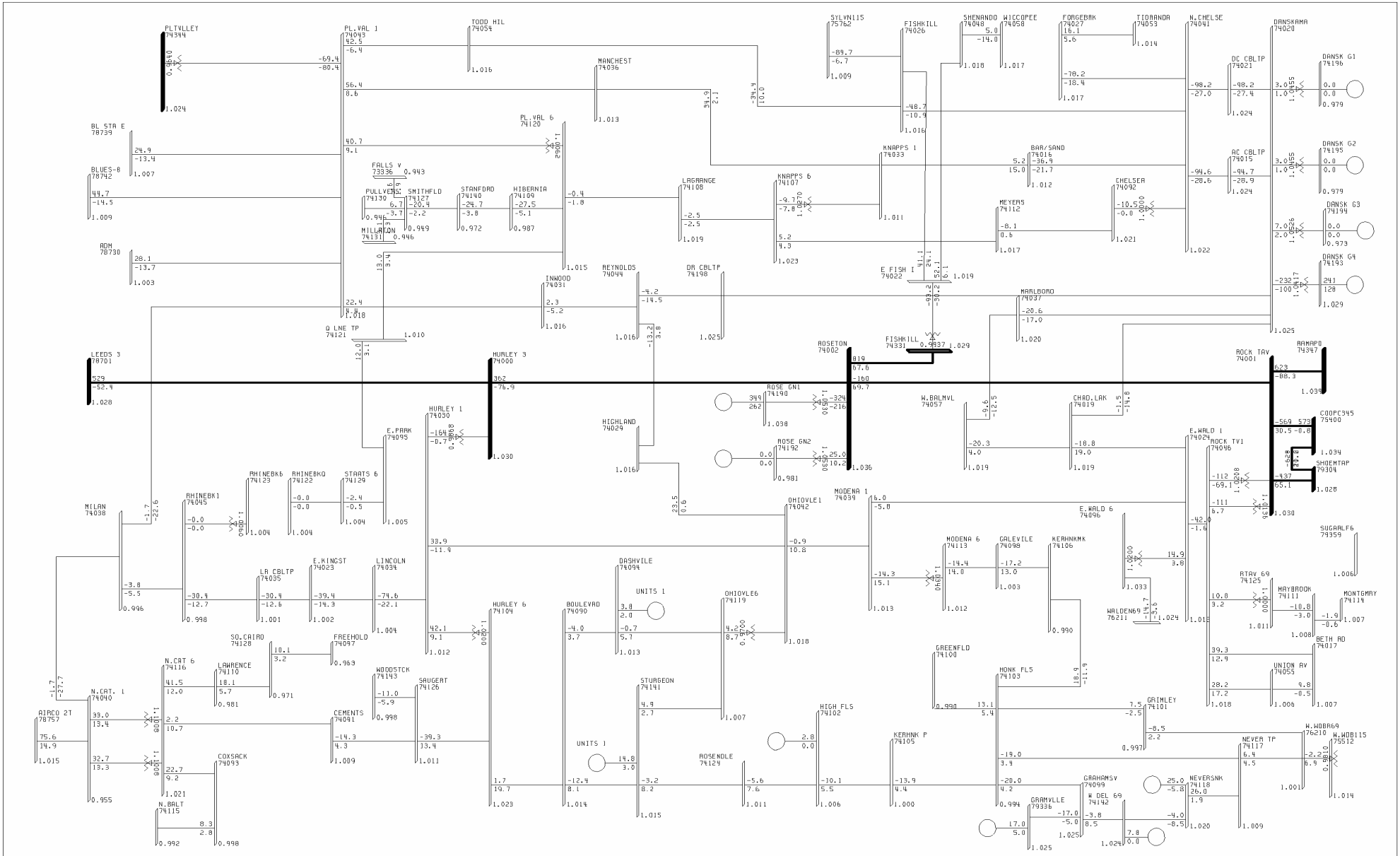

2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
1) WESTERN NYISO MON, SEP 23 2002 14:57
POWER TECHNOLOGIES, INC.
KV: ≤138 . ≤230 . ≤345
BUS - VOLTAGE (PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR



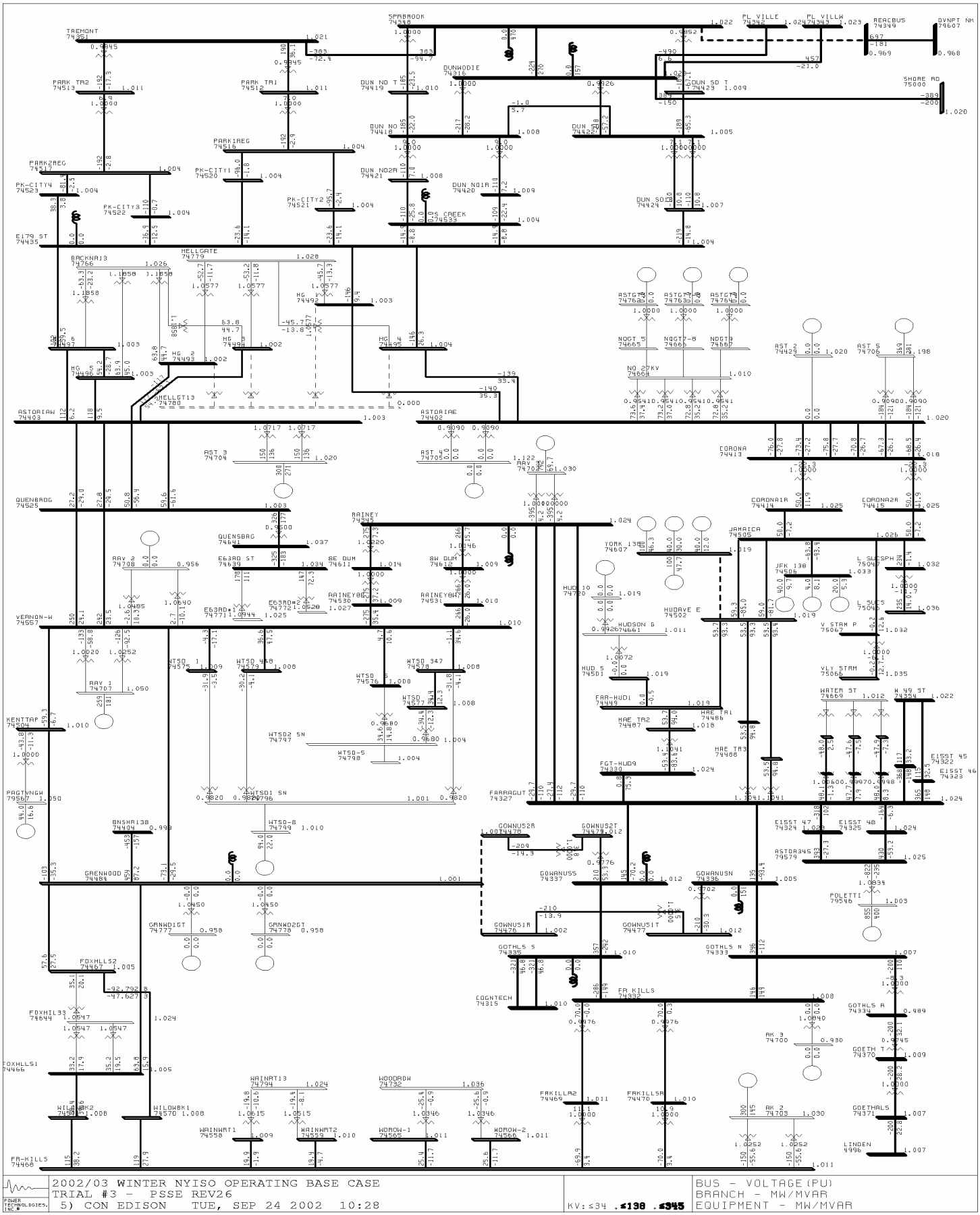
POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 2) EASTERN NYISO MON, SEP 23 2002 14:57	KV: ≤138 . ≤230 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR

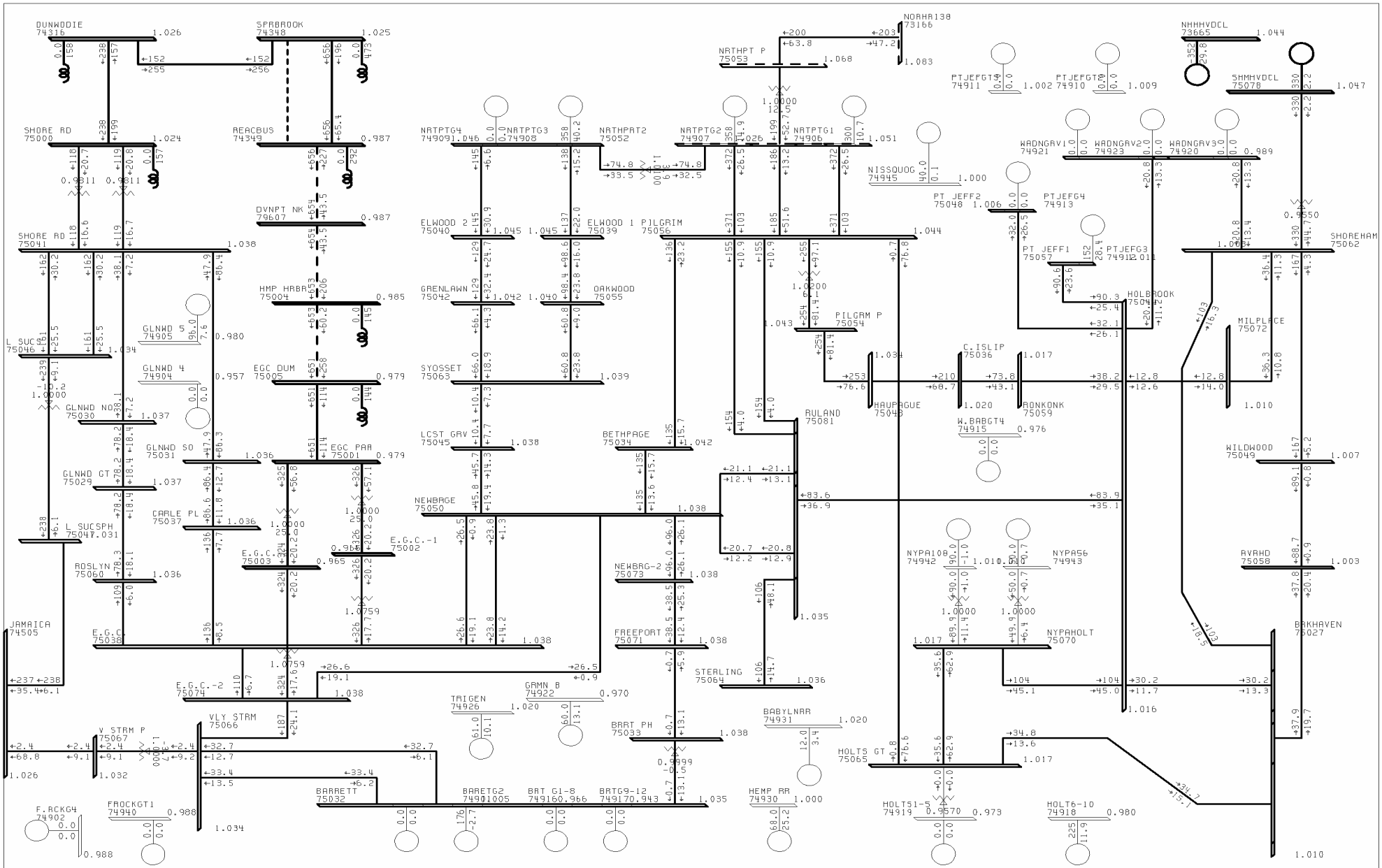


POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 3) SOUTHERN NYISO MON, SEP 23 2002 14:57	KV: ≤138 . ≤230 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR

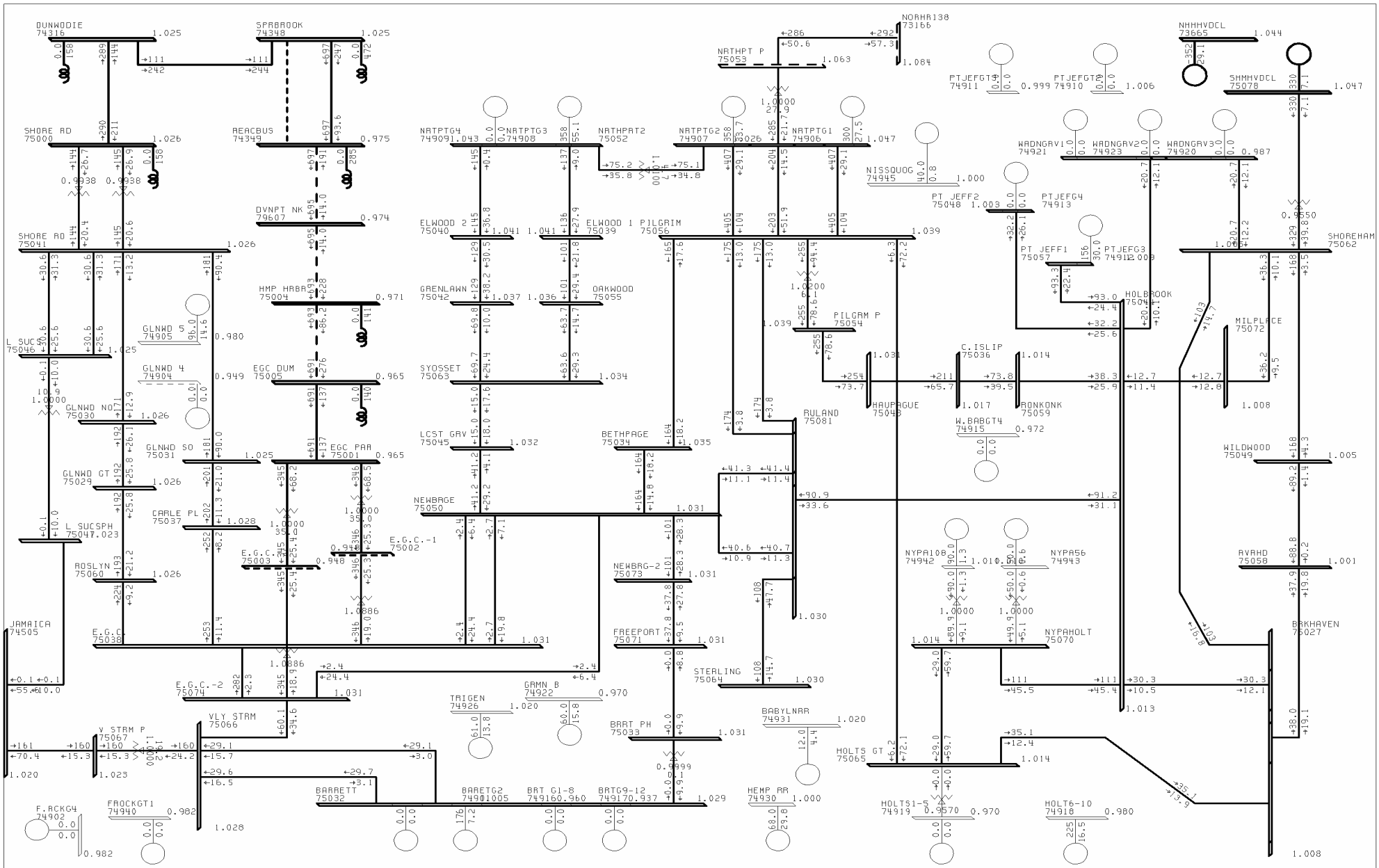


POWER TECHNOLOGIES, INC.®	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 4) CENTRAL HUDSON MON, SEP 23 2002 14:57	KV: ≤138 . ≤230 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR


2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
5) CON EDISON TUE, SEP 24 2002 10:28
POWER TECHNOLOGIES, INC.
KV: ≤34 . ≤138 . ≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR



POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 LIPA THU, OCT 03 2002 14:15	100% RATEA 0.950 UV 1.050 OV KV: ≤69 , ≤138 , ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR



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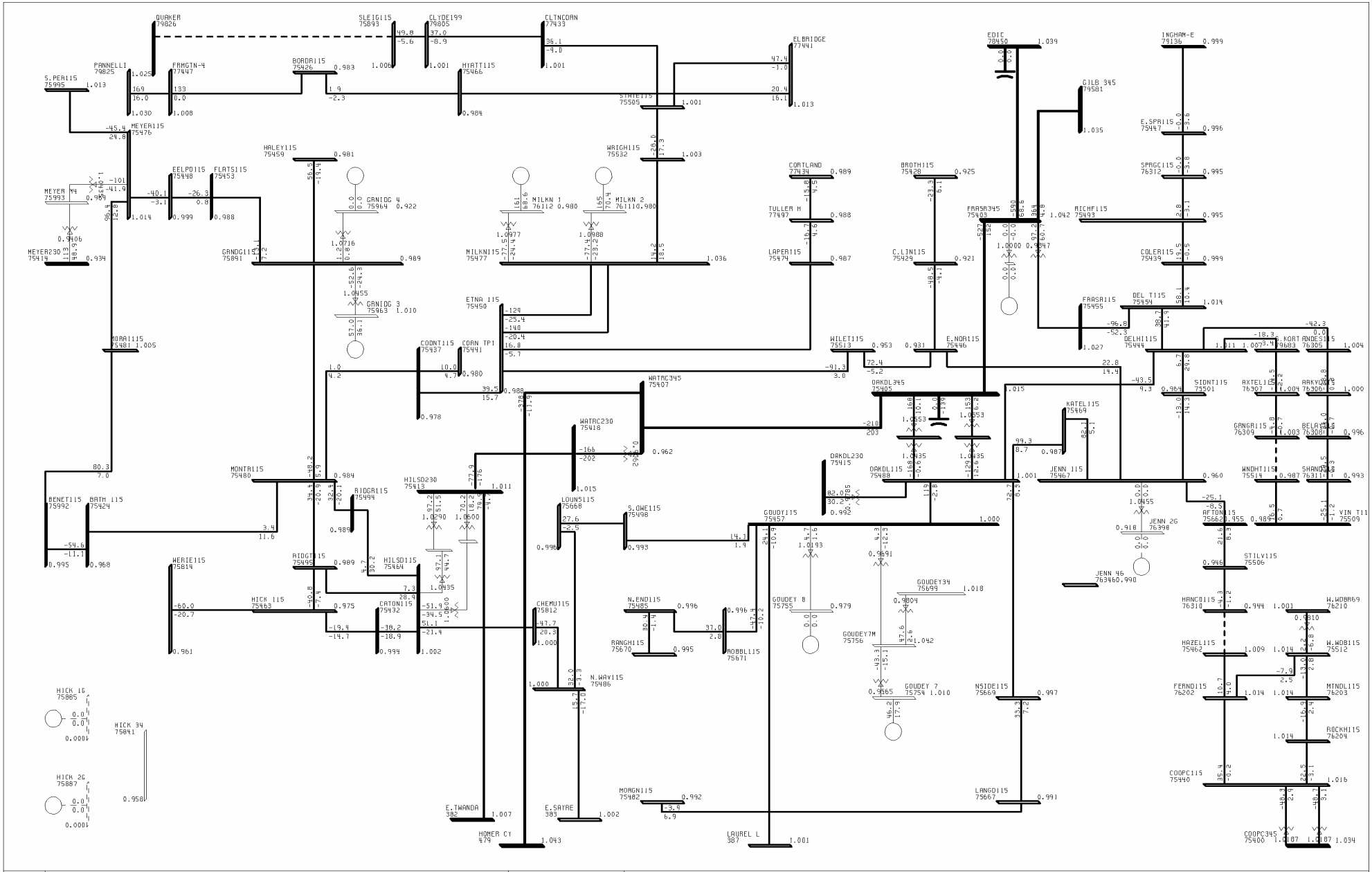
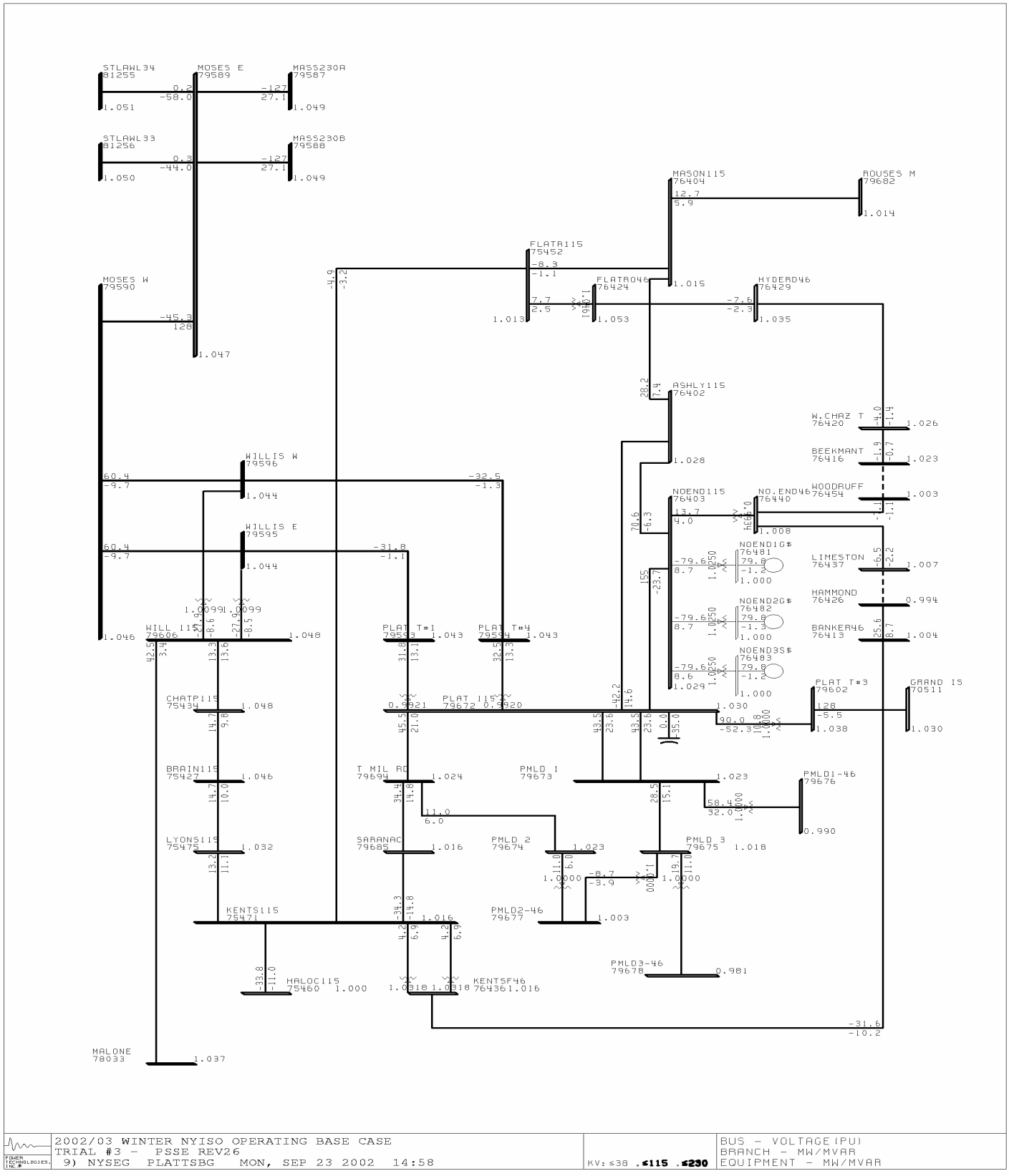
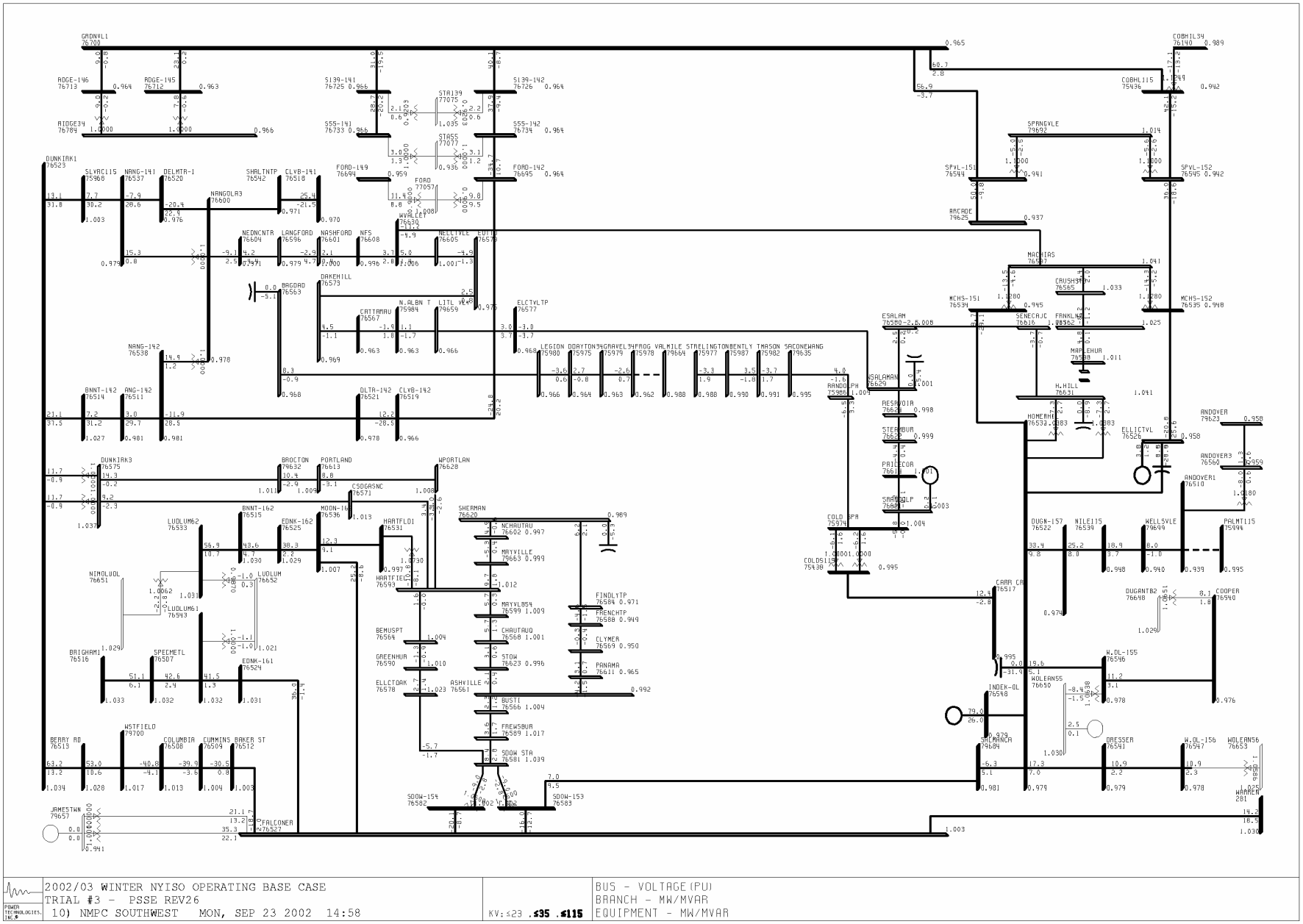

QUAKER 79826
SLEIG115 75893
CLYDE199 79805
CLTNCORN 77433
ELBRIDGE 77441
PANNELLI 79825
FRMGTN-4 77447
BORDR115 75926
HYATT115 75466
S.PER115 75995
STAHE115 75505
MEYER115 75476
HALEY115 75459
WRIGH115 75532
EELPO115 75448
FLATS115 75453
MEYER 44 75993
GANDG 4 75964
MILKN 1 76112
MILKN 2 76111
CORTLAND 77434
BROTH115 75428
TULLER H 77497
FRASR345 75403
AICHF115 75493
MEYER230 75414
GANDG115 75891
MILKN115 75477
LAPER115 75474
C.LIN115 75429
GANDG 3 75963
ETNA 115 75450
COLER115 75439
FRASR115 75455
DEL T115 75454
MORA1115 75481
CODNT115 75437
CORN TP1 75441
WILET115 75513
E.NOR115 75446
DELHI115 75444
KORTANDES345 76305
WATRC345 75407
OAKDL345 75405
SIDNT115 75501
AXTEL115 76307
AAKVL345 76306
WATRC230 75418
KATEL115 75469
GNGRA115 76309
BELAY115 76308
OAKDL230 75415
OAKDL115 75488
JENN 115 75467
WNDHT115 75514
SHAND115 76311
BENET115 75992
BATH 115 75424
MONTR115 75480
HILSD230 75413
LOUNS115 75668
S.OWE115 75498
GOUDY115 75457
JENN 26 76398
AFTON115 75662
STILV115 75506
WERIE115 75814
RIDGR115 75494
RIDGT115 75495
HILSD115 75464
JENN 46 763460
HANCO115 76310
W.WDB869 76210
HICK 115 75463
CATON115 75432
CHEMU115 75812
N.END115 75485
GOUDEY 8 75755
GOUDEY34 75699
HAZEL115 75462
W.WDB115 75512
RANGH115 75670
ROBBL115 75671
GOUDEY7M 75756
FERND115 76202
MTNDL115 76203
HICK 16 75885
HICK 34 75841
HICK 26 75887
N.WAY115 75486
NSIDE115 75669
GOUDEY 7 75754
ROCKH115 76204
COOPC115 75440
E.TWANDA 382
E.SAYRE 383
MORGN115 75482
LANGD115 75667
HOMER CY 479
LAUREL L 387
COOPC345 75400
2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
8) NYSEG MON, SEP 23 2002 14:58
KV: ≤35 , ≤115 , ≤230
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.

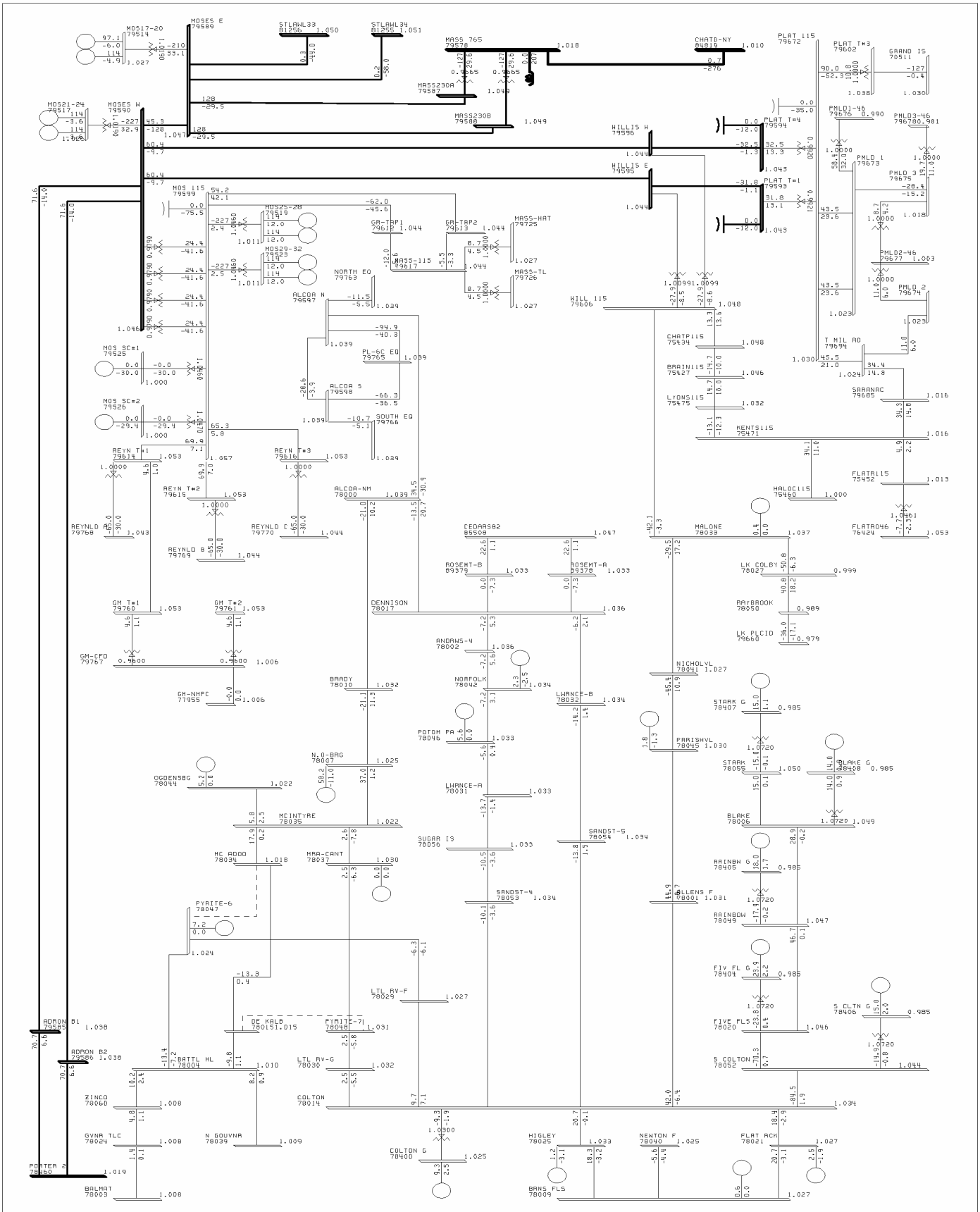


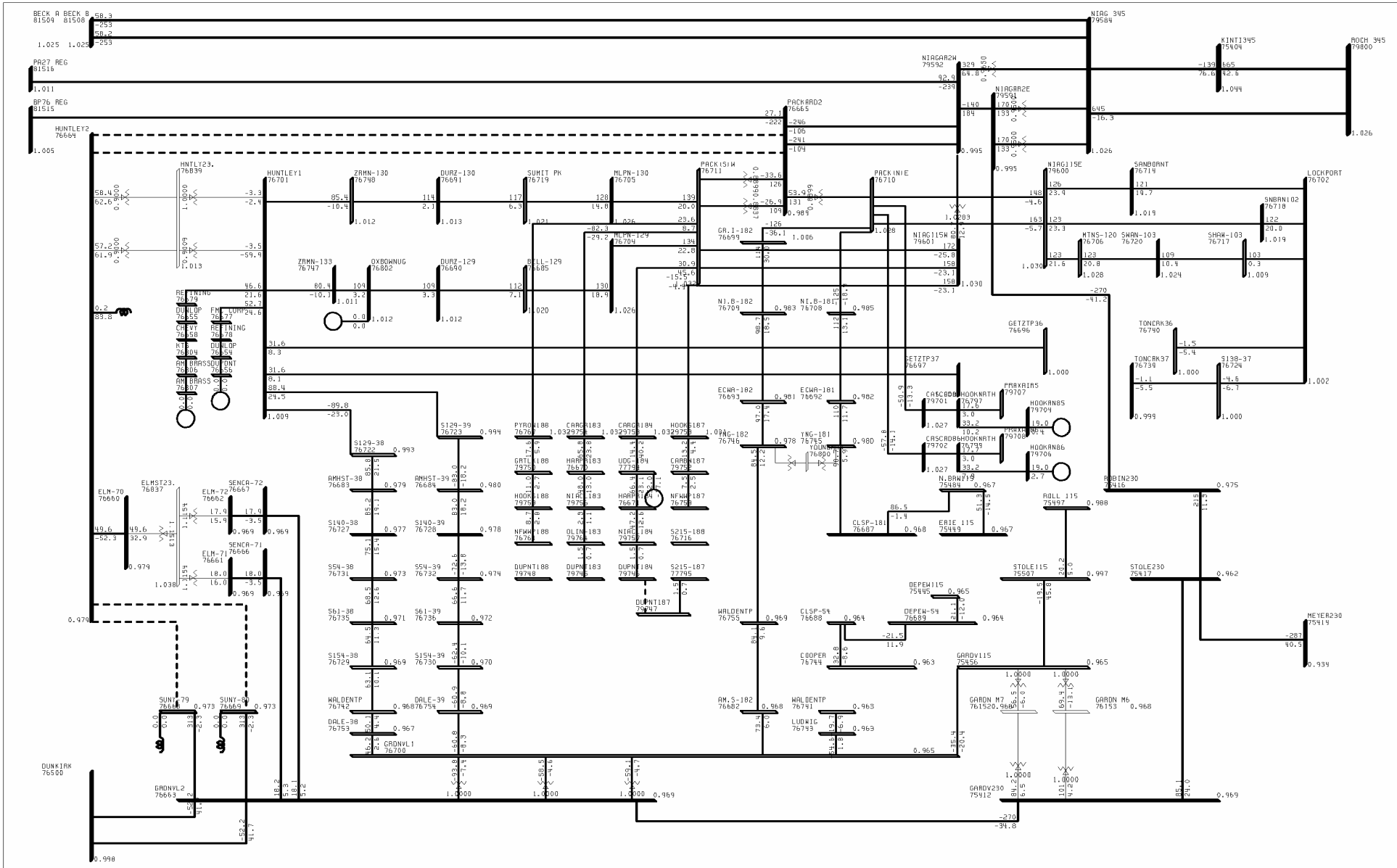
2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
9) NYSEG PLATTSBG MON, SEP 23 2002 14:58

KV: ≤38 , ≤115 , ≤230

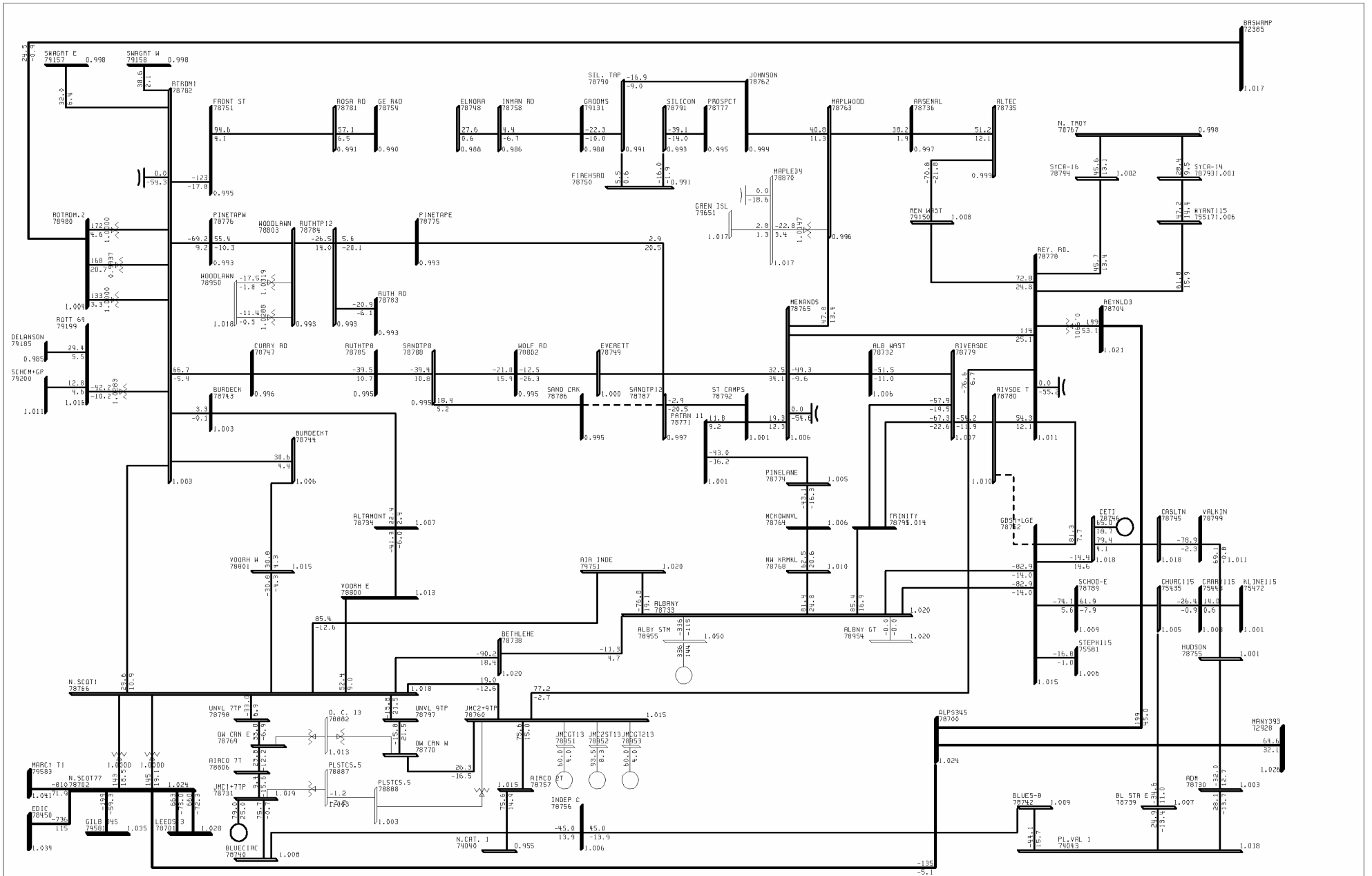
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR


2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
10) NMPC SOUTHWEST MON, SEP 23 2002 14:58
KV: ≤23 . ≤35 . ≤115
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.

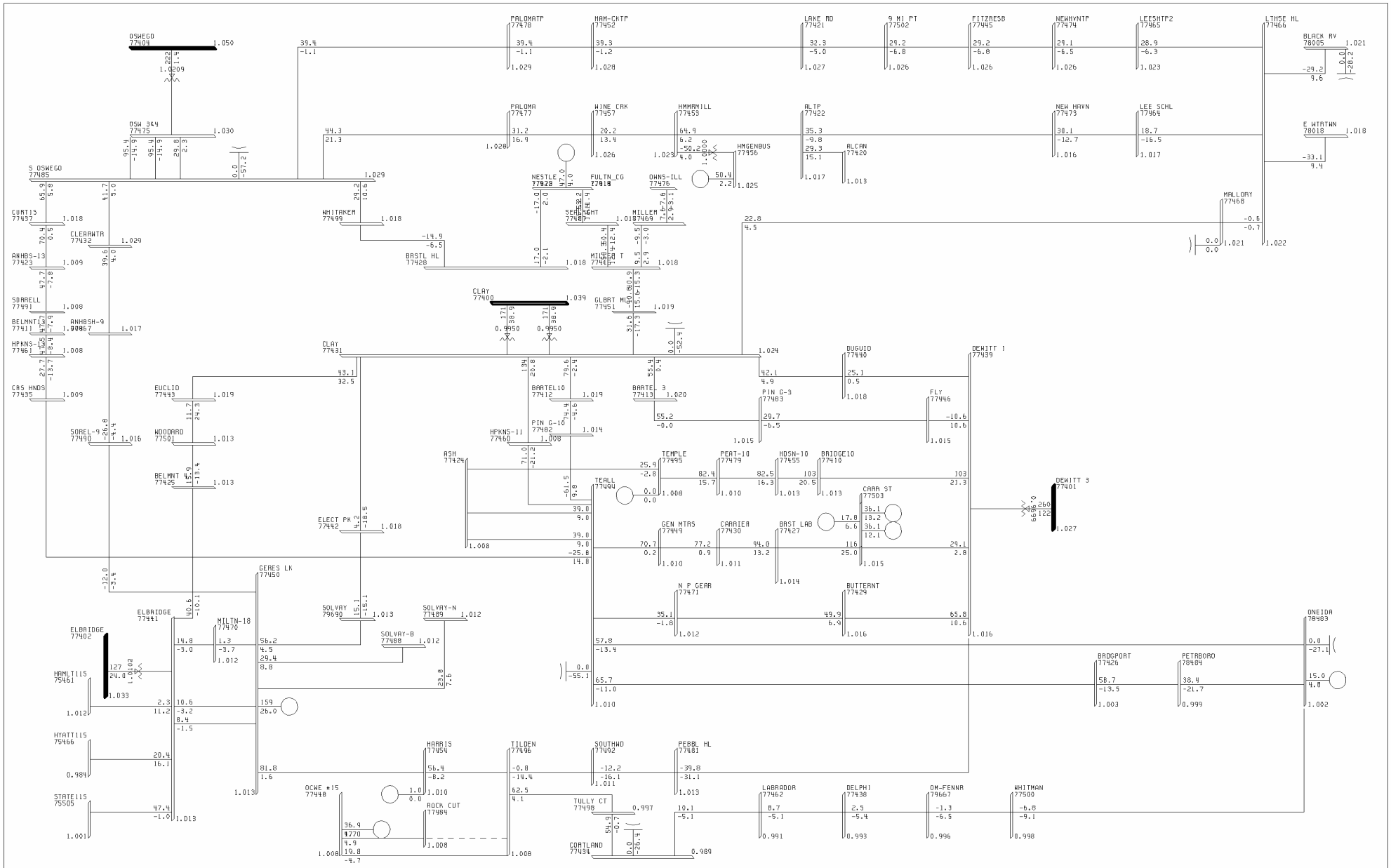

2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
11) NMPC NORTH MON, SEP 23 2002 14:58
KV: ≤138 . ≤230 . ≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.



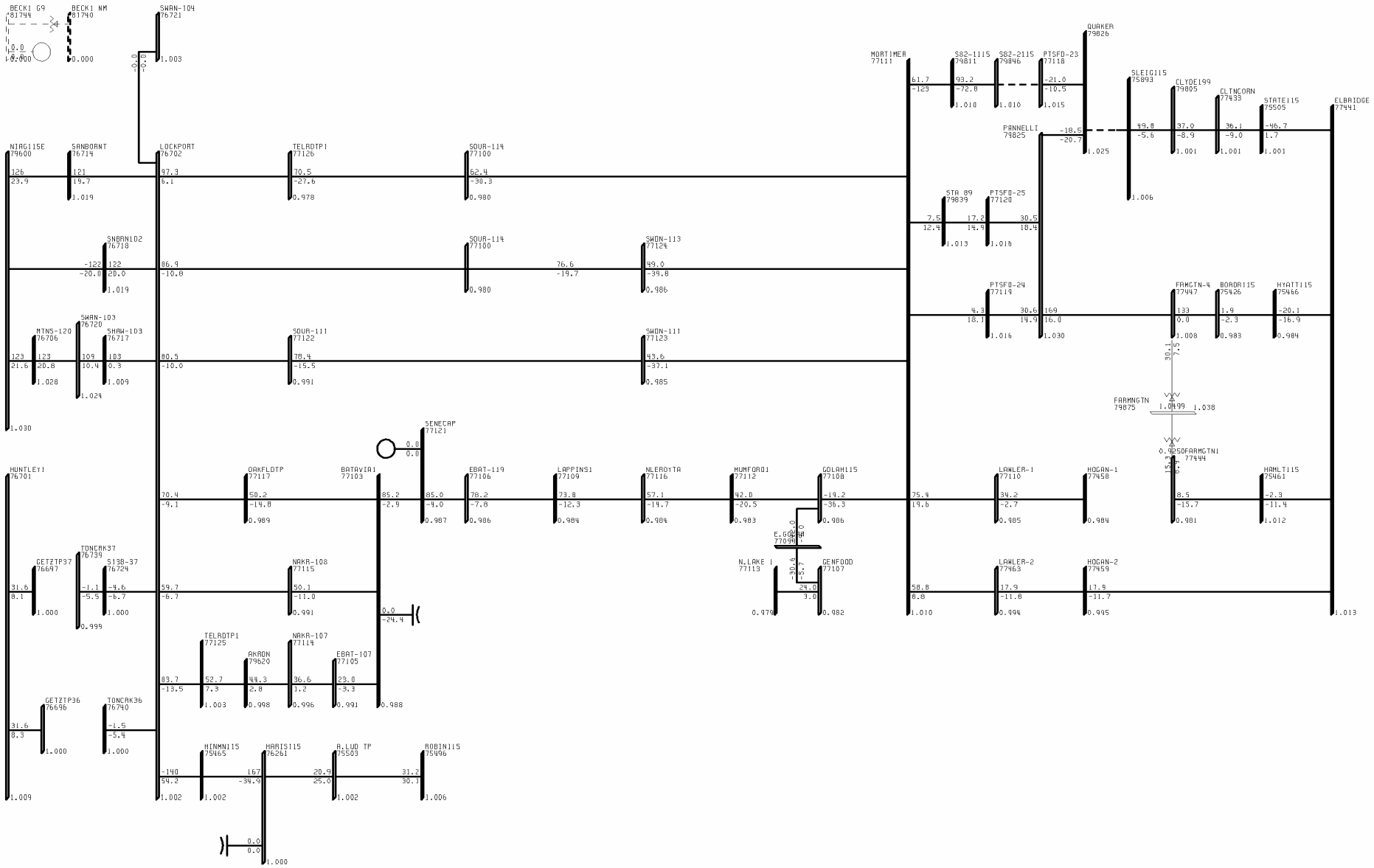
POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 12) NMPC BUFFALO MON, SEP 23 2002 14:58	KV: ≤35 . ≤115 . ≤230	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR



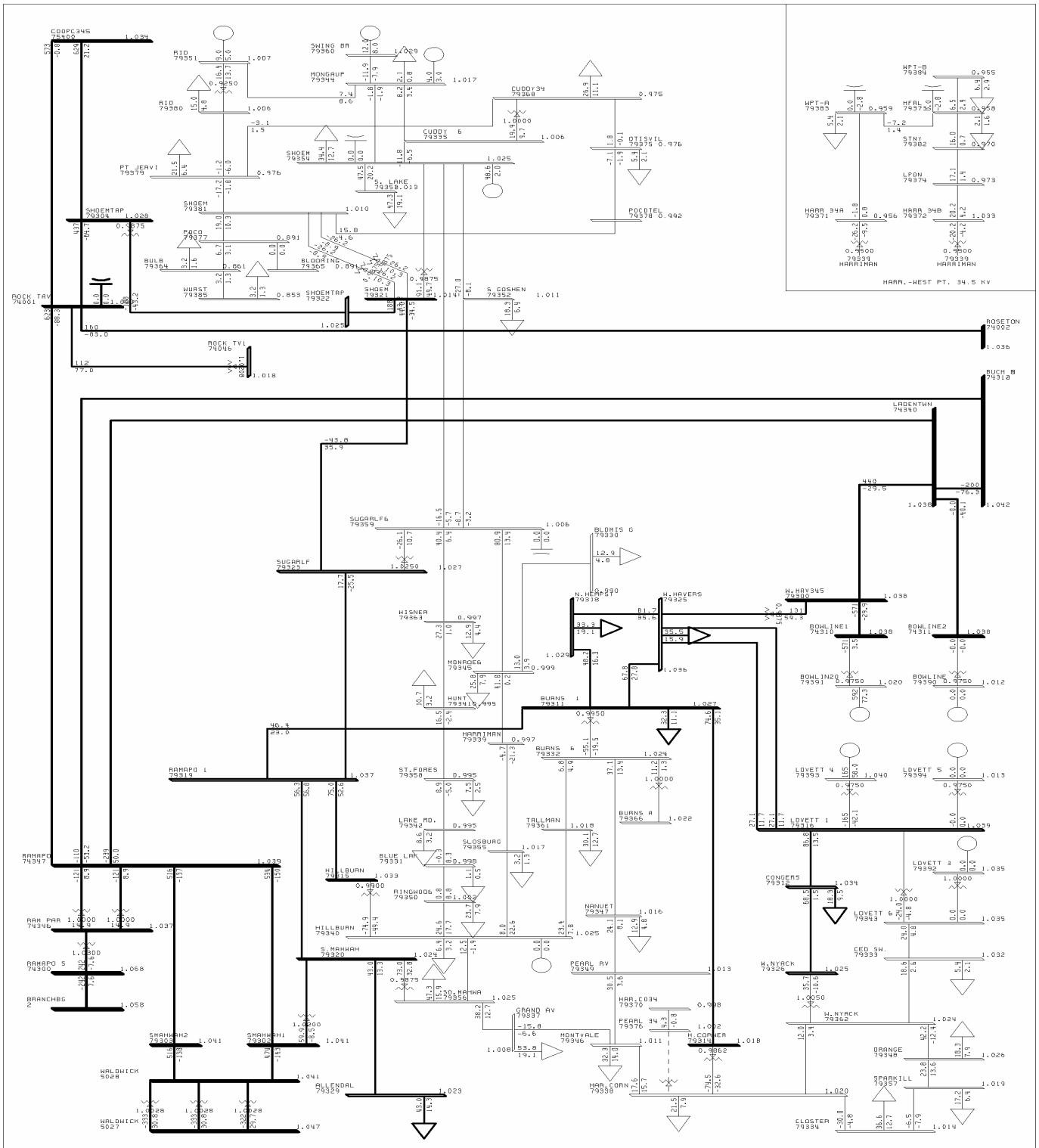
POWER TECHNOLOGIES, INC.®	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 13) NMPC ALBANY MON, SEP 23 2002 14:58	KV: ≤35 . ≤115 . ≤230	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR

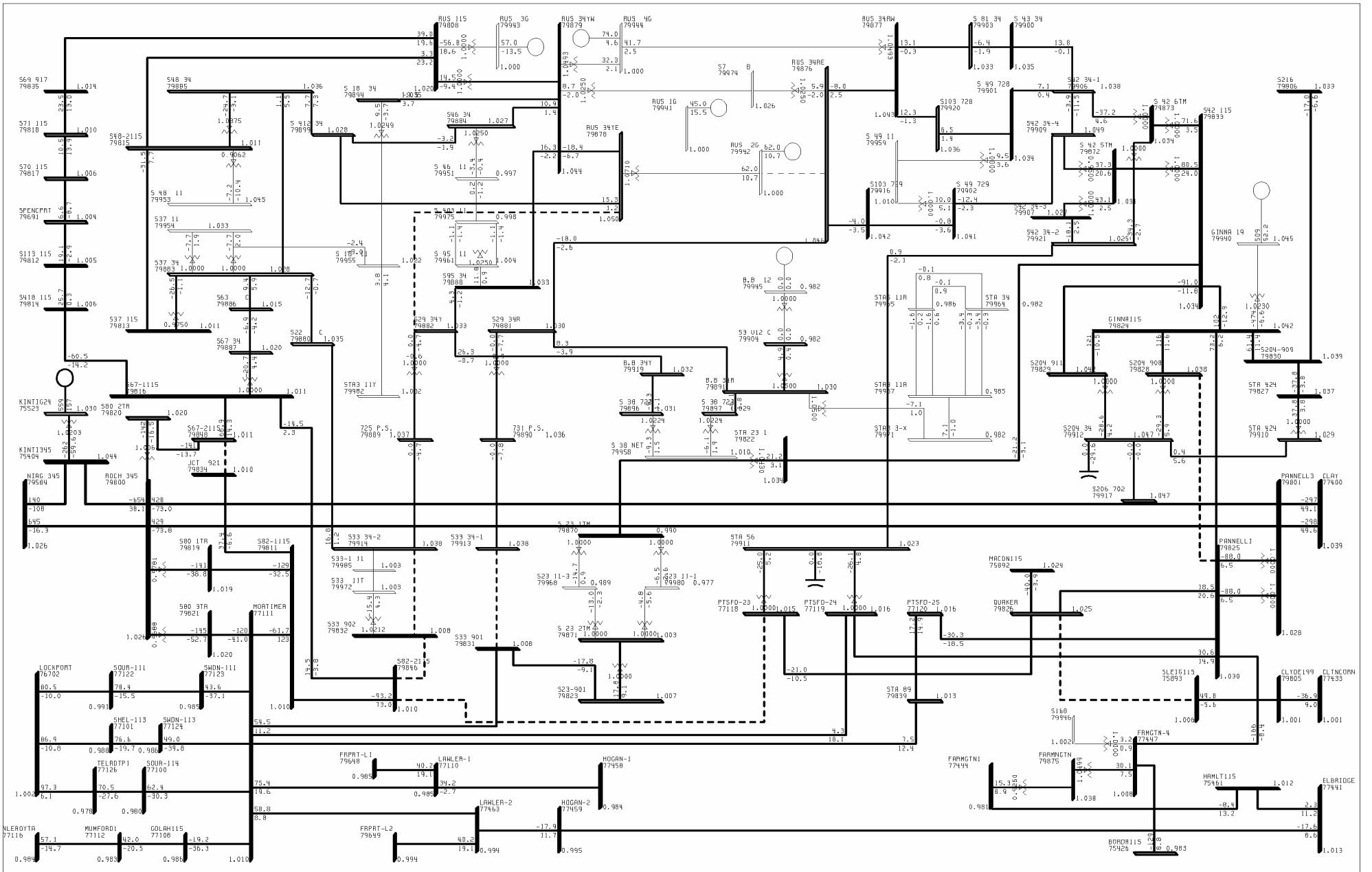


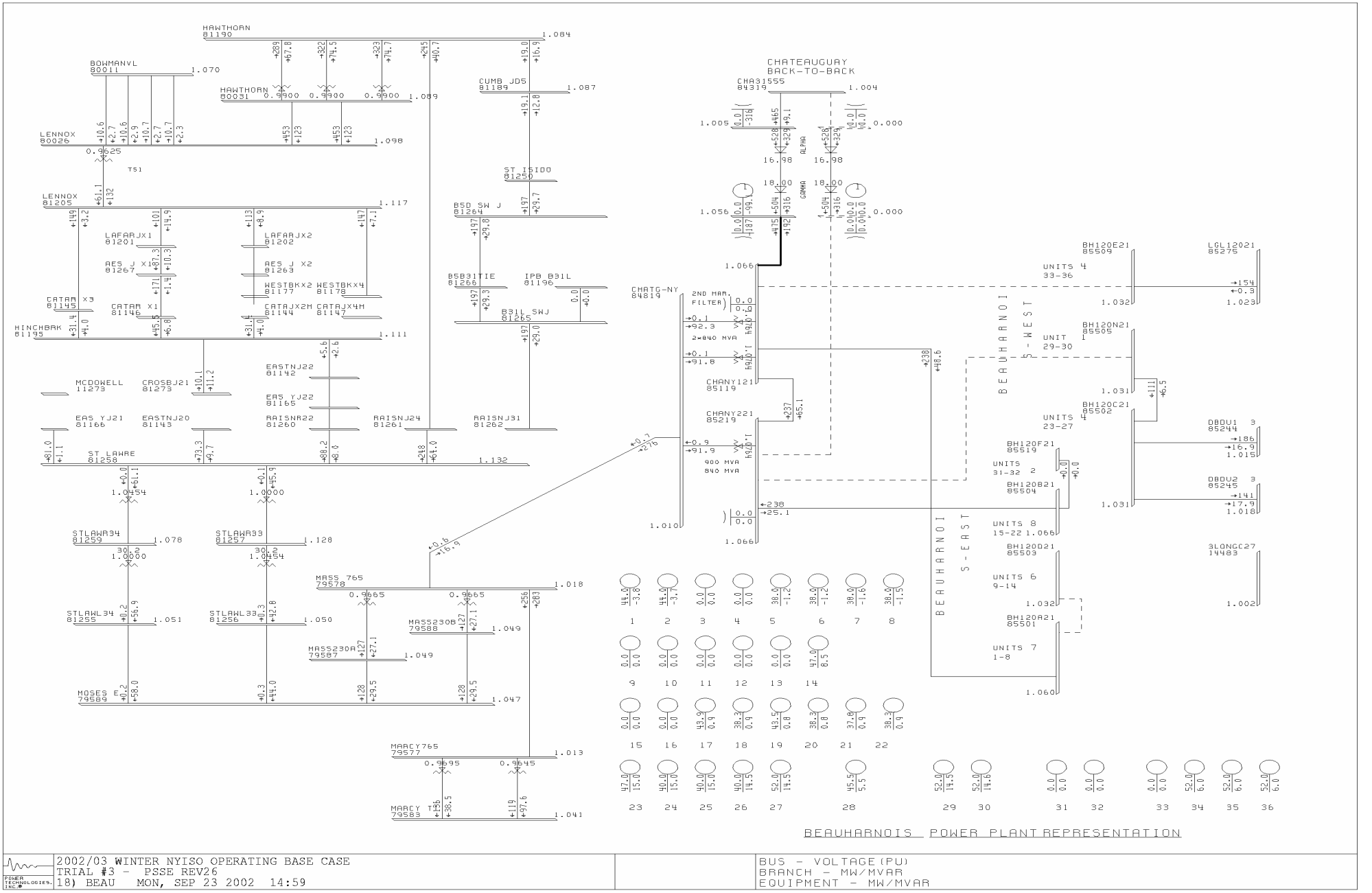
POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 14) NMPC SYRACUSE MON, SEP 23 2002 14:58	KV: ≤138 . ≤230 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR



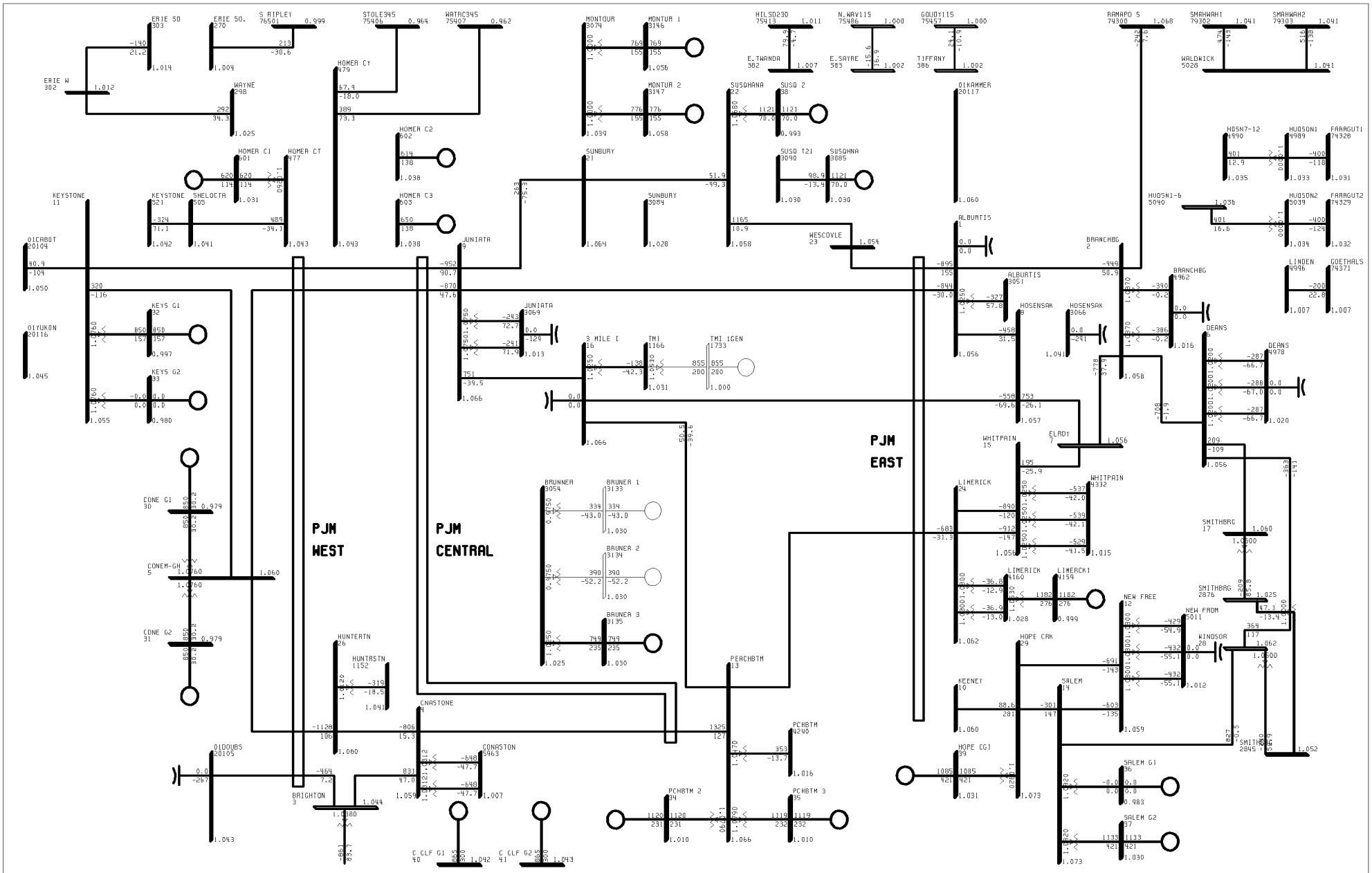
POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 15) NMPC LOCKPORT 115 MON, SEP 23 2002 14:58	KV: ≤69 . ≤138 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR


2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
16) ORANGE & ROCKLAND MON, SEP 23 2002 14:58
KV: ≤69 , ≤138 , ≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.
HARR.-WEST PT. 34.5 Kv

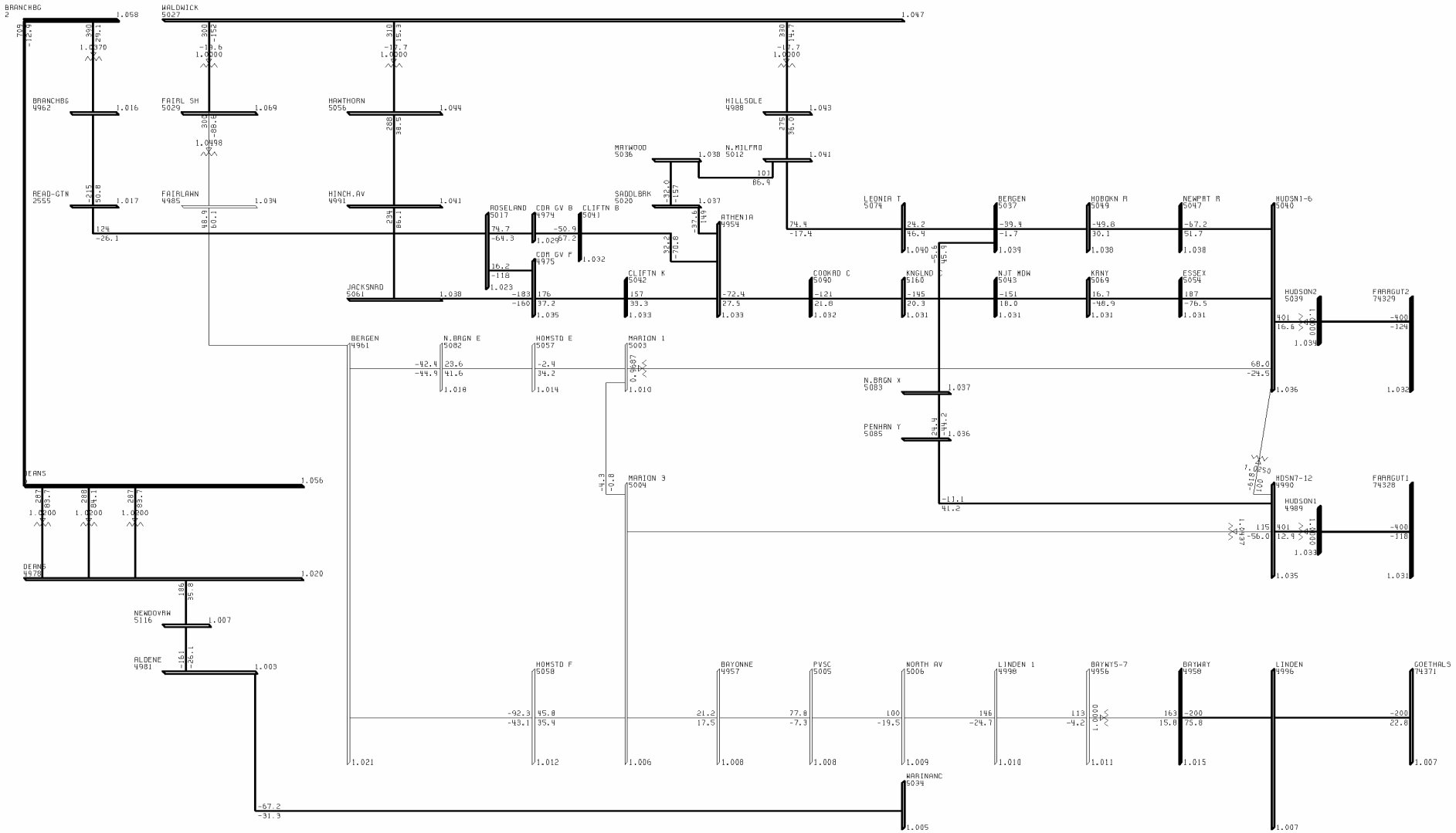

2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
17) ROCHESTER MON, SEP 23 2002 14:58
KV: ≤20 .≤35 .≤115
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.



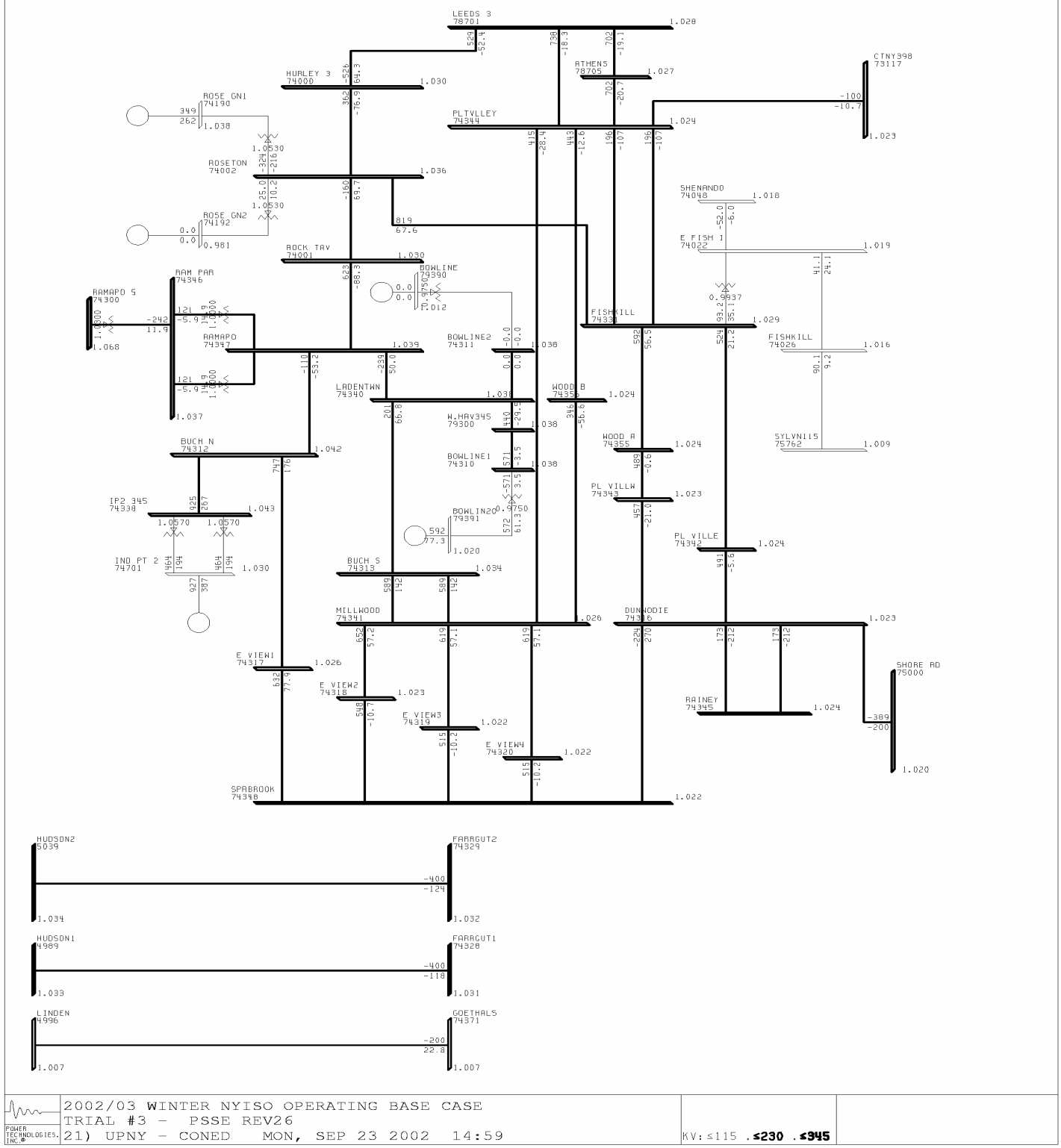
POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 18) BEAU MON, SEP 23 2002 14:59	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR



POWER TECHNOLOGIES, INC.	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 19) PJM MON, SEP 23 2002 14:59	KV: ≤20 .≤35 .≤115	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR



POWER TECHNOLOGIES, INC.®	2002/03 WINTER NYISO OPERATING BASE CASE TRIAL #3 - PSSE REV26 20) PSE&G MON, SEP 23 2002 14:59	KV: ≤138 . ≤230 . ≤345	BUS - VOLTAGE(PU) BRANCH - MW/MVAR EQUIPMENT - MW/MVAR


LEEDS 3
78701
1.028
HURLEY 3
74000
1.030
ATHENS
78705
1.027
CINY398
73117
ROSE GN1
74190
1.038
PLTVLLEY
74344
1.024
1.023
ROSETON
74002
1.036
SHENANDO
74048
1.018
ROSE GN2
74192
0.981
E FISH 1
74022
1.019
ROCK TAV
74001
1.030
BOWLINE
79390
1.012
RAM PAR
74346
RAMAPO 5
74300
1.068
FISHKILL
74333
1.029
RAMAPO
74347
1.039
BOWLINE2
74311
1.038
FISHKILL
74026
1.016
1.037
LADENTWN
74340
1.038
WOOD B
74355
1.024
BUCH N
74312
1.042
W.HAV345
79300
1.038
WOOD A
74355
1.024
SYLVN115
75762
1.009
BOWLINE1
74310
1.038
PL VILLW
74343
1.023
IP2 345
74338
1.043
BOWLIN20
79391
1.020
PL VILLE
74342
1.024
IND PT 2
74701
1.030
BUCH S
74313
1.034
MILLWOOD
74341
1.026
DUNWODIE
74336
1.023
E VIEW1
74317
1.026
SHORE RD
75000
E VIEW2
74318
1.023
RAINEY
74345
1.024
E VIEW3
74319
1.022
E VIEW4
74320
1.022
SPRBROOK
74348
1.022
HUDSON2
5039
1.034
FARRGUT2
74329
1.032
HUDSON1
4989
1.033
FARRGUT1
74328
1.031
LINDEN
4996
1.007
GOETHALS
74371
1.007
2002/03 WINTER NYISO OPERATING BASE CASE
TRIAL #3 - PSSE REV26
21) UPNY - CONED MON, SEP 23 2002 14:59
POWER TECHNOLOGIES, INC.
KV: ≤115 . ≤230 . ≤345

APPENDIX D

RATINGS OF MAJOR TRANSMISSION FACILITIES

IN NEW YORK

NYISO OPERATING STUDY
WINTER 2002-03

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
ADRON B1 - MOSES W	MA-1	359	359	478	782	25269
ADRON B2 - MOSES W	MA-2	447	473	517	784	25270
ALBANY - AIR INDE	8	340	373	414	2817	25496
ALCOA N - GR-TAP1	MAL-6	279	282	327	792	25582
ALCOA-NM - ALCOA N	R8105	263	294	348	786	25202
ALCOA-NM - BRADY	13	156	159	159	787	25230
ALCOA-NM - BRADY	9	159	159	159	820	25230
ALCOA-NM - DENNISON	12	202	221	238	788	25227
ALLENS F - COLTON	3	145	152	159	846	25241
ALPS345 - N.SCOT77	2	1278	1410	1780	993	25217
ALPS345 - REYNLD3	1	585	676	796	994	25587
ANDRWS-4 - DENNISON	5	222	234	278	861	25226
ASTORIAE - CORONA	34186	177	254	394	133	25282
ASTORIAE - CORONA	34185	177	254	394	132	25281
ASTORIAE - CORONA	34184	177	254	394	131	25280
ASTORIAE - CORONA	34183	177	254	394	130	25279
ASTORIAE - CORONA	34182	177	254	394	129	25278
ASTORIAE - CORONA	34181	177	254	394	128	25277
ASTORIAE - HG 1	34052	184	259	401	134	25324
ASTORIAE - HG 4	34051	184	259	401	135	25323
ASTORIAW - HG 2	24054	171	207	207	146	25213
ASTORIAW - HG 3	24053	171	207	207	147	25212
ASTORIAW - HG 5	24051	202	283	489	148	25210
ASTORIAW - HG 6	24052	202	283	489	149	25211
ASTORIAW - QUENBRDG	28241	177	254	394	151	25315
ASTORIAW - QUENBRDG	28242	177	254	394	150	25316
ASTORIAW - QUENBRDG	28243	355	508	645	152	25317
ASTORIAW - QUENBRDG	28244	355	508	645	153	25318
ATHENS - LEEDS	1	1624	1783	1912		
BARRETT - BRRT PH	461	208	285	297	7	25155
BARRETT - VLY STRM	291	262	331	421	9	25312
BARRETT - VLY STRM	292	262	331	421	10	25313
BATAVIA1 - EBAT-107	107	145	152	159	636	25124
BATAVIA1 - NAKR-108	108	158	159	159	647	25125
BATAVIA1 - OAKFLDTP	112	156	162	181	446	25126
BELL-129 - DURZ-129	129	199	199	199	765	69854
BELL-129 - MLPN-129	129	199	199	199	765	69854
BLUE LAK - LAKE RD.	89/993	137	151	157	483	69353
BLUE LAK - RINGWOD6	89/993	137	151	157	483	69353
BORDR115 - FRMGTN-4	977/4	187	208	221	507	25057
BORDR115 - HYATT115	979	157	171	179	506	25106
BOWLINE1 - W.HAV345	67	777	837	837	164	25567
BOWLINE2 - LADENTWN	68	777	837	837	166	25249
BRANCHBG - RAMAPO 5	5018	1158	1416	1924	366	25019
BRDGPORT - PETRBORO	5	141	144	165	940	25896
BRDGPORT - TEALL	5	141	144	165	940	25896
BUCH N - E VIEW1	W93	1822	2010	2555	175	25133

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
BUCH N - RAMAPO	Y94	1822	2010	2555	178	25184
BUCH S - LADENTWN	Y88	1822	2010	2555	180	25185
BUCH S - MILLWOOD	W98	1828	1976	2163	182	25146
BUCH S - MILLWOOD	W97	1822	1976	2163	181	25247
BURNS 1 - W.HAVERS	530/531	274	302	313	473	68644
BURNS 6 - TALLMAN	59/591	112	122	126	469	68642
CARLE PL - E.G.C.	361	304	334	364	18	25533
CARML115 - UNION115	991/992	261	287	303	190	68885
CATON115 - HICK 115	958/960	119	120	120	574	69341
CHURC115 - BL STR E	987/13	120	120	120	1002	68475
CLAY - 9MI PT1	8	1278	1410	1792	839	25167
CLAY - CLAY	BK#1	354	410	448	826	25387
CLAY - CLAY	BK#2	354	410	448	827	25421
CLAY - DEWITT 3	13	1348	1434	1434	835	25168
CLAY - DUGUID	5	245	260	282	829	25519
CLAY - HPKNS-11	11	239	239	239	831	25516
CLAY - HPKNS-11	10	141	144	165	834	25520
CLAY - PANNELL3	PC-2	1195	1314	1434	768	25050
CLAY - PANNELL3	PC-1	1195	1314	1434	769	25058
CLAY - VOLNEY	6	1348	1434	1434	838	25198
CLINTON - MARSH115	12-Nov	152	159	159	1012	68794
CLTNCORN - CLYDE199	971/3	133	149	159	510	25063
CLYDE199 - CLYDE 34	3	152	166	175	509	25221
COBHL115 - COBHIL34	906	45	47	53	513	25426
CODNT115 - ETNA 115	998	266	293	299	515	25734
CODNT115 - MONTR115	982	133	149	162	516	25728
COFFEEN - E WTRTWN	5	119	119	119	840	25504
COOPC345 - COOPC115	#2	248	298	300	519	25433
COOPC345 - COOPC115	#3	270	300	300	520	25434
COOPC345 - FRASR345	FCC-33	1482	1631	1793	521	25236
COOPC345 - MARCY T1	UCC2-41	1345	1345	1345	2803	25113
CORONA1R - JAMAICA	18001	184	259	401	185	25285
CORONA2R - JAMAICA	18002	184	259	401	186	25286
CORTLAND - LABRADOR	3	152	159	159	855	25894
CORTLAND - TULLER H	947	133	149	162	631	25059
CROTN115 - UNION115	991/992	261	287	303	190	68885
DELPHI - LABRADOR	3	152	159	159	855	25894
DELPHI - OM-FENNR	3	152	159	159	855	25894
DENNISON - LWRNCE-B	4	222	234	278	796	25225
DENNISON - LWRNCE-B	4	222	234	278	935	25225
DEWITT 3 - DEWITT 1	2	619	757	796	862	25418
DEWITT 3 - LAFAYTTE	22	1434	1434	1434	866	25174
DUN NO - DUN SO	99997	280	359	383	194	25532
DUN NO1R - S CREEK	99031	149	259	290	197	25193
DUN NO2R - S CREEK	99032	149	259	290	198	25239
DUN SO1R - E179 ST	99153LM	252	348	439	203	25287

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
DUNKIRK - DUNKIRK1	41	167	204	250	657	25386
DUNKIRK - DUNKIRK1	31	164	199	250	656	25430
DUNKIRK - GRDNVL2	73	637	637	637	663	25166
DUNKIRK - GRDNVL2	74	637	637	637	664	25197
DUNWODIE - DUN NO	W74	414	540	664	195	25209
DUNWODIE - DUN SO	W73	414	540	664	202	25208
DUNWODIE - PL VILLE	W89	1976	2282	2538	206	25182
DUNWODIE - PL VILLW	W90	1976	2282	2538	205	25250
DUNWODIE - RAINEY	72	769	871	1113	208	25191
DUNWODIE - RAINEY	71	769	871	1113	207	25151
DUNWODIE - SHORE RD	Y50	500	925	1442	115	25091
DUNWODIE - SPRBROOK	W75	2838	3185	3662	209	25071
DURZ-130 - SUMIT PK	130	211	217	239	764	69855
DURZ-130 - ZRMN-130	130	211	217	239	764	69855
E FISH I - FISHKILL	F33	505	530	530	2868	25724
E VIEW1 - EASTVIEW	87874	438	493	493	211	25471
E VIEW1 - SPRBROOK	W79	1976	2384	2895	224	25153
E VIEW2 - EASTVIEW	87873	438	493	493	210	25472
E VIEW2 - MILLWOOD	W82	2430	2821	3349	225	25147
E VIEW2 - SPRBROOK	W64	2430	2821	3349	223	25143
E VIEW3 - EASTVIEW	87872	438	493	493	212	25470
E VIEW3 - MILLWOOD	W99	2430	2821	3349	222	25255
E VIEW3 - SPRBROOK	W65	1976	2384	2895	226	25144
E VIEW4 - EASTVIEW	87871	438	493	493	2835	25373
E VIEW4 - MILLWOOD	W85	2430	2821	3349	325	25258
E VIEW4 - SPRBROOK	W78	2430	2821	3349	2834	25346
E.G.C. - NEWBRGE	462	244	325	434	24	25303
E.G.C. - NEWBRGE	465	262	344	442	26	25535
E.G.C. - ROSLYN	362	314	345	376	28	25534
E.G.C.-1 - E.G.C.	BK#2	444	641	855	2860	25552
E.NOR115 - JENN 115	946	117	136	153	530	25729
E.NOR115 - WILET115	945	133	149	162	531	25732
E.SAYRE - N.WAV115	956	102	139	139	608	25013
E.SPR115 - INGHAM-E	941	114	131	152	536	25061
E.TWANDA - HILSD230	70	512	564	598	582	25014
E.WALD 1 - ROCK TV1	D	255	282	350	416	69038
E15ST 45 - E13 ST	37375	284	297	315	228	25468
E15ST 45 - FARRAGUT	45	783	920	1285	234	25190
E15ST 45 - W 49 ST	M55	828	920	1312	237	25222
E15ST 46 - E13 ST	37373	295	326	369	230	25465
E15ST 46 - FARRAGUT	46	783	920	1285	236	25251
E15ST 46 - W 49 ST	M54	828	920	1312	235	25228
E15ST 47 - ASTOR345	Q35L	598	675	1595	139	25134
E15ST 47 - E RIVER	44371	288	311	346	217	25459
E15ST 47 - E13 ST	37378	318	372	495	231	25469
E15ST 47 - FARRAGUT	B47	492	726	1151	238	25177
E15ST 48 - ASTOR345	Q35M	598	675	1595	140	25142

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
E15ST 48 - E13 ST	37376	284	297	315	232	25463
E15ST 48 - FARRAGUT	48	492	726	1151	239	25252
E179 ST - HG 1	15054	184	259	401	240	25290
E179 ST - HG 4	15053	184	259	401	241	25289
E179 ST - HG 6	15055	251	347	516	242	25288
E179 ST - PK-CITY1	38X01	127	169	204	243	25327
E179 ST - PK-CITY2	38X02	127	169	204	244	25328
E179 ST - PK-CITY3	38X03	127	169	204	245	25330
E179 ST - PK-CITY4	38X04	127	169	204	246	25329
E179 ST - S CREEK	15032	184	259	401	248	25156
E179 ST - S CREEK	15031	184	259	401	247	25157
EDIC - JA FITZP	FE-1	1434	1434	1912	867	25077
EDIC - MARCY T1	UE1-7	1792	1792	1792	868	25229
EDIC - N.SCOT77	14	1624	1783	1792	873	25170
EDIC - PORTER 1	BK#3/10	524	602	760	871	25424
EDIC - PORTER 1	BK#4/20	602	721	796	870	25454
EDIC - PORTER 2	BK#2/17	551	626	637	872	25422
ELBRIDGE - ELBRIDGE	BK#1	542	621	796	874	25448
ELBRIDGE - LAFAYTTE	17	940	1562	1912	880	25149
ELBRIDGE - OSWEGO	17	1278	1410	1792	881	25234
ELWOOD 1 - NRTHPRT2	681	398	536	677	33	25544
ELWOOD 2 - NRTHPRT2	678	398	536	677	2863	25543
ERIE E - S RIPLEY	69	553	637	637	665	25016
ETNA 115 - WILET115	945	133	149	162	540	25731
FARRAGUT - GOWANUSN	41	688	855	1215	260	25141
FARRAGUT - GOWANUSS	42	688	855	1215	261	25140
FARRAGUT - HAE TR1	B43	130	174	216	262	25293
FARRAGUT - RAINEY	63	758	866	1113	267	25152
FARRAGUT - RAINEY	62	796	898	1135	266	25253
FARRAGUT - RAINEY	61	758	866	1113	265	25254
FISHKILL - PL VILLE	F38/Y86	2401	3031	3406	270	25367
FISHKILL - PLTVLLEY	F36	1976	2384	2895	268	25256
FISHKILL - PLTVLLEY	F37	1976	2384	2895	269	25257
FISHKILL - SYLVN115	A/990	256	282	350	376	25066
FISHKILL - WOOD A	F39	2401	3031	3406	271	25368
FOXHLLS1 - GRENWOOD	29231	169	252	394	276	25321
FOXHLLS2 - GRENWOOD	29232	169	252	394	278	25322
FR KILLS - FRKILLR2	TA1	327	435	540	283	25457
FR KILLS - FRKILLSR	TB1	329	410	478	284	25458
FR KILLS - GOTHLS N	22	1283	1618	1817	285	25137
FR KILLS - GOTHLS S	21	971	1073	1362	286	25138
FR-KILLS - FRKILLR2	21192	327	435	540	2804	25639
FR-KILLS - FRKILLSR	21192	329	410	478	280	25640
FR-KILLS - WILOWBK1	29211	195	286	463	277	25319
FR-KILLS - WILOWBK1	29212	195	286	463	281	25319
FR-KILLS - WILOWBK2	29212	195	286	463	279	25320

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
FR-KILLS - WILOWBK2	29211	195	286	463	282	25320
FRASR345 - EDIC	EF24-40	1380	1380	1380	2802	25112
FRASR345 - FRASR115	BK#2	356	420	420	2851	25391
FRASR345 - GILB 345	GF5-35	1524	1524	1524	544	25060
FRASR345 - OAKDL345	32	1380	1380	1380	543	25235
FRMGTN-4 - PANNELLI	4	265	293	317	887	25080
GALEVILE - KERHNKMK	MK	40	47	49	425	69391
GALEVILE - MODENA 6	MK	40	47	49	425	69391
GARDV115 - LANGN115	903/904	179	197	213	524	68914
GARDV115 - STOLE115	925	238	239	239	547	25116
GARDV230 - GARDN M6	#6	370	420	420	545	25405
GARDV230 - GARDN M7	#7	246	288	300	546	25435
GARDV230 - GRDNVL2	T8-12	773	773	773	550	25089
GARDV230 - STOLE230	66	478	478	478	549	25180
GERES LK - SOREL-9	9	176	181	199	890	25510
GINNA115 - PANNELLI	912	265	295	335	1074	25260
GLNWD GT - ROSLYN	364	371	392	434	42	25556
GLNWD NO - SHORE RD	366	525	577	641	44	25154
GLNWD SO - CARLE PL	363	370	392	434	19	25554
GLNWD SO - SHORE RD	365	577	635	705	46	25205
GOETH T - GOETHALS	BKA2253	630	789	886	287	25642
GOTHLS N - GOWANUSN	25	527	726	1076	290	25139
GOTHLS R - GOETH T	BKA2253	630	789	886	287	25642
GOTHLS S - GOWANUSS	26	527	726	1076	291	25571
GOUDY115 - S.OWE115	961	143	157	167	555	25725
GOWANUSN - GOWNUS1T	T2	272	308	376	292	25476
GOWANUSS - GOWNUS2T	T14	272	308	376	293	25475
GOWNUS1R - GRENWOOD	42232	262	325	452	301	25214
GOWNUS2R - GRENWOOD	42231	262	325	452	297	25215
GRDNVL2 - GRDNVL1	2	298	334	396	677	25385
GRDNVL2 - GRDNVL1	4	169	210	250	679	25417
GRDNVL2 - GRDNVL1	3	168	210	250	678	25416
GRDNVL2 - SUNY-79	79	692	760	848	690	25165
GRDNVL2 - SUNY-80	80	692	760	848	691	25196
GRENWOOD - VERNON-E	31231-2	177	254	394	305	25298
GRENWOOD - VERNON-E	31232-2	177	254	394	304	25299
HAE TR1 - HUDAVE E	32077	130	174	216	264	25291
HAE TR3 - HUDAVE E	32078	130	174	216	263	25292
HAMLT115 - ELBRIDGE	983	152	166	175	878	69053
HAMLT115 - FARMGTN1	983	152	166	175	884	69138
HAMLT115 - HAMLTN34	1	34	42	56	563	25394
HAR.CORN - W.NYACK	751	81	88	92	478	69314
HARRIMAN - SLOSBURG	31/311	137	151	157	479	69318
HILLBURN - RINGWOD6	89/993	137	151	157	483	69353
HILLBURN - SLOSBURG	31/311	137	151	157	479	69318
HILLBURN - TALLMAN	59/591	112	122	126	469	68642
HILSD230 - HILSD M3	BK#3	271	332	336	576	25397

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
HILSD230 - WATRC230	69	615	657	657	581	25181
HINMN115 - LOCKPORT	100	268	293	317	585	25087
HOLBROOK - NYPAHOLT	888	858	942	1047	2927	25542
HOLBROOK - PT JEFF1	886	301	331	419	61	25540
HOLBROOK - WADNGRV1	884	400	439	487	70	25341
HOMER CY - STOLE345	37	703	835	840	630	25036
HOMER CY - WATRC345	30	927	927	927	635	25018
HONK FLS - KERHNKMK	MK	40	47	49	425	69391
HUDAVE E - JAMAICA	702	175	228	370	317	25295
HUDAVE E - JAMAICA	701	175	228	370	316	25294
HUNT - ST.FORES	89/993	137	151	157	483	69353
HUNT - WISNER	89/993	137	151	157	483	69353
HUNTLEY1 - S129-39	38	168	181	199	703	69428
HUNTLEY1 - ZRMN-130	129	199	199	199	705	69426
HUNTLEY2 - PACKARD2	78	680	747	837	707	25164
HUNTLEY2 - PACKARD2	77	680	747	837	706	25195
HUNTLEY2 - SUNY-79	79	692	760	848	708	25127
HUNTLEY2 - SUNY-80	80	692	760	848	709	25128
HURLEY 3 - HURLEY 1	BK 1	486	560	560	431	25419
HURLEY 3 - LEEDS 3	301	1712	1885	1912	435	25055
HURLEY 3 - ROSETON	303	1712	1885	2102	434	25218
HYATT115 - ELBRIDGE	15	157	171	182	587	25109
INGMS-CD - INGHAM-E	2	197	234	239	898	25242
JAMAICA - L SUCSPH	903	268	361	428	78	25090
JAMAICA - V STRM P	901L+M	306	391	441	118	25048
KINTI345 - NIAG 345	NS1-38	1591	1745	1793	623	25074
KINTI345 - ROCH 345	SR1-39	1591	1745	1793	624	25073
KNAPPS 6 - LAGRANGE	G	49	52	58	438	69534
LADENTWN - RAMAPO	W72	1822	2010	2555	320	25233
LADENTWN - W.HAV345	67	1976	2384	2895	321	25248
LAGRANGE - PL.VAL 6	G	49	52	58	438	69534
LAKE RD. - ST.FORES	89/993	137	151	157	483	69353
LAUREL L - GOUDY115	952	128	149	162	556	25012
LCST GRV - NEWBRGE	558	446	572	657	2898	25158
LEEDS 3 - GILB 345	GL-3	1762	1793	1912	1017	25219
LEEDS 3 - N.SCOT77	93	1534	1692	1912	1029	25171
LEEDS 3 - N.SCOT99	94	1534	1692	1912	1028	25203
LOCKPORT - NAKR-108	108	158	162	187	712	25266
LOCKPORT - OAKFLDTP	112	166	175	187	646	25300
LOCKPORT - SHEL-113	113	174	191	199	718	25263
LOCKPORT - SOUR-111	111	166	175	187	717	25262
LOCKPORT - TELRDTP1	107	199	199	199	637	25265
LOCKPORT - TELRDTP1	114	174	191	199	721	25264
LONGTAP - NIAG115E	GV-180	194	199	233	681	25104
LTHSE HL - BLACK RV	6	128	135	152	805	25506
LTHSE HL - E WTRTWN	5	119	119	119	840	25504

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
MACDN115 - QUAKER	930	68	85	112	594	25093
MALONE - NICHOLVL	3	145	152	159	905	25585
MALONE - WILL 115	WM-1	168	191	199	906	25586
MARCY765 - MARCY T1	MAR-AT2	1793	1793	2390	908	25456
MARCY765 - MARCY T1	MAR-AT1	1654	1654	1654	907	25455
MARCY765 - MASS 765	MSU1	3975	3975	5300	911	25224
MASS 765 - CHATG-NY	MSC7040	3975	3975	5300	825	25301
MASS 765 - MASS230A	MAS-AT1	1076	1254	1404	912	25665
MASS 765 - MASS230B	MAS-AT2	1076	1254	1404	914	25666
MASS230A - MOSES E	MMS1	1076	1195	1404	913	25274
MASS230B - MOSES E	MMS2	1076	1195	1404	915	25275
MEYER230 - MEYER M4	BK#4	271	332	336	595	25398
MEYER230 - STOLE230	67	512	564	606	598	25064
MILAN - N.CAT. 1	T7	145	160	178	441	69719
MILAN - PL.VAL 1	R10	168	199	233	338	69896
MILLWOOD - MLWD TA	96922	248	333	359	323	25530
MILLWOOD - MLWD TA	96921	234	305	321	322	25531
MILLWOOD - WOOD B	W80	1976	2384	2895	326	25148
MLPN-129 - PACK(S)W	133	199	199	199	465	69854
MLPN-130 - PACK(S)W	130	211	217	239	764	69855
MLPN-130 - SUMIT PK	130	211	217	239	764	69855
MORAI115 - BENET115	966	149	172	179	503	68439
MORTIMER - PTSFD-24	NMP #24	157	171	182	728	25096
MORTIMER - S80 3TR	904	288	304	334	732	25081
MORTIMER - STA 89	NMP#25	139	145	162	729	25095
MORTIMER - SWDN-111	111	129	149	153	723	25347
MOS 115 - GR-TAP1	MAL-6	279	282	327	792	25582
MOS 115 - GR-TAP2	MAL-5	291	319	350	794	25583
MOSES W - MOS 115	SL-AT1	526	589	722	922	25411
MOSES W - MOS 115	SL-AT2	526	589	722	923	25451
MOSES W - MOS 115	SL-AT3	220	276	287	920	25452
MOSES W - MOS 115	SL-AT4	598	598	797	921	25453
MOSES W - WILLIS E	MW-2	447	478	577	927	25188
MOSES W - WILLIS W	MW-1	447	478	577	926	25271
MOUNTAIN - NIAG115E	MT-121	224	239	282	2902	25070
MOUNTAIN - NIAG115E	MT-122	224	239	282	2903	25072
MTNS-120 - NIAG115E	MT-120	224	239	239	733	25135
N.SCOT1 - AIR INDE	8	340	373	414	2817	25496
N.SCOT1 - RTRDM1	13	255	282	318	1041	25494
N.SCOT77 - N.SCOT1	BK#1	529	560	619	1039	25445
N.SCOT99 - GILB 345	GNS-1	1458	1601	1780	1018	25052
N.SCOT99 - MARCY T1	UNS-18	1792	1792	1792	910	25276
N.SCOT99 - N.SCOT1	BK#2	533	547	597	2816	25460
N.WAV115 - CHEMU115	962	143	157	167	577	25726
N.WAV115 - LOUNS115	962	143	157	167	607	25727
NI.B-181 - PACK(N)E	181/922	146	160	178	737	69816
NIAG 345 - BECK A	PA302	1180	1469	1860	759	25041

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
NIAG 345 - BECK B	PA301	1180	1469	1860	758	25040
NIAG 345 - NIAGAR2E	N-AT5	441	552	575	745	25408
NIAG 345 - NIAGAR2E	N-AT3	441	552	575	744	25450
NIAG 345 - NIAGAR2W	N-AT4	881	1027	1150	752	25449
NIAG 345 - ROCH 345	NR2	1591	1745	1904	757	25084
NIAGAR2W - NIAG115E	N-AT1	220	276	288	739	25409
NIAGAR2W - NIAG115W	N-AT2	286	329	400	747	25410
NIAGAR2W - PA27 REG	PA27	480	540	685	756	25025
NRTHPRT1 - NRTHPRT2	BUS/PS2	463	570	570	91	25599
NRTHPRT1 - PILGRIM	679	459	634	677	93	25309
OAKDL230 - OAKDL115	BK#1	318	435	440	609	25400
OAKDL345 - LAFAYTTE	Apr-36	1380	1380	1380	614	25049
OAKDL345 - OAK2M115	BK#3	508	600	600	571	25399
OAKDL345 - OAK3M115	BK#2	508	600	600	610	25401
OAKDL345 - WATRC345	31	1076	1076	1076	613	25178
OAKWOOD - SYOSSET	675	301	417	650	96	25547
ONEIDA - PETRBORO	5	141	144	165	940	25896
OSW 3&4 - S OSWEGO	5	209	239	239	952	25508
OSW 3&4 - S OSWEGO	8	478	478	478	953	25509
OSWEGO - OSW 3&4	BK 7	592	657	774	966	25372
OSWEGO - VOLNEY	11	1278	1410	1792	948	25199
OSWEGO - VOLNEY	12	1278	1410	1792	949	25201
OW CRN W - UNVL 9TP	2	141	144	165	450	25067
PACK(N)E - NIAG115E	PK-191	319	357	413	742	25075
PACK(N)E - NIAG115E	PK-192	319	357	398	741	25099
PACK(S)W - NIAG115W	PK-194	319	357	413	750	25100
PACK(S)W - NIAG115W	PK-193	319	357	413	749	25101
PACK(S)W - NIAG115W	PK-195	285	300	371	751	25102
PACKARD2 - BP76 REG	BP76	559	586	700	763	25024
PACKARD2 - NIAGAR2W	PK-62	717	717	942	755	25186
PACKARD2 - NIAGAR2W	PK-61	717	717	942	754	25220
PACKARD2 - PACK(N)E	3	168	210	250	760	25414
PACKARD2 - PACK(S)W	2	127	157	200	761	25383
PACKARD2 - PACK(S)W	4	168	210	250	762	25415
PALMT115 - ANDOVER1	932	95	100	111	615	25094
PALOMA - S OSWEGO	6	139	144	161	903	25513
PALOMA - S OSWEGO	6	141	144	165	954	25513
PANNELL3 - PANNELLI	122 2TR	280	320	330	771	25396
PANNELL3 - PANNELLI	122 1TR	280	320	330	770	25431
PANNELLI - QUAKER	914	265	295	335	1081	25261
PANNELLI - QUAKER	883/889	496	547	696	67	25682
PANNELLI - QUAKER	925	352	374	416	136	25682
PARK TR1 - PARK1REG	R11	258	339	409	330	25649
PARK TR2 - PARK2REG	R12	258	339	409	333	25650
PAWLN115 - SYLVN115	990/994	179	179	179	188	68887
PL VILLE - PLTVILLE	1	64	70	70	345	25477

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
PL VILLW - PLTVILLE	2	64	70	70	344	25478
PL VILLW - WOOD A	Y87	2401	3031	3406	352	25132
PL.VAL 1 - PLTVLLEY	BK S1	478	478	478	334	25382
PLAT 115 - T MIL RD	PS-1/B	128	148	170	959	25078
PLAT T#1 - WILLIS E	WP-1	217	242	281	967	25272
PLAT T#4 - WILLIS W	WP-2	217	242	281	956	25273
PLTVLLEY - LEEDS 3	92	1624	1783	1912	348	25056
PLTVLLEY - ATHENS	1	1624	1783	1912		
PLTVLLEY - WOOD B	F30	1976	2384	2895	346	25237
PORTER 1 - ILION	5	141	144	165	896	25232
PORTER 1 - ILION	2	141	144	159	991	25232
PORTER 1 - VALLEY	4	141	144	165	973	25231
PORTER 2 - ADRON B1	AP11	341	376	478	783	25051
PORTER 2 - ADRON B2	AP12	341	376	478	785	25082
PORTER 2 - PORTER 1	2	320	365	398	972	25389
PORTER 2 - PORTER 1	1	320	365	398	971	25423
PORTER 2 - ROTRDM.2	30	511	564	634	974	25173
PORTER 2 - ROTRDM.2	31	511	564	634	975	25194
PTSFD-24 - PANNELLI	24	157	171	182	1079	69863
PTSFD-25 - PANNELLI	25	139	145	162	1080	69862
QUENBRDG - VERNON-E	31282	355	508	602	354	25159
QUENBRDG - VERNON-W	31281	368	570	602	353	25160
RAINEY - 8E DUM	36311	321	368	422	358	25296
RAINEY - 8W DUM	36312	286	328	374	359	25297
RAM PAR - RAMAPO	BK4500	588	840	1113	2806	25370
RAM PAR - RAMAPO	BK3500	588	840	1113	2805	25371
RAMAPO - RAMAPO 1	1300	453	567	567	363	25441
RAMAPO - RAMAPO 1	2300	453	567	567	362	25442
RAMAPO - SMAHWAH1	69	1601	2010	2271	364	25021
RAMAPO - SMAHWAH2	70	1822	2010	2555	365	25259
RAMAPO 5 - RAM PAR	1500	1160	1419	1925	360	25656
REYNLD3 - REY. RD.	BK#2	585	676	796	1050	25403
ROBIN230 - NIAGAR2E	RR-64	639	714	717	618	25088
ROBIN230 - ROBIN M1	BK#1	344	412	420	616	25395
ROBIN230 - STOLE230	65	673	717	717	617	25065
ROCH 345 - PANNELL3	RP-1	1591	1745	1904	767	25192
ROCH 345 - PANNELL3	RP-2	1591	1745	1904	766	25172
ROCH 345 - S80 3TR	BK #3TR	286	320	360	774	25446
ROCK TAV - COOPC345	CRT-42	1793	1793	1793	2801	25111
ROCK TAV - ROCK TV1	BK TR	485	530	530	457	25406
ROCK TAV - ROSETON	311	1712	1885	1912	458	25069
ROSETON - FISHKILL	RFK-305	2527	2773	3137	272	25108
RTRDM1 - ROTRDM.2	BK#6	406	447	585	1056	25407
RTRDM1 - ROTRDM.2	BK#7	346	396	448	1057	25392
RTRDM1 - ROTRDM.2	BK#8	377	427	474	1058	25413
S.PER115 - STA 162	T224	149	172	180	625	25062
SANBORNT - NIAG115E	LK-101	285	300	318	713	25267

NYISO WINTER 2002-03 OPERATING STUDY
WINTER ONLINE RATINGS

LINE NAME	LINE_ID	NORMAL	LTE	STE	MGF_NO	PTID
SARANAC - T MIL RD	PS-1/B	128	148	170	959	25078
SCRIBA - 9M PT 2G	23	2041	2242	2390	981	70513
SCRIBA - 9MI PT1	9	1166	1281	1424	980	25359
SCRIBA - JA FITZP	FS-10	1434	1434	1912	900	25076
SCRIBA - VOLNEY	20	1474	1626	1881	978	25204
SCRIBA - VOLNEY	21	1912	1912	1912	979	25314
SHEL-113 - SWDN-113	113	129	149	153	724	25263
SHORE RD - L SUCS	368	258	377	623	76	25150
SHORE RD - L SUCS	367	258	377	623	75	25145
SHORE RD - SHORE RD	BK#2	522	641	731	114	25440
SHORE RD - SHORE RD	BK#1	522	641	731	113	25439
SLEIG115 - QUAKER	NMP #13	187	207	222	621	25079
SMAHWAH1 - S.MAHWAH	258	496	646	656	496	25393
SNBRN102 - NIAG115E	LK-102	285	300	318	743	25103
SOUR-114 - MORTIMER	114	129	149	153	725	25349
SPRBROOK - REACBUS	Y49	660	978	1423	2856	25105
SPRBROOK - TREMONT	X28	524	710	973	373	25175
SPRBROOK - W 49 ST	M52	737	968	1312	375	25223
SPRBROOK - W 49 ST	M51	737	968	1312	374	25053
STATE115 - CLTNCORN	971/3	133	149	159	510	25063
STATE115 - ELBRIDGE	972/5	133	149	162	627	25107
STILV115 - HANCO115	954/955	119	120	120	565	69271
STOLE345 - STOLE115	#4	356	420	420	629	25462
STOLE345 - STOLE115	#3	347	415	420	628	25461
SUGARLF6 - WISNER	89/993	137	151	157	483	69353
TEALL - ONEIDA	2	141	144	159	939	25895
TREMONT - PARK TR1	R11	255	339	409	350	25473
TREMONT - PARK TR2	R12	258	337	409	351	25474
VOLNEY - MARCY T1	VU-19	1434	1793	1912	909	25345
W.HAV345 - W.HAVERS	BK#194	501	623	623	382	25447
W.WDB115 - W.WDBR69	T152	50	50	50	467	25404
WARREN - FALCONER	171	96	136	136	673	25015
WATRC345 - WATRC230	BK#1	528	600	600	634	25402
WHITMAN - ONEIDA	3	152	159	159	855	25894
WILLIS E - WILL 115	WIL-AT1	172	201	225	984	25388
WILLIS W - WILL 115	WIL-AT2	172	201	225	983	25390
WOODA345 - WOODS115	BK#1	378	420	420	384	25437
WOODB345 - WOODS115	BK#2	375	420	420	383	25438
WOODS115 - AMWLK115	996	261	287	311	327	25574
WYANT115 - REY. RD.	13	227	249	268	1052	69928

APPENDIX E

INTERFACE DEFINITIONS AND GENERATION CHANGES ASSUMED FOR THERMAL ANALYSIS

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NYISO OPERATING INTERFACES & OASIS TRANSMISSION PATHS

CENTRAL EAST		
Name	**Line ID**	**Voltage (kV)**
Edic-New Scotland*	14	345
Marcy-New Scotland*	UNS-18	345
Porter-Rotterdam*	30	230
Porter-Rotterdam*	31	230
*Plattsburgh - Grand Isle	PV-20	115
East Springfield - Inghams*	942	115
Inghams Bus Tie	PAR	115

TOTAL EAST		
Central-Capital/MidHudson		
Name	**Line ID**	**Voltage (kV)**
Coopers-Middletown*	CCRT-34	345
Coopers-Rock Tavern*	CCRT-42	345
Edic-New Scotland*	14	345
*Fraser-Gilboa	35	345
Marcy-New Scotland*	UNS-18	345
Porter-Rotterdam*	30	230
Porter-Rotterdam*	31	230
East Springfield - Inghams*	941	115
Inghams Bus Tie	PAR	115
West Woodbourne*115/69	T152	115/69
PJM East-Capital/MidHudson		
Branchburg-Ramapo*	5018	500
*Waldwick- S.Mahwah	J3410	345
* Waldwick-S.Mahwah	K3411	345
PJM East-New York City		
Hudson-Farragut*	C3403	345
Hudson-Farragut*	B3402	345
Linden-Goethals*	A2253	230
Adirondack-ISO-NE		
*Plattsburgh-Grand Isle	PV-20	115
PJM (Rockland Electric) - MidHudson		
Closter – Sparkill	751	69
Harings Corners – W. Nyack	701	69
Harings Corners – Burns	702	138
Montvale – Pearl River	491	69
Harings Corners – Pearl River	45	34
S. Mahwah – Ramapo	51	138
S. Mahwah - Hilburn	65	69
S. Mahwah 138/345		138/345

***** indicates the metered end of circuit

MOSES SOUTH		
Adirondack-Central		
Name	**Line ID**	**Voltage (kV)**
*Massena-Marcy	MSU1	765
*Moses-Adirondack	MA-1	230
*Moses-Adirondack	MA-2	230
*Dennison-Colton	4	115
*Dennison-Colton	5	115
*Alcoa-N. Ogdensburg	13	115
Malone-Colton*	3	115

DYSINGER EAST		
Frontier-Genessee		
Name	**Line ID**	**Voltage (kV)**
*AES Somerset-Rochester (Sta 80)	SR-1/39	345
Niagara-Rochester*	NR2	345
*Stolle-Meyer	67	230
Palmiter - Bennett*	932	115
*Lockport-Batavia	107	115
*Lockport-N. Akron	108	115
*Lockport-Oakfield	112	115
*Lockport-Sweden 1	111	115
*Lockport-Sweden 3	113	115
*Lockport-Telegraph	114	115

WEST CENTRAL		
Genessee-Central		
Name	**Line ID**	**Voltage (kV)**
Pannell Road-Clay	PC-1	345
Pannell Road-Clay*	PC-2	345
*Stolle-Meyer	67	230
Palmiter-Bennett*	932	115
Macedon-Quaker*	930	115
*Mortimer-Elbridge	1	115
*Mortimer-Elbridge	2	115
*Pannell-Farmington	4	115
*Station 121-Sleight Road		115
St. 162 - S. Perry	906	115
*Clyde 199-Sleight Rd		115
Clyde 199-Clinton Corn		115
*Farmington (RGE-NMPC)		
(Farmington 34.5/115kV)	#1	34.5/115
(Farmington 34.5/ 115kV)	#4	34.5/115

***** indicates the metered end of circuit

UPNY-CONED		
Capital/MidHudson-Westchester		
Name	**Line ID**	**Voltage(kV)**
Ladentown-Buchanan South*	Y88	345
*Pleasant Valley-Wood St.	F30	345
*Pleasant Valley-E. Fishkill	F36	345
*Pleasant Valley-E. Fishkill	F37	345
*Pleasant Valley-Millwood	F31	345
*Ramapo-Buchanan North	Y94	345
Roseton-E. Fishkill*	305	345
East Fishkill – Sylvan Lake	A/990	115
East Fishkill 115/345		115/345

SPRAINBROOK-DUNWOODIE SOUTH		
Name	**Line ID**	**Voltage(kV)**
*Dunwoodie-Rainey	71	345
*Dunwoodie-Rainey	72	345
Sprainbrook-Tremont*	28	345
*Sprainbrook-West 49th Street	M51	345
*Sprainbrook-West 49th Street	M52	345
*Lake Success-Jamaica	903	138
*Valley Stream-Jamaica	901L/M	138
*Dunwoodie-Sherman Creek	99031	138
Dunwoodie-Sherman Creek*	99032	138
*Dunwoodie-East 179th Street	99153	138

NYISO-ISO-NE		
Adirondack-ISO-NE		
Name	**Line ID**	**Voltage (kV)**
*Plattsburgh-Grand Isle	PV-20	115
Capital/MidHudson-ISO-NE		
*Alps-Berkshire	393	345
*Pleasant Valley-Long Mnt.	398	345
Rotterdam-Bear Swamp*	E205W	230
North Troy-Bennington*	6	115
*Whitehall-Rutland (Velco)	7/K37	115
*Smithfield-Falls Village		69
Long Island-ISO-NE		
*Northport-Norwalk	1385	138

***** indicates the metered end of circuit

PJM-NYISO		
PJM East-New York City		
Name	**Line ID**	**Voltage (kV)**
Hudson-Farragut*	C3403	345
Hudson-Farragut*	B3402	345
Linden-Goethals*	A2253	230
PJM West-Central		
*Homer City-Watercure	30	345
E. Towanda-Hillside*	70	230
Tiffany-Goudey*	952	115
*E. Sayre-N. Waverly	956	115
PJM West-Frontier		
*Homer City-Stolle Road	37	345
Erie South-South Ripley*	69	230
*Warren-Falconer	171	115
PJM East-Capital/MidHudson		
Branchburg-Ramapo*	5018	500
*Waldwick-S.Mahwah	J3410	345
*Waldwick-S.Mahwah	K3411	345
PJM (Rockland Electric) - MidHudson		
Closter – Sparkill	751	69
Harings Corners – W. Nyak	701	69
Harings Corners – Burns	702	138
Montvale – Pearl River	491	69
Harings Corners – Pearl River	45	34
S. Mahwah – Ramapo	51	138
S. Mahwah - Hilburn	65	69
S. Mahwah 138/345		138/345

IMO (Ontario)-NYISO		
Ontario East-Adirondack		
Name	**Line ID**	**Voltage (kV)**
St. Lawrence-Moses*	L33P	240
St.Lawrence-Moses*	L34P	230
Ontario South-Frontier		
Beck-Niagara*	PA301	345
Beck-Niagara*	PA302	345
Beck-Niagara*	PA27	230
*Beck-Packard	BP76	230

***** indicates the metered end of circuit

CONED - LIPA		
Westchester - Long Island		
Name	**Line ID**	**Voltage (kV)**
*Dunwoodie-Shore Road	Y50	345
*Sprainbrook-East Garden City	Y49	345
New York City - Long Island		
Jamaica-Valley Stream*	901L/M	138
Jamaica-Lake Success*	903	138

GENERATION PARTICIPATION FOR INTERFACES

DYSINGER EAST, WEST CENTRAL

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
		<---- GENERATOR MW ---->				<---- GENERATOR MW ---->	
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
80900	LAKEVWG518.0	11.0	1011.0	1000.0	74190	ROSE GN124.0	349.4	269.4	-80.0
					74702	RAV 3 22.0	792.3	532.3	-260.0
					74703	AK 2 20.0	300.0	220.0	-80.0
					74705	AST 4 20.0	0.0	-80.0	-80.0
					74907	NRTPTG2 22.0	358.0	258.0	-100.0
					74908	NRTPTG3 22.0	358.0	258.0	-100.0
					79391	BOWLIN2020.0	592.0	472.0	-120.0
					79546	POLETTI 26.0	855.0	675.0	-180.0

SPRAINBROOK/DONWOODIE SOUTH

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
		<---- GENERATOR MW ---->				<---- GENERATOR MW ---->	
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
80900	LAKEVWG518.0	11.0	461.0	450.0	74702	RAV 3 22.0	792.3	492.3	-300.0
81422	LENNOXG220.0	550.0	1100.0	550.0	74703	AK 2 20.0	300.0	200.0	-100.0
					74705	AST 4 20.0	0.0	-100.0	-100.0
					74907	NRTPTG2 22.0	358.0	258.0	-100.0
					74908	NRTPTG3 22.0	358.0	258.0	-100.0
					79546	POLETTI 26.0	855.0	555.0	-300.0

TOTAL EAST, CENTRAL EAST

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
		<---- GENERATOR MW ---->				<---- GENERATOR MW ---->	
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
76641	DUNKGEN413.8	180.0	230.0	50.0	74302	ER G7 13.2	70.0	-70.0	-140.0
77051	HNTLY68G13.8	190.6	240.6	50.0	74702	RAV 3 22.0	792.3	512.3	-280.0
77951	9M PT 1G23.0	626.0	1126.0	500.0	74705	AST 4 20.0	0.0	-100.0	-100.0
79515	MOS19-2013.8	114.0	214.0	100.0	74706	AST 5 20.0	369.0	249.0	-120.0
80900	LAKEVWG518.0	11.0	161.0	150.0	74906	NRTPTG1 22.0	300.0	230.0	-70.0
81765	NANTICG622.0	512.0	662.0	150.0	79390	BOWLINE 20.0	0.0	-100.0	-100.0
					79546	POLETTI 26.0	855.0	665.0	-190.0

GENERATION PARTICIPATION FOR INTERFACES

UPNY-CONED

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
80900	LAKEVWG518.0	11.0	211.0	200.0	74302	ER G7 13.2	70.0	0.0	-70.0
81422	LENNOXG220.0	550.0	950.0	400.0	74702	RAV 3 22.0	792.3	492.3	-300.0
81424	LENNOXG320.0	550.0	950.0	400.0	74705	AST 4 20.0	0.0	-200.0	-200.0
					74706	AST 5 20.0	369.0	269.0	-100.0
					74707	RAV 1 20.0	259.3	109.3	-150.0
					74907	NRTPTG2 22.0	358.0	178.0	-180.0

MOSES-SOUTH

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
79513	MOS17-1813.8	97.1	347.1	250.0	74702	RAV 3 22.0	792.3	742.3	-50.0
79516	MOS21-2213.8	114.0	364.0	250.0	76641	DUNKGEN413.8	180.0	130.0	-50.0
					77051	HNTLY68G13.8	190.6	140.6	-50.0
					77951	9M PT 1G23.0	626.0	376.0	-250.0
					79546	POLETTI 26.0	855.0	755.0	-100.0

CONED - LONG ISLAND POWER AUTHORITY

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
74190	ROSE GN124.0	349.4	424.4	75.0	74900	BARETG1 20.0	0.0	-90.0	-90.0
74302	ER G7 13.2	70.0	95.0	25.0	74907	NRTPTG2 22.0	358.0	238.0	-120.0
74700	AK 3 22.0	0.0	50.0	50.0	74908	NRTPTG3 22.0	358.0	238.0	-120.0
74705	AST 4 20.0	0.0	25.0	25.0	74909	NRTPTG4 22.0	0.0	-120.0	-120.0
74706	AST 5 20.0	369.0	419.0	50.0	74942	NYPA108 13.8	90.0	40.0	-50.0
74707	RAV 1 20.0	259.3	334.3	75.0					
79390	BOWLINE 20.0	0.0	125.0	125.0					
79546	POLETTI 26.0	855.0	930.0	75.0					

GENERATION PARTICIPATION FOR INTERFACES

ONTARIO - NEW YORK

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
	<---- GENERATOR MW ---->				<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
81424	LENNOXG320.0	550.0	1050.0	500.0	74190	ROSE GN124.0	349.4	199.4	-150.0
81425	LENNOXG420.0	550.0	1050.0	500.0	74702	RAV 3 22.0	792.3	392.3	-400.0
					76640	DUNKGEN313.8	180.0	130.0	-50.0
					77051	HNTLY68G13.8	190.6	140.6	-50.0
					78955	ALBY STM13.2	335.9	285.9	-50.0
					79547	JAFITZ1G24.0	848.8	548.8	-300.0

NEW YORK - ONTARIO

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
	<---- GENERATOR MW ---->				<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
74190	ROSE GN124.0	349.4	499.4	150.0	80898	LAKEVWG216.0	0.0	-250.0	-250.0
74193	DANSK G416.1	241.0	391.0	150.0	80899	LAKEVWG116.0	300.0	50.0	-250.0
78955	ALBY STM13.2	335.9	435.9	100.0	81764	NANTICG722.0	512.0	262.0	-250.0
79390	BOWLINE 20.0	0.0	450.0	450.0	81765	NANTICG622.0	512.0	262.0	-250.0
79546	POLETTI 26.0	855.0	1005.0	150.0					

PJM - NYISO

<---------- STUDY SYSTEM ---------->				<---------- OPPOSING SYSTEM ---------->			
	<---- GENERATOR MW ---->				<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
335	WAYNE CT13.8	0.0	45.9	45.9	74192	ROSE GN224.0	0.0	-135.0	-135.0
336	WARRN CT13.8	0.0	46.7	46.7	74700	AK 3 22.0	0.0	-141.0	-141.0
424	SHAW. 1 18.0	131.5	133.5	2.0	74702	RAV 3 22.0	792.3	692.3	-100.0
1701	CAT TRAC13.2	0.0	25.4	25.4	74704	AST 3 20.0	300.0	200.0	-100.0
1720	HAM CT13.8	0.0	11.5	11.5	74705	AST 4 20.0	0.0	-100.0	-100.0
1722	MOUNT CT13.8	27.0	51.6	24.6	76641	DUNKGEN413.8	180.0	75.0	-105.0
1723	ORTAN CT13.8	0.0	12.3	12.3	77050	HNTLY67G13.8	146.4	41.4	-105.0
1724	TOLNA CT13.8	0.0	24.6	24.6	77052	HUNT115G13.8	87.5	-48.5	-136.0
1725	PORT CT 13.8	0.0	21.3	21.3	77953	OSWGO 6G22.0	0.0	-382.0	-382.0
1729	S.RDG CT13.8	0.0	18.0	18.0	77965	SITH-G1 18.0	69.0	-1.0	-70.0

2895	O C GEN 24.0	637.0	637.9	0.9	77966	SITH-G2 18.0	69.0	-1.0	-70.0
2930	WERCT3&413.8	0.0	43.5	43.5	77967	SITH-G3 18.0	156.0	86.0	-70.0
3054	BRUNNER 230	0.0	6.6	6.6	77968	SITH-G4 18.0	156.0	86.0	-70.0
3099	MRCRTR104.33	0.0	4.1	4.1	77969	SITH-S5 18.0	220.6	111.6	-109.0
3173	SUN BUS 69.0	0.0	4.9	4.9	77970	SITH-S6 18.0	220.6	111.6	-109.0
3175	ALLEN CT12.5	0.0	23.0	23.0	78955	ALBY STM13.2	335.9	261.9	-74.0
3176	FISHB CT12.5	0.0	23.0	23.0	79390	BOWLINE 20.0	0.0	-124.0	-124.0
3177	HARRI CT12.5	0.0	23.0	23.0					
3178	HARWO CT12.5	0.0	23.0	23.0					
3179	JENKI CT12.5	0.0	23.0	23.0					
3180	LOCKH CT12.5	0.0	11.5	11.5					
3181	MARTI CT12.5	0.0	11.5	11.5					
3182	SUNBU CT12.5	0.0	29.5	29.5					
3183	WESTS CT12.5	0.0	23.0	23.0					
3184	WILLI CT12.5	0.0	23.0	23.0					
4050	CHSTR7-913.8	0.0	32.0	32.0					
4071	CROMBY 220.0	211.0	213.5	2.5					
4080	CROYDN1113.8	0.0	40.2	40.2					
4083	CROYDN2213.8	0.0	40.2	40.2					
4084	CROYDN3113.8	0.0	40.2	40.2					
4086	CROYDN4113.8	0.0	40.2	40.2					
4096	DELAWRUR13.8	0.0	2.5	2.5					
4105	EDDYST1013.8	0.0	10.7	10.7					
4106	EDDYST2013.8	0.0	10.7	10.7					
4113	EDDYSTN324.0	0.0	9.3	9.3					
4115	EDY30-4013.8	0.0	27.9	27.9					
4125	FALLS1-313.8	0.0	41.8	41.8					
4279	SCHYLABC13.8	0.0	2.5	2.5					
4957	BAYONNE 138	0.0	34.4	34.4					
4969	BURLNGT713.0	0.0	17.2	17.2					
5060	HUDSON 313.0	0.0	105.8	105.8					
5063	KEARNY1213.0	0.0	176.3	176.3					
5076	LINDEN 224.0	0.0	45.0	45.0					
5135	BURLNG1113.0	0.0	117.3	117.3					
5142	MERCER 313.0	0.0	105.8	105.8					
5145	NAT PARK26.0	0.0	17.2	17.2					
5905	CRANE GT4.16	0.0	11.5	11.5					
5912	PHIL G3413.8	0.0	26.2	26.2					
5913	PHIL G1213.8	0.0	26.2	26.2					
5921	WAGNR GT4.16	0.0	11.5	11.5					
7091	BENN U1521.2	0.0	31.4	31.4					
7103	DICK CT113.8	0.0	10.7	10.7					
7108	CHALKCT14.30	0.0	14.8	14.8					
7109	CHALKCT213.8	0.0	24.6	24.6					

7117	MORG CT113.8	0.0	13.1	13.1
7118	MORG CT213.8	0.0	13.1	13.1
7170	BUZZE1-413.8	0.0	52.5	52.5
7171	BUZZE5-813.8	0.0	52.5	52.5
7172	BUZZW1-413.8	0.0	52.5	52.5
7173	BUZZW5-813.8	0.0	52.5	52.5
8100	BLE DIES2.40	0.0	6.6	6.6
8200	CARL#1CT13.8	0.0	29.5	29.5
8700	VNLD 10 13.2	9.0	11.2	2.2
8702	WEST CT 13.2	0.0	21.3	21.3
8882	DC10 13.8	0.0	13.1	13.1
8886	EM10 13.1	0.0	10.7	10.7
8968	WEST 1 12.0	0.0	12.3	12.3
8973	CHRIST1 12.0	0.0	18.5	18.5
8974	CHRIST2 12.0	0.0	18.5	18.5
9124	VN10 13.2	0.0	13.9	13.9
9220	IR10 13.2	0.0	13.9	13.9
9350	TASLEY2G13.2	0.0	21.3	21.3

NYISO - PJM

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
74192	ROSE GN224.0	312.1	326.7	14.6	204	C.SLOPE 115	50.0	-2.8	-52.8
74195	DANSK G213.8	53.6	88.4	34.8	372	SHAWVL 322.0	0.0	-104.9	-104.9
74196	DANSK G113.8	43.9	72.9	29.0	431	SHAW. 2 18.0	119.2	93.1	-26.1
74304	AWGT1 13.8	0.0	23.2	23.2	1702	GLATFLTR13.2	0.0	-21.0	-21.0
74305	AWGT2 13.8	0.0	23.2	23.2	1727	PORT2GEN15.5	190.9	117.7	-73.2
74326	GOWGT4A 13.8	0.0	34.8	34.8	1731	TITUS 2G13.8	0.0	-48.6	-48.6
74352	NARRGT1A13.8	0.0	40.6	40.6	2873	LKWD G1 13.8	14.6	-31.0	-45.6
74353	NARRGT1B13.8	0.0	40.6	40.6	2899	S RIV G313.8	86.0	54.9	-31.1
74361	ASTEGT2A13.8	78.0	121.6	43.6	2907	KITTGEN113.8	0.0	-84.0	-84.0
74362	ASTEGT2B13.8	0.0	43.4	43.4	3150	MTN CK 324.0	0.0	-244.1	-244.1
74372	ASTEGT3A13.8	0.0	43.6	43.6	3162	SUNBRY 413.8	0.0	-76.8	-76.8
74373	ASTEGT3B13.8	0.0	43.4	43.4	4062	CONOW3-413.8	48.9	9.3	-39.6
74379	GOWGT4B 13.8	0.0	34.8	34.8	4081	CROYDN1213.8	0.0	-6.3	-6.3
74703	AK 2 20.0	300.0	328.3	28.3	4082	CROYDN2113.8	0.0	-27.0	-27.0
74720	HUD 10 13.8	0.0	23.2	23.2	4112	EDDYSTN220.0	310.7	129.8	-181.0
74721	HUD3-4-513.8	0.0	17.4	17.4	5134	BURLNG1013.0	0.0	-110.3	-110.3
74786	RNY 2EGT13.0	0.0	32.0	32.0	5180	BERGENGT24.0	0.0	-192.3	-192.3

74787	RNY 7EGT13.0	0.0	31.8	31.8	5904	CRANE G220.0	195.0	103.6	-91.4
74788	RNY 7WGT13.0	0.0	32.0	32.0	5910	PERRYG3413.8	0.0	-62.4	-62.4
74789	RNY 9EGT13.0	0.0	31.8	31.8	7104	CHALK U120.0	48.1	-156.4	-204.5
74910	PTJEFGT213.8	0.0	23.2	23.2	7112	CHALKCT513.8	0.0	-49.2	-49.2
74911	PTJEFGT313.8	0.0	23.2	23.2	8102	BLE#2 ST18.0	65.9	-9.7	-75.6
74919	HOLTS1-513.8	107.3	252.2	144.9	8884	EM4 19.0	61.0	0.3	-60.7
75523	KINTIG2424.0	679.7	702.9	23.2	9123	VN8 18.0	0.0	-91.8	-91.8
76548	INDEK-OL 115	79.0	110.8	31.8					
76640	DUNKGEN313.8	180.0	214.8	34.8					
76642	DUNK115G13.8	86.1	115.1	29.0					
77051	HNTLY68G13.8	190.6	225.4	34.8					
77052	HUNT115G13.8	170.0	199.0	29.0					
77450	GERES LK 115	159.0	246.0	87.0					
77952	OSWGO 5G22.0	713.8	1119.6	405.8					
78955	ALBY STM13.2	335.9	440.2	104.3					
79391	BOWLIN2020.0	592.0	922.4	330.4					
79546	POLETTI 26.0	855.0	875.9	20.9					
79655	ILION 115	54.7	86.7	32.0					

NEW YORK - NEW ENGLAND

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
74190	ROSE GN124.0	349.4	649.4	300.0	71063	MYST G7 22.0	175.0	-75.0	-250.0
74700	AK 3 22.0	0.0	200.0	200.0	71252	CANAL G218.0	355.0	55.0	-300.0
74702	RAV 3 22.0	792.3	892.3	100.0	72868	NWNGT G124.0	0.0	-250.0	-250.0
74707	RAV 1 20.0	259.3	359.3	100.0	73563	MILL#3 24.0	1146.0	946.0	-200.0
79391	BOWLIN2020.0	592.0	692.0	100.0					
79546	POLETTI 26.0	855.0	1055.0	200.0					

NEW ENGLAND - NEW YORK

<---------- STUDY SYSTEM ---------->					<---------- OPPOSING SYSTEM ---------->				
		<---- GENERATOR MW ---->					<---- GENERATOR MW ---->		
BUS	BUS NAME	BASE	SHIFT	CHANGE	BUS	BUS NAME	BASE	SHIFT	CHANGE
71063	MYST G7 22.0	175.0	425.0	250.0	74193	DANSK G416.1	241.0	41.0	-200.0
71252	CANAL G218.0	355.0	655.0	300.0	74702	RAV 3 22.0	793.5	593.5	-200.0
72868	NWNGT G124.0	0.0	250.0	250.0	78955	ALBY STM13.2	335.8	135.8	-200.0
73563	MILL#3 24.0	1146.0	1346.0	200.0	79546	POLETTI 26.0	855.0	455.0	-400.0

TABLE 1

DISTRIBUTION FACTORS FOR DYSINGER EAST CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	KINTI-ROCH	NIAGAR-ROCH	STOLLE-MEYER	LOCKPT-SOUR	LOCKPT-SHEL	NIAGAR-ROCH
STOLE230 230	MEYER230 230	1	13.1%	6.1%	7.3%	TRIP	6.8%	6.1%	13.4%
GOLAH66K66.0	MORT66KV66.0	1	0.0%	0.3%	0.3%	0.3%	0.8%	0.7%	0.6%
LOCKPORT 115	NAKR-108 115	1	1.3%	1.3%	1.6%	1.5%	4.1%	3.8%	2.9%
LOCKPORT 115	OAKFLDTP 115	1	1.6%	1.6%	1.9%	1.8%	4.9%	4.5%	3.5%
LOCKPORT 115	SOUR-111 115	1	3.3%	3.3%	4.0%	3.7%	TRIP	12.1%	7.2%
LOCKPORT 115	SHEL-113 115	1	3.5%	3.5%	4.2%	3.9%	14.2%	TRIP	7.7%
LOCKPORT 115	TELRDTP1 115	1	1.6%	1.6%	1.9%	1.8%	6.2%	6.7%	3.5%
LOCKPORT 115	TELRDTP1 115	1	3.3%	3.4%	4.1%	3.8%	11.7%	19.3%	7.4%
KINTI345 345	ROCH 345 345	1	29.3%	TRIP	45.2%	14.8%	14.7%	13.4%	O/S
NIAG 345 345	ROCH 345 345	1	43.0%	54.8%	TRIP	21.7%	21.6%	19.6%	TRIP
SUB-TOTALS				75.7%	70.5%	53.2%	85.0%	86.4%	46.2%
L33P-L34P				8.5%	10.4%	8.6%	4.4%	4.0%	19.0%
PJM-NYISO				15.0%	18.1%	35.1%	10.6%	9.6%	33.3%
TOTALS			100.0%	99.2%	99.0%	96.9%	100.0%	100.0%	98.5%

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TABLE 2

DISTRIBUTION FACTORS FOR WEST CENTRAL CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	PANNEL-CLAY	STOLLE-MEYER	S121-SLEGH	PANNEL-FARM	PANNEL-CLAY
PANNELL3 345	CLAY 345	1	36.3%	TRIP	9.7%	18.6%	20.0%	O/S
PANNELL3 345	CLAY 345	2	36.4%	57.9%	9.7%	18.6%	20.1%	TRIP
STOLE230 230	MEYER230 230	1	13.1%	2.8%	TRIP	2.7%	7.7%	6.7%
MORTIMER 115	LAWLER-1 115	1	3.0%	2.5%	1.0%	4.0%	16.9%	6.0%
MORTIMER 115	LAWLER-2 115	1	3.1%	2.9%	0.8%	4.6%	4.0%	6.8%
S121 B#2 115	SLEIG115 115	1	2.9%	3.5%	1.8%	TRIP	11.1%	8.3%
PANNELLI 115	FRMGTN-4 115	1	-0.2%	6.1%	8.1%	18.0%	TRIP	14.5%
STA 162 115	S.PER115 115	1	0.6%	2.3%	21.3%	3.0%	6.4%	5.6%
QUAKER 115	MACDN115 115	1	0.3%	0.4%	0.3%	19.9%	2.6%	1.0%
SUB-TOTALS				78.4%	52.9%	89.4%	88.8%	48.8%
L33P-L34P				8.3%	9.4%	3.4%	2.6%	19.8%
PJM-NYISO				13.0%	34.7%	6.4%	6.6%	31.0%
TOTALS			95.7%	99.8%	97.0%	99.2%	98.0%	99.6%

TABLE 3

DISTRIBUTION FACTORS FOR TOTAL EAST CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	PORTER-RTRDM	EDIC34-NSCOT	MARCY3-NSCOT	FRASER-GILBA	BRBURG-RAMPO	WALDWK-SMAWA	HUDSON-FARGT	LINDEN-GOETH	WALDWK-SMAWA	HUDSON-FARGT
EDIC 345	N.SCOT77 345	1	18.5%	13.8%	TRIP	32.8%	19.5%	3.2%	0.2%	1.5%	2.5%	1.4%	2.2%
MARCY T1 345	N.SCOT99 345	1	19.9%	14.7%	34.6%	TRIP	21.1%	3.4%	0.2%	1.6%	2.7%	1.5%	2.4%
PORTER 2 230	ROTRDM.2 230	1	4.4%	TRIP	5.4%	5.4%	3.1%	0.7%	0.0%	0.3%	0.6%	0.3%	0.5%
PORTER 2 230	ROTRDM.2 230	2	4.5%	34.0%	5.5%	5.6%	3.2%	0.8%	0.0%	0.4%	0.6%	0.3%	0.5%
E.SPR115 115	INGHAM-E 115	1	0.9%	0.9%	-0.2%	-0.2%	2.5%	0.2%	0.0%	0.1%	0.1%	0.1%	0.1%
INGMS-CD 115	INGHAM-E 115	1	0.0%	9.8%	3.7%	3.7%	0.7%	0.4%	0.0%	0.2%	0.3%	0.2%	0.3%
PLAT T#3 115	GRAND IS 115	1	1.2%	2.6%	2.3%	2.4%	1.4%	0.6%	0.0%	0.3%	0.5%	0.3%	0.4%
FRASR345 345	GILB 345 345	1	16.0%	9.3%	23.0%	23.5%	TRIP	3.4%	0.1%	2.2%	3.5%	1.1%	3.3%
BRANCHBG 500	RAMAPO 5 500	1	0.0%	1.9%	3.2%	3.3%	3.0%	TRIP	2.9%	7.5%	20.8%	25.1%	11.2%
COOPC345 345	SHOEMTAP 345	1	17.5%	4.0%	7.1%	7.5%	18.2%	4.9%	0.3%	0.3%	1.5%	3.5%	0.5%
COOPC345 345	ROCK TAV 345	2	16.7%	3.9%	6.9%	7.3%	17.7%	4.5%	0.4%	0.4%	1.6%	3.1%	0.7%
HUDSON2 345	FARRGUT2 345	1	0.0%	1.1%	1.8%	1.8%	2.3%	9.0%	3.0%	32.5%	20.3%	26.4%	TRIP
HUDSON1 345	FARRGUT1 345	1	0.0%	1.1%	1.8%	1.8%	2.3%	8.9%	3.1%	TRIP	20.0%	27.1%	O/S
LINDEN 230	GOETHALS 230	1	0.0%	1.1%	1.8%	1.9%	2.1%	14.7%	1.1%	11.8%	TRIP	9.7%	17.8%
WALDWICK 345	SMAHWAH1 345	1	-0.2%	0.8%	1.3%	1.3%	0.8%	22.8%	88.6%	20.9%	12.7%	O/S	30.6%
WALDWICK 345	SMAHWAH2 345	1	0.2%	0.7%	1.3%	1.3%	0.9%	22.6%	TRIP	20.1%	12.2%	TRIP	29.4%
			---	---	---	---	---	---	---	---	---	---	---
TOALS			99.5%	99.7%	99.6%	99.6%	99.0%	99.9%	100.0%	99.9%	99.9%	100.0%	99.9%

TABLE 4

DISTRIBUTION FACTORS FOR UPNY-CONED CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	PLVLLY-MILLW	PLVLLY-FISHK	RAMAPO-BUCHN	LADNTW-BUCHS	LINDEN-GOETH	HUDSON-FARGT	ROSETN-FISHK
ROSETON 345	FISHKILL 345	1	20.4%	-11.4%	15.3%	15.7%	21.6%	9.4%	8.5%	TRIP
PLTVLLEY 345	MILLWOOD 345	1	17.3%	TRIP	8.8%	3.0%	12.6%	2.9%	1.9%	-8.8%
PLTVLLEY 345	FISHKILL 345	1	7.7%	24.0%	TRIP	-0.5%	-7.1%	1.1%	0.6%	32.2%
PLTVLLEY 345	FISHKILL 345	2	7.7%	24.0%	66.6%	-0.5%	-7.1%	1.1%	0.6%	32.2%
PLTVLLEY 345	WOOD B 345	1	17.1%	35.3%	9.2%	3.0%	12.2%	2.9%	1.9%	-8.6%
RAMAPO 345	BUCH N 345	1	13.6%	3.2%	-0.2%	TRIP	41.5%	16.4%	16.4%	13.0%
LADENTWN 345	BUCH S 345	1	13.6%	17.7%	-3.7%	54.7%	TRIP	23.7%	24.1%	23.6%
FISHKILL 115	SYLVN115 115	1	1.0%	0.8%	-0.1%	0.3%	0.6%	0.3%	0.2%	0.6%
E FISH I 115	FISHKILL 345	1	1.8%	-0.5%	2.4%	0.8%	0.9%	0.6%	0.5%	6.2%
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SUB-TOTALS				93.1%	98.3%	76.6%	75.1%	58.1%	54.5%	90.5%
LINDEN-GOETH				0.9%	0.1%	5.0%	5.5%	TRIP	11.8%	2.4%
HUDSON-FAR1				1.0%	0.1%	8.3%	9.3%	20.3%	32.5%	3.6%
HUDSON-FAR2				1.0%	0.1%	8.5%	9.5%	20.0%	TRIP	3.7%
NORHBR-NRPRT				3.9%	1.3%	1.5%	0.7%	1.6%	1.2%	-0.1%
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TOTALS			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 5

DISTRIBUTION FACTORS FOR SPRAINBROOK / DUNWOODIE SOUTH CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	SPRAIN-TRMNT	SPRAIN-W49TH	DUNWDE-RAINY	DUNWDE-SHORE	SPRAIN-DVNPT	SPRAIN-W49TH	DUNWDE RAINY
DUN NO1R 138	S CREEK 138	1	0.0%	14.8%	0.3%	0.4%	2.5%	1.4%	0.5%	0.7%
DUN NO2R 138	S CREEK 138	1	0.0%	15.1%	0.3%	0.4%	2.5%	1.4%	0.5%	0.8%
DUN SO1R 138	E179 ST 138	1	0.0%	22.8%	0.4%	0.6%	3.8%	2.1%	0.8%	1.1%
DUNWODIE 345	RAINEY 345	3	28.2%	8.4%	23.9%	TRIP	11.8%	3.4%	43.5%	O/S
DUNWODIE 345	RAINEY 345	4	28.2%	8.4%	23.9%	45.6%	11.8%	3.4%	43.5%	TRIP
DUNWODIE 345	SHORE RD 345	1		6.6%	0.8%	1.3%	TRIP	54.5%	1.4%	2.3%
SPRBROOK 345	TREMONT 345	1	0.0%	TRIP	0.8%	0.7%	5.0%	3.2%	1.4%	1.3%
SPRBROOK 345	W 49 ST 345	1	21.8%	9.0%	TRIP	23.4%	6.9%	7.4%	O/S	43.0%
SPRBROOK 345	W 49 ST 345	2	21.8%	9.0%	44.9%	23.4%	6.9%	7.4%	TRIP	43.0%
REACBUS 345	DVNPT NK 345	1		2.4%	0.5%	0.2%	31.1%	TRIP	0.8%	0.4%
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SUB-TOTALS				96.3%	95.8%	96.0%	82.2%	84.2%	92.3%	92.6%
LINDEN-GOETH				2.2%	0.9%	0.9%	0.1%	0.0%	1.6%	1.6%
HUDSON-FAR#1				0.1%	1.6%	1.5%	-0.2%	-0.2%	2.9%	2.8%
HUDSON-FAR#2				0.1%	1.6%	1.5%	-0.2%	-0.2%	3.0%	2.8%
NORHRBR-NRPRT				1.3%	0.1%	0.1%	18.0%	16.1%	0.2%	0.1%
			---	---	---	---	---	---	---	---
TOTALS			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 6

DISTRIBUTION FACTORS FOR MOSES SOUTH CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	MASSEN-MARCY	MASSEN-CHAT	MOSES2-ADRON	MOSES2-PORTR
MASS 765 765	MARCY765 765	1	74.1%	TRIP	66.0%	44.1%	O/S
DENNISON 115	ANDRWS-4 115	1	2.3%	4.2%	0.8%	1.5%	3.7%
MOSES W 230	ADRON B1 230	1	9.5%	18.9%	3.3%	TRIP	TRIP
MOSES W 230	ADRON B2 230	1	9.5%	18.9%	3.3%	36.4%	48.8%
DENNISON 115	LWRNCE-B 115	1	2.3%	4.2%	0.8%	1.5%	3.7%
ALCOA-NM 115	BRADY 115	1	1.1%	2.0%	0.4%	0.7%	1.7%
ALLENS F 115	COLTON 115	1	1.3%	1.9%	0.3%	0.7%	1.7%
				---	---	---	---
SUB-TOTALS				50.2%	74.9%	84.9%	59.5%
MOSES-L33P				17.0%	9.6%	5.0%	13.6%
MOSES-L34P				22.7%	12.8%	6.7%	18.2%
MOSES-WILLE				6.0%	1.6%	2.1%	5.2%
MOSES-WILLW				6.0%	1.6%	2.1%	5.2%
			---	---	---	---	---
TOTALS			100.0%	101.9%	100.3%	100.7%	101.7%

TABLE 7

DISTRIBUTION FACTORS FOR NYISO-ISONE CIRCUITS
Winter 2002-2003

			% Pickup of Transfer	ALPS34-MANY	PV.345-LNGMT	NHHAR-GEN	VTYANK-GEN	YRMTH-GEN	SBRK-GEN	HIGATE-DC	EEL RIVER	MADWAS-DC
ALPS345 345	MANY393 345	1	35.4%	TRIP	42.0%	21.8%	42.3%	36.7%	36.4%	17.9%	36.7%	36.7%
PLAT T#3 115	GRAND IS 115	1	1.9%	6.8%	4.3%	3.4%	5.9%	6.3%	6.2%	50.1%	6.3%	6.3%
HOOSICK 115	BNNINGTN 115	1	2.8%	10.0%	3.1%	1.6%	2.3%	2.7%	2.8%	1.0%	2.7%	2.7%
WHITEHAL 115	BLISSVIL 115	1	4.8%	10.5%	4.6%	2.5%	6.7%	5.3%	5.2%	6.9%	5.3%	5.3%
ROTRDM.2 230	BRSWAMP 230	1	7.2%	15.9%	7.6%	4.6%	6.4%	7.9%	8.0%	2.9%	7.9%	7.9%
PLTVLLEY 345	CTNY398 345	1	46.6%	44.3%	TRIP	46.7%	27.0%	30.7%	31.0%	15.5%	30.6%	30.6%
NRTHPT P 138	NORHR138 138	1	0.0%	10.9%	34.8%	18.1%	8.5%	9.4%	9.5%	5.4%	9.4%	9.4%
SMITHFLD69.0	FALLS V 69.0	1	1.3%	1.5%	3.7%	1.4%	0.8%	0.9%	1.0%	0.5%	0.9%	0.9%
TOTALS			100.0%	98.5%	96.3%	98.6%	99.2%	99.0%	99.0%	99.5%	99.0%	99.0%

TABLE 8

DISTRIBUTION FACTORS FOR ONTARIO-NYISO CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	PA27-NIAGAR	BP76-PACKD2	STLAWR-MOSES	STLAWR-MOSES	BECKB-NIAGAR
STLAWL34 230	MOSES E 230	1	0.0%	1.4%	1.5%	TRIP	60.1%	1.6%
STLAWL33 230	MOSES E 230	1	0.0%	1.1%	1.1%	53.0%	TRIP	1.2%
BECK B 345	NIAG 345 345	1	31.1%	33.7%	30.8%	9.6%	8.1%	TRIP
BECK A 345	NIAG 345 345	1	31.1%	33.6%	30.7%	9.5%	8.1%	52.6%
PA27 REG 230	NIAGAR2W 230	1	20.1%	TRIP	31.3%	5.8%	4.9%	23.2%
BP76 REG 230	PACKARD2 230	1	17.7%	26.0%	TRIP	4.9%	4.2%	17.6%
				---	---	---	---	---
SUB-TOTALS				95.8%	95.3%	82.7%	85.3%	96.2%
IMO-MICH				4.0%	4.4%	16.0%	13.6%	3.6%
			---	---	---	---	---	---
TOTALS			100.0%	99.8%	99.7%	98.7%	98.9%	99.8%

TABLE 9

DISTRIBUTION FACTORS FOR PJM-NYISO CIRCUITS

Winter 2002-2003

			% Pickup of Transfer	ERIESO-FALCS	HMRCTY-STOLL	HMRCTY-WATER	E.TOWD-HILLS	BRBURG-RAMPO	WALDWK-SMAWA	HUDSON-FARGT	LINDEN-GOETH	WALDWK-SMAWA	HUDSON-FARGT
ERIE E 230	S RIPLEY 230	1	21.5%	TRIP	21.6%	7.5%	4.7%	2.4%	0.1%	0.8%	1.5%	1.2%	1.1%
WARREN 115	FALCONER 115	1	7.7%	21.9%	8.4%	1.8%	3.0%	0.8%	0.0%	0.3%	0.5%	0.4%	0.4%
HOMER CY 345	STOLE345 345	1	14.4%	15.5%	TRIP	15.3%	2.0%	1.7%	0.1%	0.6%	1.1%	0.9%	0.8%
HOMER CY 345	WATRC345 345	1	20.8%	6.6%	18.7%	TRIP	13.4%	3.7%	0.2%	1.1%	2.3%	1.8%	1.7%
E.TWANDA 230	HILSD230 230	1	21.7%	6.1%	3.6%	19.5%	TRIP	3.5%	0.3%	1.3%	2.3%	2.2%	2.0%
E.SAYRE 115	N.WAV115 115	1	7.9%	2.0%	1.4%	4.1%	30.6%	1.3%	0.1%	0.5%	0.8%	0.8%	0.7%
LAUREL L 115	GOUDY115 115	1	6.1%	0.9%	0.7%	2.2%	11.4%	1.1%	0.1%	0.4%	0.7%	0.7%	0.6%
BRANCHBG 500	RAMAPO 5 500	1	0.0%	6.6%	6.7%	11.7%	7.6%	TRIP	2.9%	7.5%	20.8%	25.1%	11.2%
HUDSON2 345	FARRGUT2 345	1	0.0%	2.5%	2.6%	4.2%	3.4%	9.0%	3.0%	32.5%	20.3%	26.4%	TRIP
HUDSON1 345	FARRGUT1 345	1	0.0%	2.5%	2.6%	4.3%	3.5%	8.9%	3.1%	TRIP	20.0%	27.1%	O/S
LINDEN 230	GOETHALS 230	1	0.0%	2.9%	3.0%	5.1%	3.4%	14.7%	1.1%	11.8%	TRIP	9.7%	17.8%
WALDWICK 345	SMAHWAH1 345	1	-0.1%	3.1%	3.2%	5.4%	4.5%	22.8%	88.6%	20.9%	12.7%	O/S	30.6%
WALDWICK 345	SMAHWAH2 345	1	0.1%	2.8%	2.9%	4.9%	4.2%	22.6%	TRIP	20.1%	12.2%	TRIP	29.4%
				---	---	---	---	---	---	---	---	---	---
SUB-TOTALS				73.4%	75.2%	85.9%	91.7%	92.4%	99.6%	97.6%	95.2%	96.2%	96.4%
IMO-MICH				-25.1%	-23.3%	-13.2%	-7.8%	-7.1%	-0.4%	-2.3%	-4.5%	-3.5%	-3.4%
			---	---	---	---	---	---	---	---	---	---	---
TOTALS			100.0%	48.3%	51.9%	72.7%	83.9%	85.3%	99.2%	95.3%	90.7%	92.7%	93.0%

TABLE 10A

GENERATION SHIFT FACTORS WITH ALL PAR'S HOLDING MW FLOW

Winter 2002-2003

	WEST-CENTRAL	UTICA-ALBANY	MARCY-SOUTH	CENTRAL EAST	BBURG-RAMAPO	IMO-NYISO	PJM-NYISO
ALBANY	0.3%	13.3%	-11.3%	15.4%	0.0%	0.1%	-0.1%
BB-RAMAPO	44.1%	39.9%	18.0%	42.4%	-100.0%	17.1%	-17.2%
BECK	-77.4%	-43.9%	-23.5%	-46.1%	0.0%	-90.5%	-9.4%
BOWEN	-48.0%	-40.3%	-18.6%	-42.8%	0.0%	-21.0%	-78.9%
BOWLINE	0.0%	-1.2%	1.1%	-1.3%	0.0%	0.0%	0.0%
BRANDON	-45.8%	-40.1%	-18.2%	-42.6%	0.0%	-18.3%	-81.6%
BRAYTON	0.2%	8.2%	-8.2%	10.7%	0.0%	0.1%	0.0%
CHAT	1.5%	-52.1%	-34.5%	-54.7%	0.0%	0.5%	-0.4%
CONEMAUGH	-45.7%	-40.1%	-18.2%	-42.5%	0.0%	-17.6%	-82.3%
DUNKIRK	-67.8%	-42.4%	-21.3%	-44.6%	0.0%	-2.1%	2.2%
EDDYSTONE	-44.4%	-40.0%	-18.0%	-42.4%	0.0%	-17.2%	-82.6%
GILBOA	-0.3%	-0.2%	-1.9%	-0.8%	0.0%	-0.1%	0.1%
HATFIELD	-47.0%	-40.2%	-18.4%	-42.7%	0.0%	-19.0%	-80.9%
HUDSON	-43.7%	-39.9%	-17.9%	-42.4%	0.0%	-16.9%	-83.0%
HUNTLEY	-76.6%	-43.6%	-23.0%	-45.7%	0.0%	4.7%	-4.6%
INDIANPT2	0.0%	-1.0%	0.9%	-1.0%	0.0%	0.0%	0.0%
JEAMOS	-48.2%	-40.4%	-18.6%	-42.8%	0.0%	-21.0%	-78.9%
LAMBTON	-69.9%	-43.0%	-22.3%	-45.2%	0.0%	-72.6%	-27.3%
LUDINGTON	-50.3%	-40.6%	-18.9%	-43.0%	0.0%	-25.5%	-74.4%
MONROE	-53.4%	-41.0%	-19.5%	-43.4%	0.0%	-32.8%	-67.0%
MTSTORM	-46.9%	-40.2%	-18.4%	-42.7%	0.0%	-19.2%	-80.6%
NANTICOKE	-74.1%	-43.5%	-23.0%	-45.7%	0.0%	-82.8%	-17.1%
NEWTON	-48.7%	-40.4%	-18.7%	-42.8%	0.0%	-22.0%	-77.8%
NIAGARA	-77.4%	-43.8%	-23.3%	-45.9%	0.0%	4.6%	-4.5%
NORWALK	0.2%	5.4%	-5.2%	6.7%	0.0%	0.1%	0.0%
OSWEGO	2.6%	-49.0%	-30.5%	-50.7%	0.0%	0.9%	-0.8%
PORTLAND	-43.2%	-39.8%	-17.8%	-42.3%	0.0%	-16.7%	-83.2%
ROSETON	0.0%	-0.3%	0.3%	-0.3%	0.0%	0.0%	0.0%
SALEM	-44.5%	-40.0%	-18.0%	-42.4%	0.0%	-17.3%	-82.6%

TABLE 10B

ENERATION SHIFT FACTORS WITH PAR'S FREE FLOWING

Winter 2002-03

WEST-CENTRAL	UTICA-ALBANY	MARCY-SOUTH	CENTRAL EAST	BBURG-RAMAPO	IMO-NYISO	PJM-NYISO	
4.3%	16.3%	-9.0%	21.0%	-1.6%	4.4%	-4.4%	-4.1%
7.9%	8.1%	5.3%	9.2%	-100.0%	7.6%	-7.6%	-7.1%
-44.2%	-26.7%	-15.8%	-30.3%	-10.8%	-76.6%	-23.3%	-21.9%
-15.2%	-14.4%	-7.0%	-16.5%	-18.8%	-18.2%	-81.7%	16.6%
-0.2%	-1.2%	0.9%	-1.4%	4.5%	-0.2%	0.2%	0.2%
-10.7%	-11.3%	-5.0%	-13.0%	-21.1%	-11.0%	-88.9%	10.3%
3.0%	9.5%	-6.3%	15.1%	-0.9%	3.5%	-3.5%	-3.3%
3.1%	-38.9%	-27.1%	-44.7%	-4.8%	11.0%	-10.9%	-10.2%
-11.3%	-12.1%	-5.3%	-13.8%	-20.4%	-10.4%	-89.5%	9.8%
-37.9%	-22.6%	-12.4%	-25.6%	-13.0%	7.6%	-7.5%	-7.1%
-7.1%	-8.4%	-3.3%	-9.6%	-23.2%	-6.8%	-93.1%	6.4%
4.5%	5.1%	1.0%	4.7%	-1.7%	4.1%	-4.0%	-3.8%
-13.6%	-13.5%	-6.3%	-15.4%	-19.4%	-14.0%	-86.0%	13.1%
-1.8%	-2.6%	-0.5%	-3.0%	-5.4%	-1.7%	-98.3%	1.6%
-46.7%	-26.0%	-15.1%	-29.4%	-11.0%	16.6%	-16.5%	-15.6%
-0.1%	-0.9%	0.7%	-1.1%	3.6%	-0.1%	0.2%	0.1%
-15.5%	-14.7%	-7.2%	-16.8%	-18.6%	-18.3%	-81.6%	17.1%
-25.3%	-21.0%	-11.8%	-24.1%	-14.6%	-45.2%	-54.7%	-54.2%
-18.8%	-16.8%	-8.7%	-19.3%	-17.2%	-27.0%	-72.9%	26.0%
-21.8%	-18.7%	-10.1%	-21.4%	-16.0%	-34.9%	-65.0%	34.7%
-13.2%	-13.1%	-6.1%	-15.0%	-19.7%	-14.1%	-85.8%	13.2%
-32.1%	-25.4%	-15.2%	-29.2%	-11.7%	-65.1%	-34.8%	-32.7%
-16.4%	-15.2%	-7.6%	-17.4%	-18.3%	-20.7%	-79.2%	18.7%
-48.5%	-26.5%	-15.4%	-29.9%	-10.7%	16.3%	-16.2%	-15.3%
1.4%	4.0%	-2.1%	5.7%	0.0%	1.5%	-1.5%	-1.4%
12.9%	-37.2%	-24.6%	-41.0%	-5.1%	8.8%	-8.7%	-8.2%
-5.2%	-7.3%	-2.5%	-8.3%	-17.9%	-5.0%	-95.0%	4.7%
1.7%	1.6%	1.3%	1.7%	0.9%	1.6%	-1.5%	-1.5%
-7.1%	-8.4%	-3.3%	-9.6%	-23.2%	-6.9%	-93.0%	6.5%

APPENDIX F

ANNOTATED MUST OUTPUT

This Section Is Available
On Computer Diskette If Requested

APPENDIX G

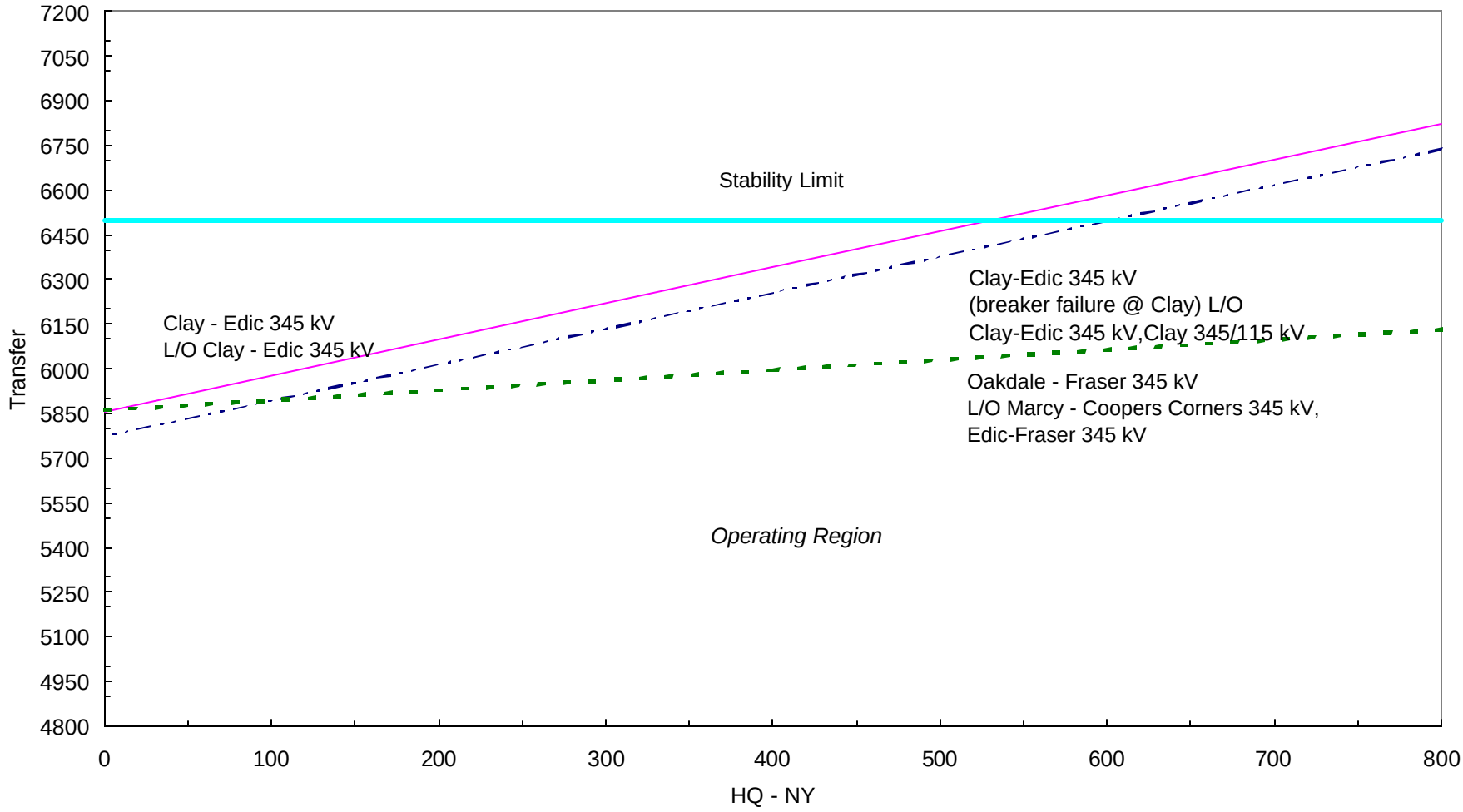
TRANSFER LIMIT SENSITIVITY GRAPHS

INDEX

Total East vs. HQ

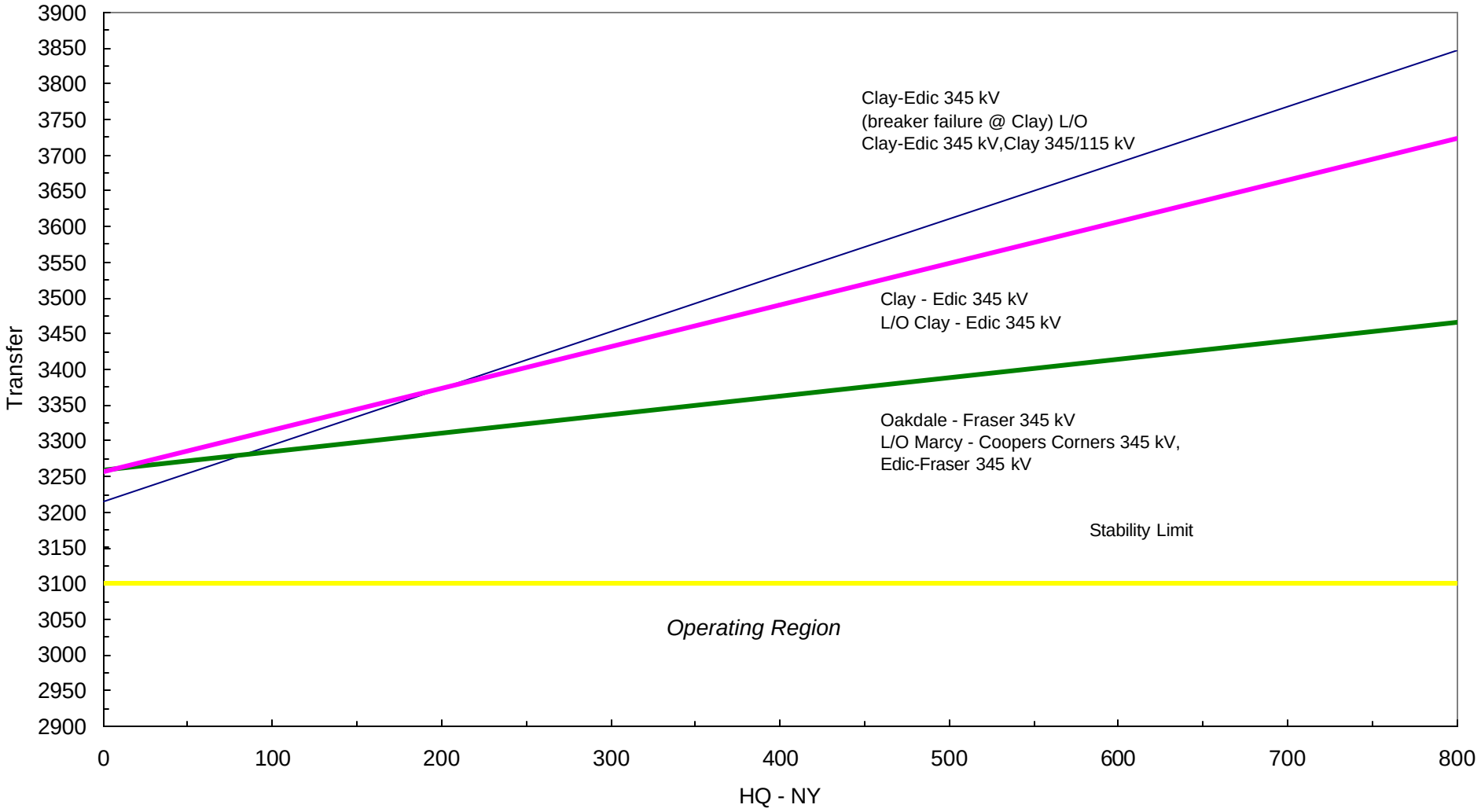
For Normal Transfer Criteria

Winter 2002



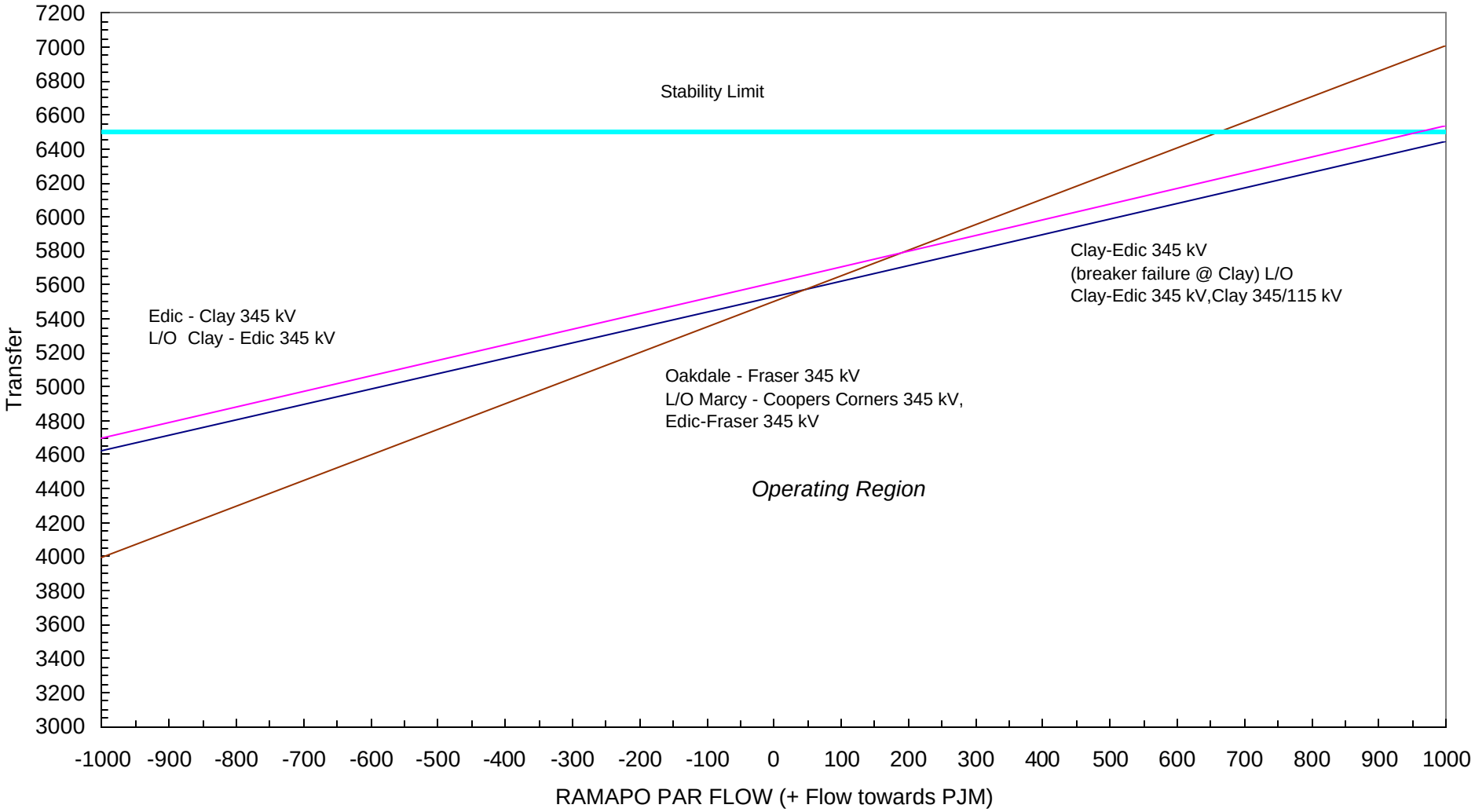
Central East vs. HQ

For Normal Transfer Criteria
Winter 2002



Total East vs. RAMAPO PAR Flow

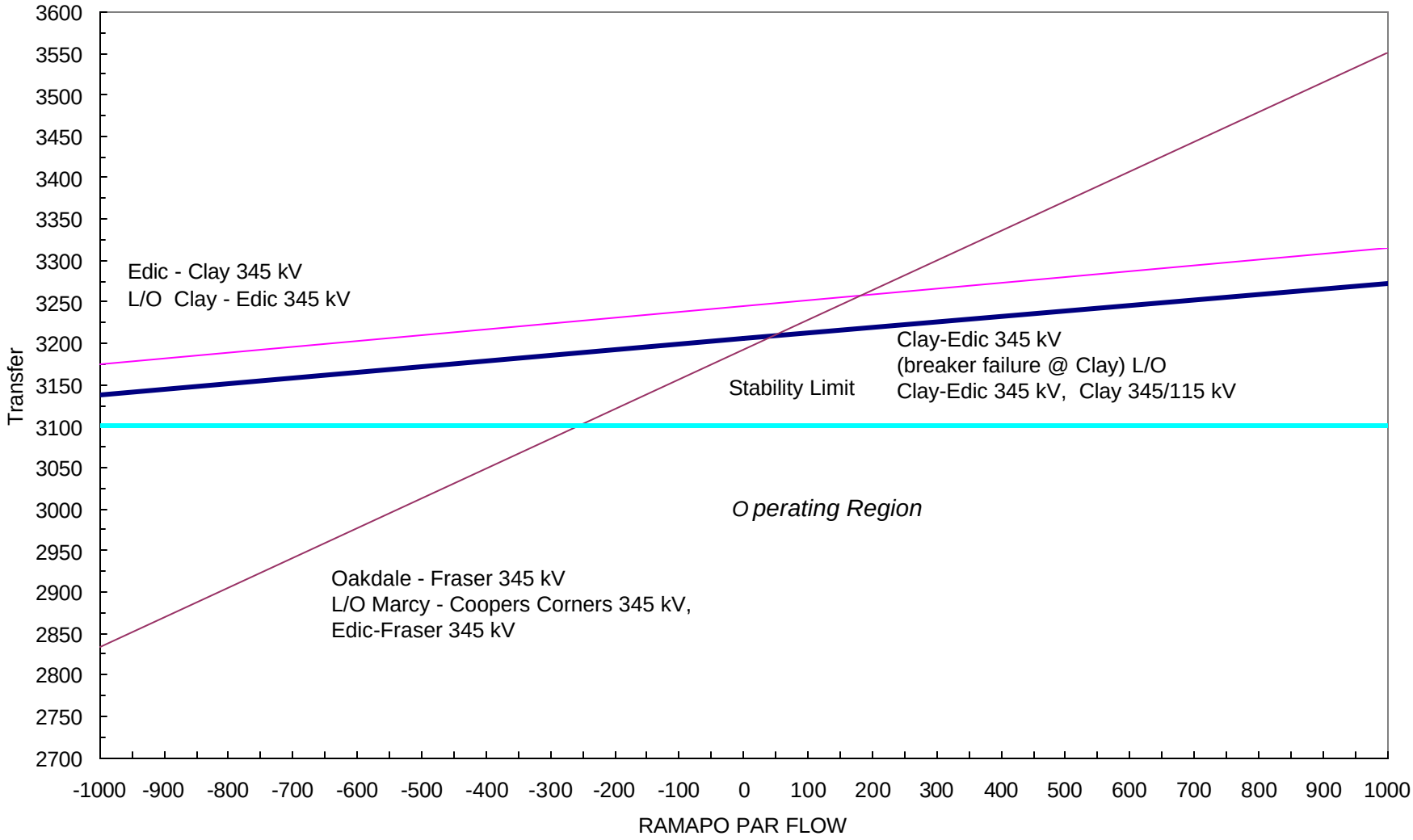
For Normal Transfer Criteria
Winter 2002



Central East vs. RAMAPO PAR Flow

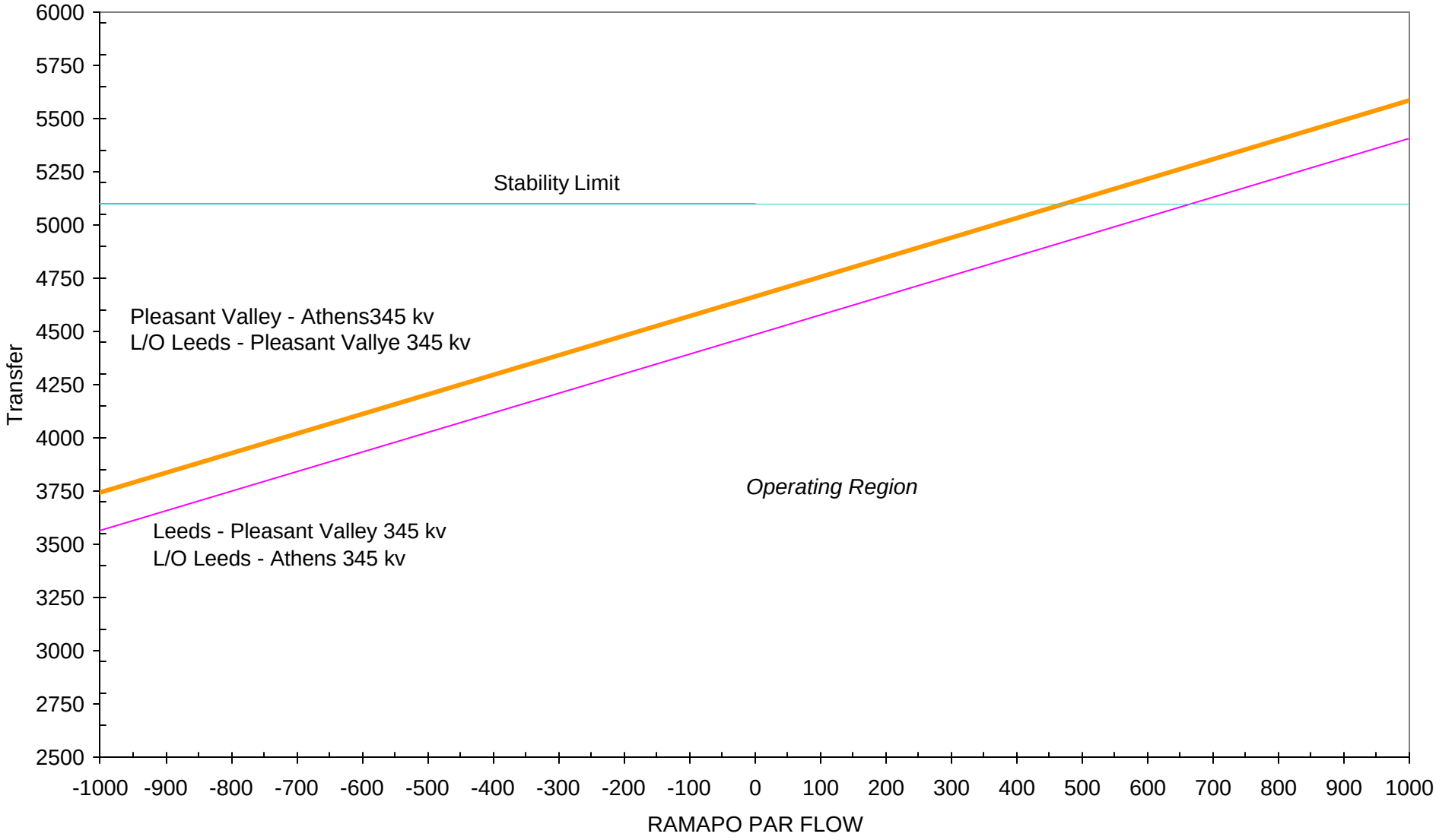
For Normal Transfer Criteria

Winter 2002



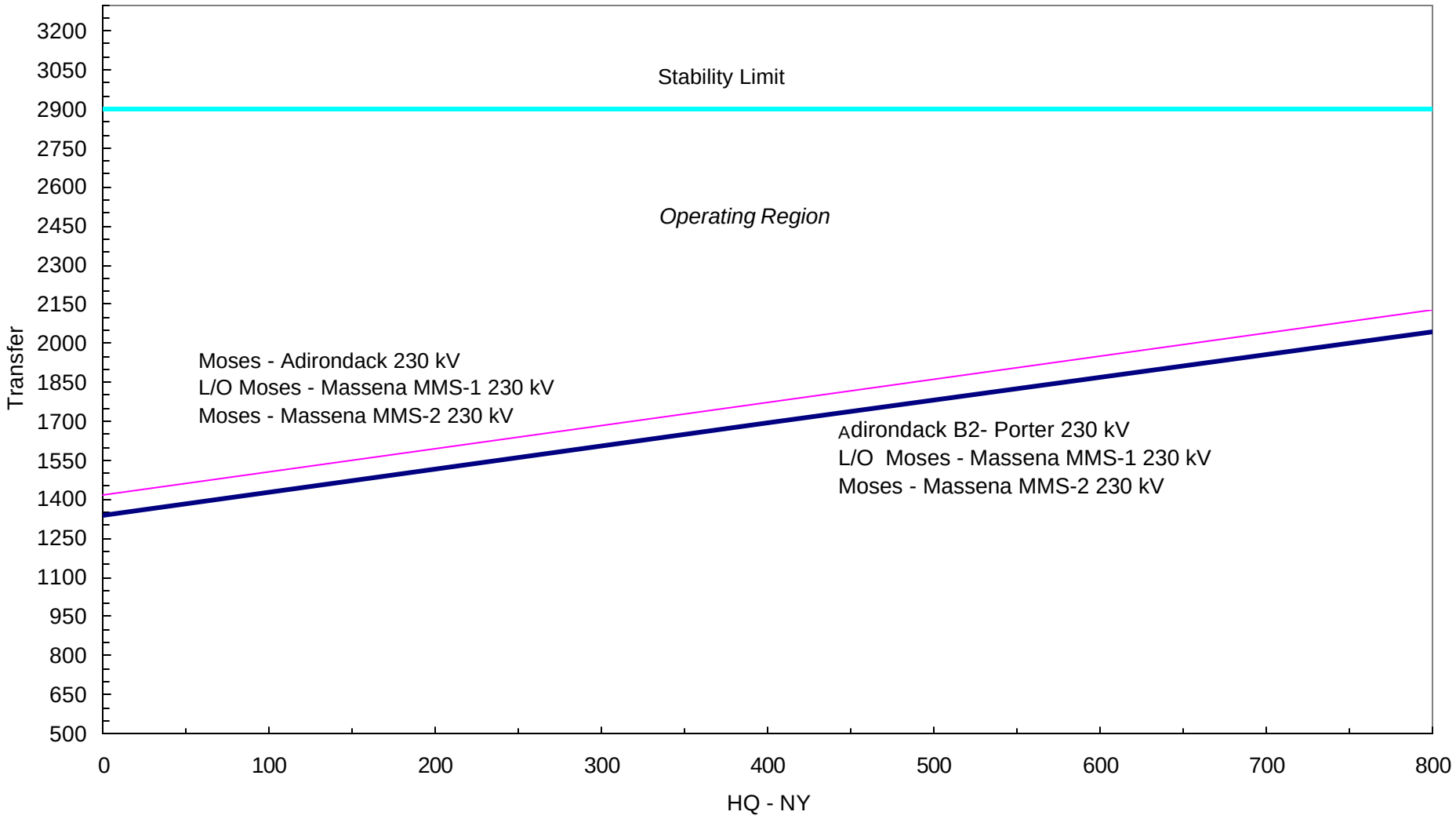
UPNY CONED vs. RAMAPO PAR Flow

For Normal Transfer Criteria
Winter 2002



Moses South vs. HQ Export to New York

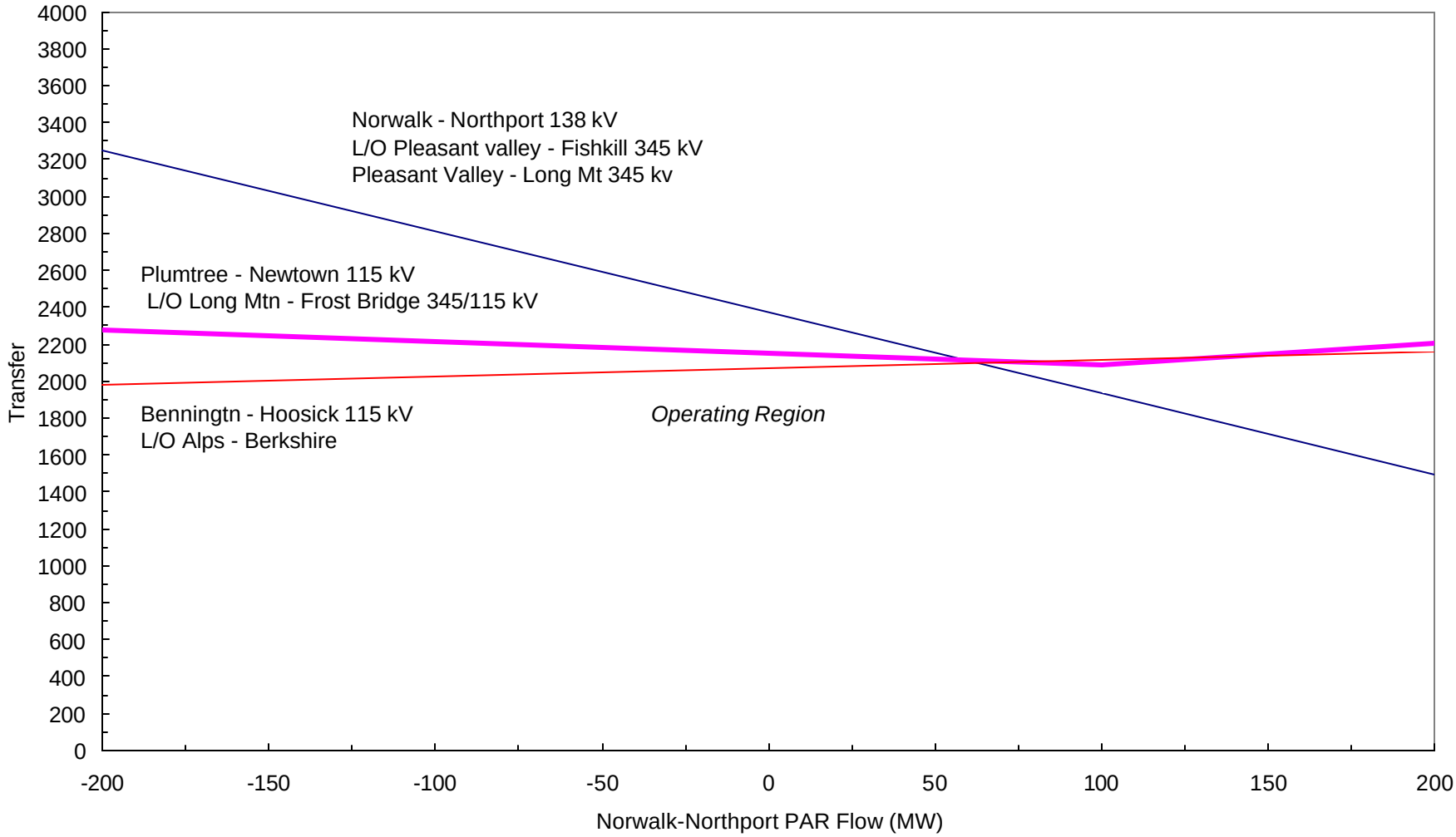
For Normal Transfer Criteria
Winter 2002



NE-NY vs. NORWALK-NORTHPORT PAR Flow

For Normal Transfer Criteria

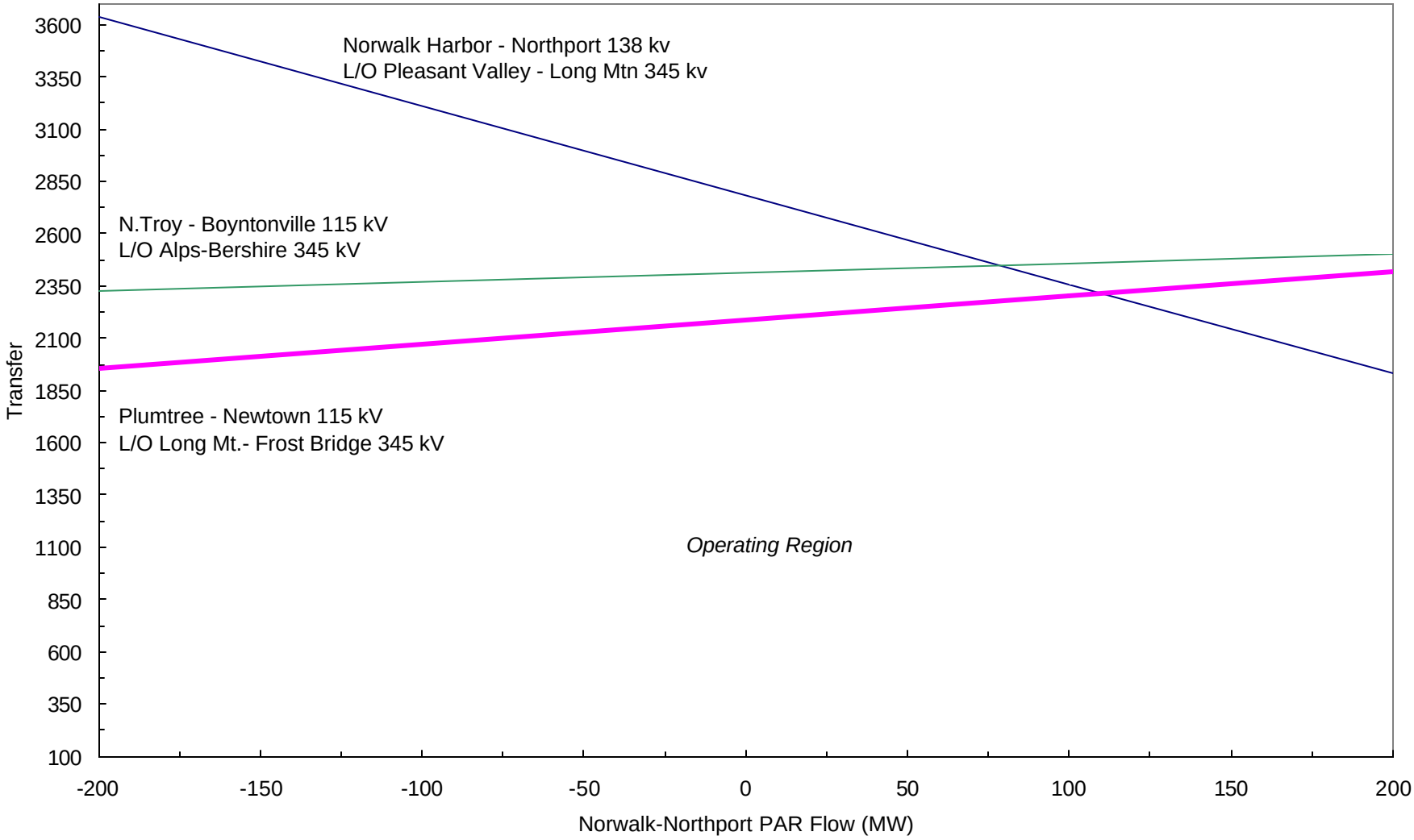
Winter 2002



NE-NY vs. NORWALK-NORTHPORT PAR Flow

For Emergency Transfer Criteria

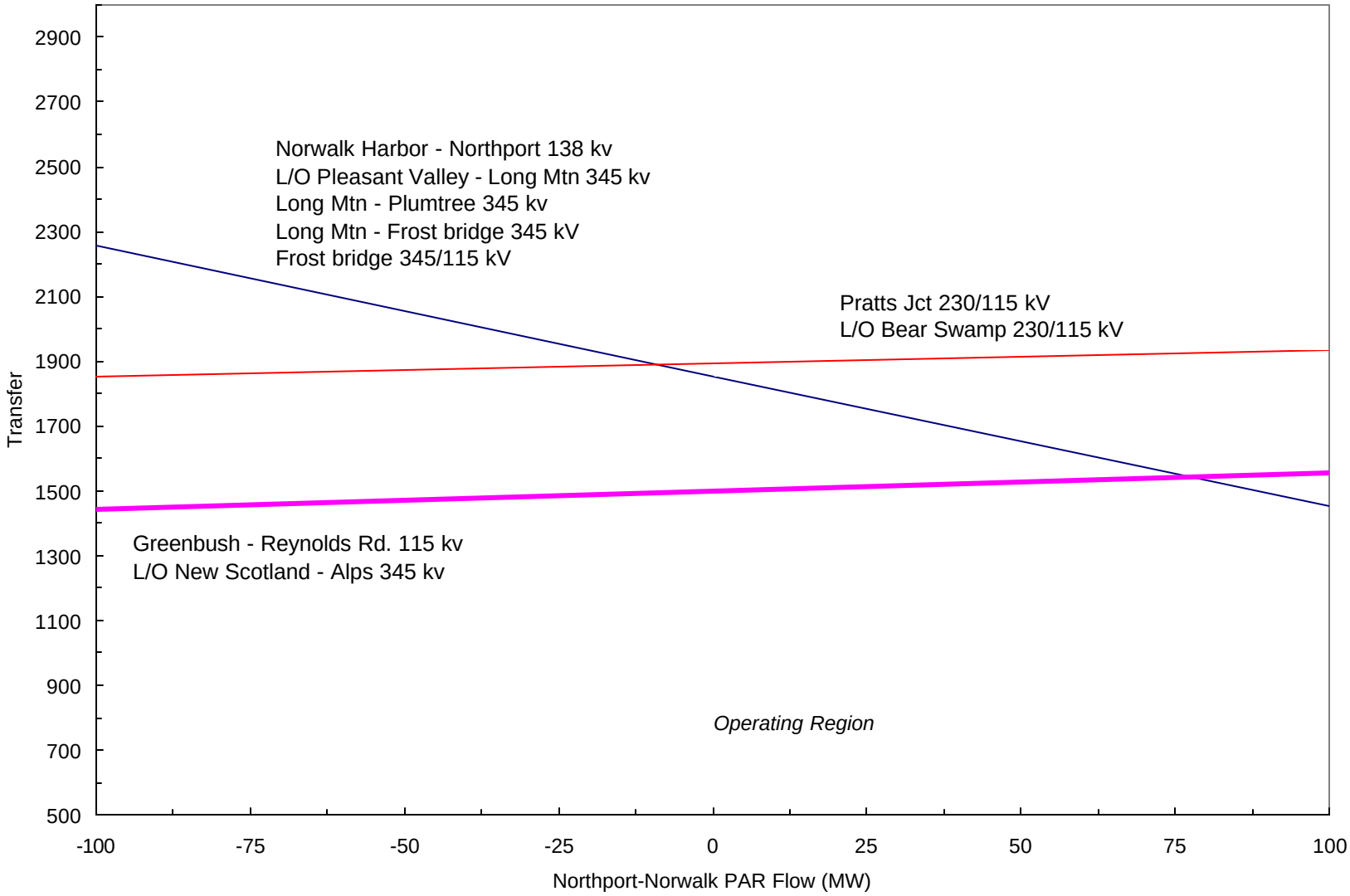
Winter 2002



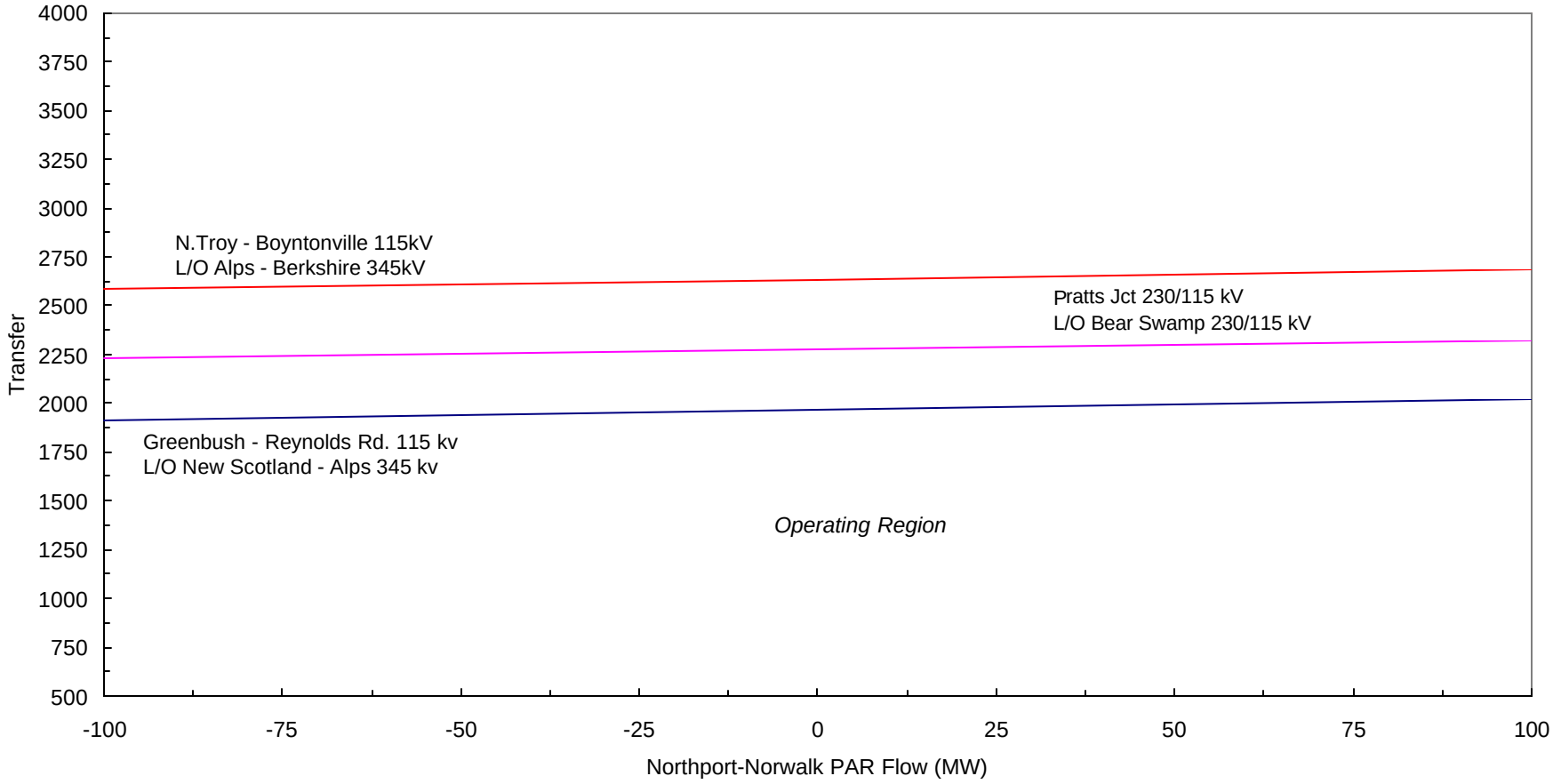
NY-NE vs. NORTHPORT-NORWALK PAR Flow

For Normal Transfer Criteria

Winter 2002

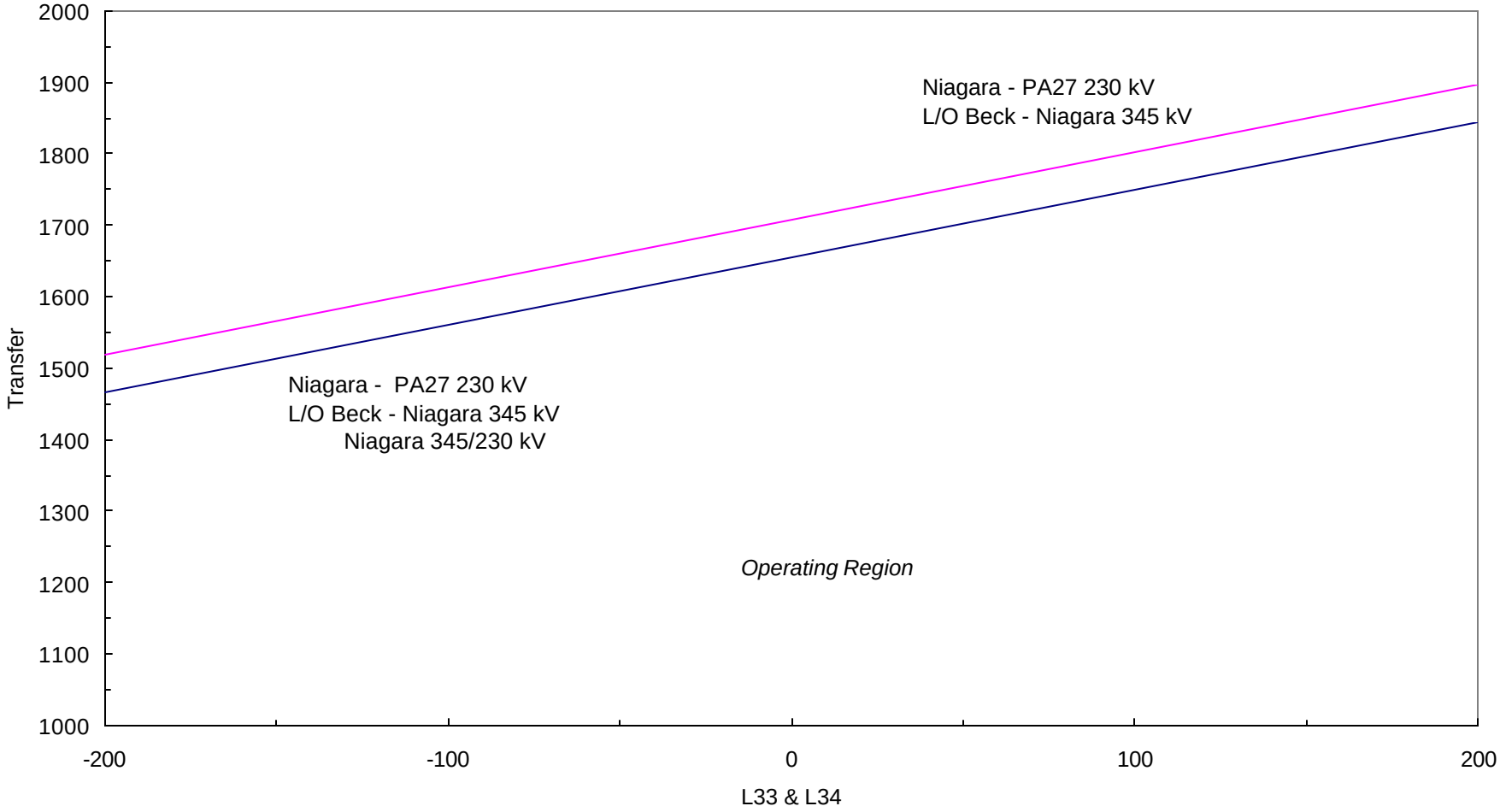


NY-NE vs. NORTHPORT-NORWALK PAR Flow
For Emergency Transfer Criteria
Winter 2002



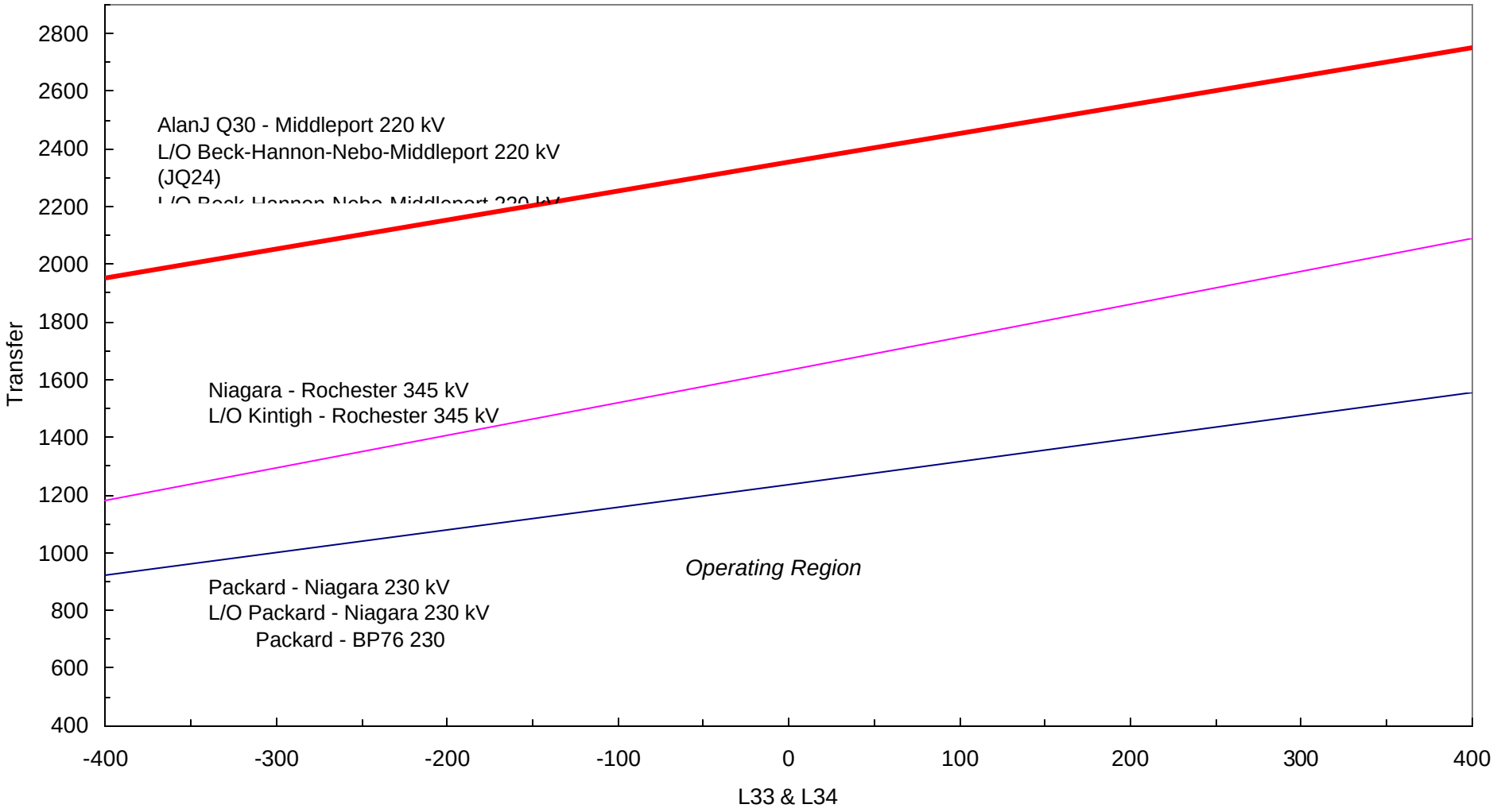
NY- IMO (Ontario) Transfer vs. L33 & L34

For Normal Transfer Criteria
Winter 2002



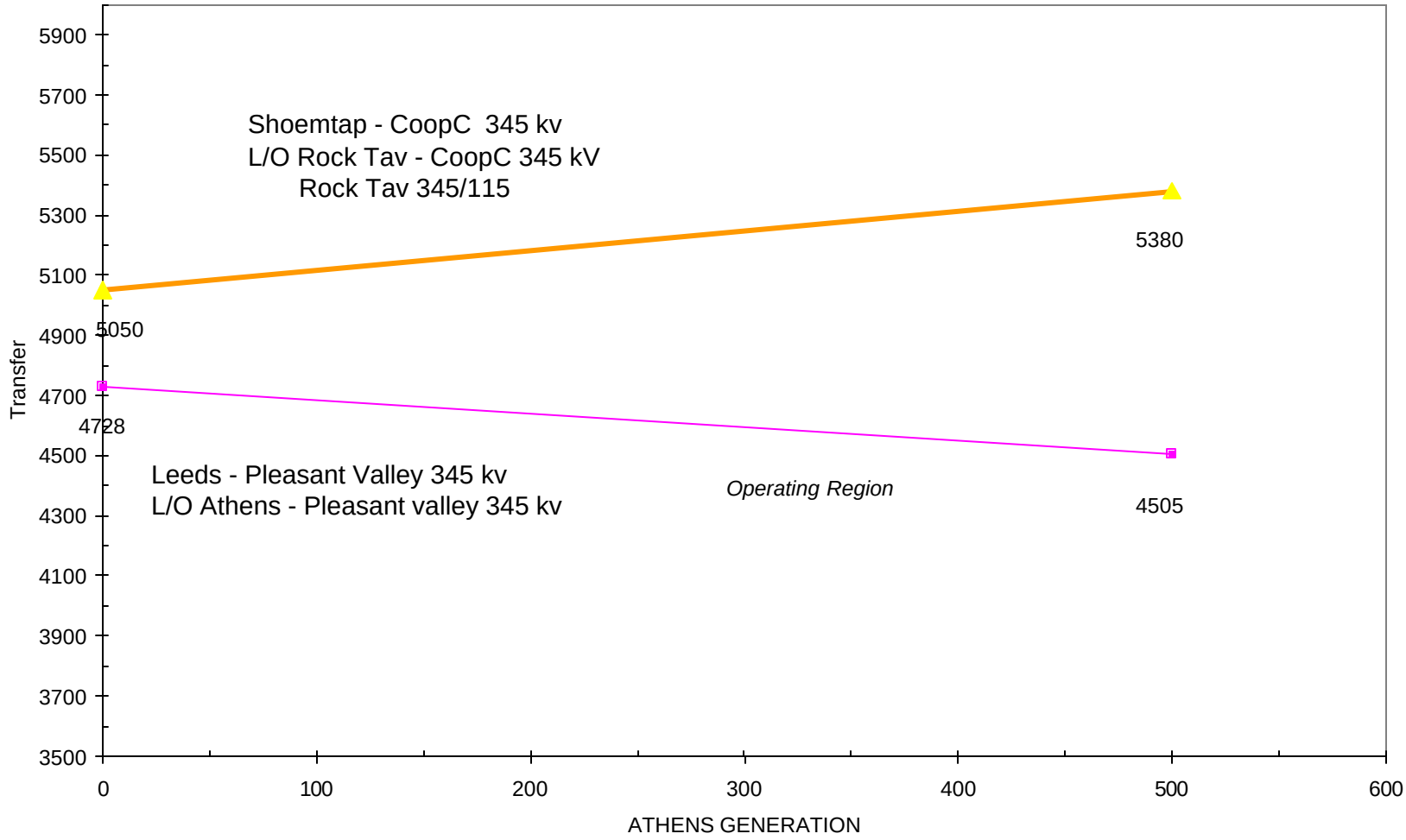
IMO (Ontario)-NY Transfer vs. L33 & L34

For Normal Transfer Criteria
Winter 2002



UPNY CONED vs.Athens Generation

For Normal Transfer Criteria
Winter 2002



APPENDIX H

COMPARISON OF TRANSFER LIMITS WINTER 2002-03 vs. WINTER 2001-02

Comparison of WINTER 2002-03 to WINTER 2001-02 Thermal Limits

		WINTER 2002-03		WINTER 2001-02		
Interface	**Rating**	**Limit (MW)**	**Contingency**	**Limit (MW)**	**Contingency**	**Delta**
Dysinger East	Normal	3325	1	3375	1	-50
	Emergency	3600	3	3650	3	-50
West Central	Normal	2650	5	2550	5	100
	Emergency	2700	6	2600	6	100
UPNY - ConEd	Normal	4725	8	5175	7	-450
	Emergency	5175	8	5625	7	-450
SpBk/Dun-South	Normal	3425	11	3300	9	125
	Emergency	4025	11	3925	11	100
Con Ed - LIPA	Normal	975	12	675	13	300
	Emergency	1500	12a	925	13	575
Central East						
HQ ----> NY 400 MW	Normal	3350	14	3275	16	75
	Emergency	3400	15	3500	6	-100
HQ ----> NY 0 MW	Normal	3200	5	3175	16	25
	Emergency	3250	6	3225	6	25
Total East						
HQ ----> NY 400 MW	Normal	5975	14	6000	16	-25
	Emergency	6100	15	6450	6	-350
HQ ----> NY 0 MW	Normal	5750	5	5850	16	-100
	Emergency	5850	6	5950	6	-100
Moses - South						
HQ ----> NY 400 MW	Normal	1675	17a	1650	17	25
	Emergency	2275	18	2250	18	25
HQ ----> NY 0 MW	Normal	1325	17a	1300	17	25
	Emergency	2175	19	2125	19	50

NYISO WINTER 2002-03 CROSS-STATE THERMAL LIMIT CONTINGENCY LIST

	Limiting Element				Contingency
(1)	Niagara - Rochester (NR-2) 345kV	@LTE	1745 MW	L/O	AES/Somerset - Rochester (SR-1) 345kV
(2)	Stolle Rd. – Meyer 230 kV	@LTE	564 MW	L/O	Niagara-Rochester 345kV Rochester – Pannell 345kV
(3)	Niagara - Rochester (NR-2) 345kV	@STE	1904 MW	L/O	AES/Somerset - Rochester (SR-1) 345kV
(4)	Stolle Rd. – Meyer 230 kV	@STE	606 MW	L/O	Niagara – Rochester 345kV
(5)	Clay – Edic 345kV	@LTE	1434 MW	L/O	Clay – Edic 345kV Clay 345/115kV
(6)	Clay – Edic 345kV	@STE	1434 MW	L/O	Clay – Edic 345kV
(7)	Leeds - Pleasant Valley (91) 345kV	@LTE @STE	1783 MW 1912 MW	L/O	Leeds - Pleasant Valley (92) 345kV
(8)	Leeds - Pleasant Valley (91) 345kV	@LTE @STE	1783 MW 1912 MW	L/O	Athens - Pleasant Valley (92) 345kV
(9)	Dunwoodie - Rainey 345 kV	@LTE	871 MW	L/O	Dunwoodie – Rainey 345kV Sprain Brook – Dunwoodie 345kV
(10)	Sprain Brook – W. 49th St. 345kV	@ LTE	968 MW	L/O	Sprain Brook – Dunwoodie 345kV Sprain Brook 345/138kV
(11)	Dunwoodie - Rainey 345 kV	@LTE @STE	871 MW 1113 MW	L/O	Dunwoodie – Rainey 345kV
(12)	Dunwoodie – Shore Rd. 345 kV	@LTE	925 MW	L/O	Sprain Brook – E.G.C. 345 kV
(12a)	Dunwoodie – Shore Rd. 345 kV	@NOR	664 MW		Pre-Contingency Loading
(13)	Sprain Brook – E.G.C. 345 kV	@NOR	693 MW		Pre-Contingency Loading
(14)	New Scotland – Leeds (93) 345 kV	@LTE	1692 MW	L/O	New Scotland – Leeds (94) 345 kV
(15)	Marcy – Coopers Corners 345kV	@STE	1345 MW		Fraser – Coopers Corners 345kV
(16)	Oakdale - Fraser 345 kV	@LTE	1380 MW	L/O	Marcy – Coopers Corners 345kV Edic – Fraser 345kV
(17)	Adirondack -Porter 230kV	@LTE	376 MW	L/O	Moses - Massena MMS-1 230kV Moses - Massena MMS-2 230kV
(17a)	Moses – Adirondack 230kV	@LTE	359 MW	L/O	Moses - Massena MMS-1 230kV Moses - Massena MMS-2 230kV
(18)	Marcy 765/345kV	@STE	1654 MW	L/O	Marcy 765/345kV
(19)	Moses – Massena MMS-1 230kV	@STE	1404 MW	L/O	Moses - Massena MMS-2 230kV

APPENDIX I

SUMMARY OF EXISTING STABILITY LIMITS

APPENDIX I
NYISO STABILITY LIMITS

	LIMIT	*REPORT*	*DATE*
TOTAL-EAST			
SEASONAL LIMIT	6500	TE-2	1995
5018 BRANCHBURG-RAMAPO 500 KV O/S	6400	TE-3	3/95
5018 BRANCHBURG-RAMAPO 500 KV O/S WITH ANY SVC O/S	6300	TE-3	3/95
UPNY-CONED			
SEASONAL LIMIT	5100	TE-1	1988
Y88 LADENTOWN-BUCHANAN 345 KV O/S	4150	UC-2	1/93
Y94 RAMAPO-BUCHANAN N. 345 KV O/S	4150	UC-2	1/93
RFK-305 ROSETON-E. FISHKILL 345 KV O/S	4100	UC-2	1/93
5018 BRANCHBURG-RAMAPO 500 KV O/S	4000	UC-1	1/93
CENTRAL-EAST			
SEASONAL LIMIT WITH 3 OSWEGO & 5 SITHE UNITS, SVCs and STATCOM in service	3100	CE-14	*4/2001*
4 LAFAYETTE-OAKDALE 345 KV O/S	2900	CE-8	6/95
32 OAKDALE-FRASER 345 KV O/S	3050	CE-8	6/95
Oswego Complex, Sithe and Marcy STATCOM, Leeds and Fraser SVC Limits have been revised as a result of the addition of the Marcy STATCOM Please refer to the NYISO Report: ***"Marcy FACTS Project – Phase I Voltage and Stability Limits April 11, 2001)"***		*CE-14*	*4/2001*

Both Chateauguay HVdc poles O/S, or 1 Chateauguay HVdc pole I/S <100 MW, or both Chateauguay HVdc poles <150 MW (net), then: Limit Oswego Complex to 3200 MW for 4 Units I/S & Sithe O/S Limit Oswego Complex to 3500 MW for 5 Units I/S & Sithe O/S or 4600 for 5-Units I/S & Sithe I/S		CE-3	9/20/93
NEW SCOTLAND 77 OR 99 BUS O/S	2050	CE-1	5/10/89
14 EDIC-NEW SCOTLAND 345 KV O/S	2050	CE-1	5/10/89
UNS-18 MARCY-NEW SCOTLAND 345 KV O/S	2050	CE-1	5/10/89
MSU-1 MASSENA-MARCY 765 KV O/S	2000	CE-1	7/12/90
MOSES-SOUTH			
SEASONAL LIMIT WITH 2 HVDC POLES I/S (MAX CHAT-MASSENA = 2370)	2900	MS-6	5/6/93
R8105 ALCOA BUS TIE 115 KV O/S	2600	MS-1	1/23/91
3 CHAT BANKS 765/120 KV I/S, (MAX CHAT-MASSENA = 1800)	2500		
ONE MOSES-ADIRONDACK-PORTER 230 KV CKT O/S	2450	MS-2	1/9/88
4 CHAT 765/120 kV BANKS I/S - SPLIT BUS & 1 HVDC POLE I/S (MAX CHAT - MASSENA = 1870 MW)	2600	MS-7	3/15/94
2 CHAT 765/120 KV BANKS I/S & 1 HVDC POLE I/S (MAX CHAT-MASSENA = 1650 MW)	2350	MS-5	1/14/94
3 CHAT 765/120 KV BANKS I/S & 1 HVDC POLE I/S (MAX CHAT-MASSENA = 1400)	2150	MS-5	1/14/94
2 HVDC POLES O/S (MAX CHAT-MASSENA = 1170)	2000	MS-4	1990
MSU-1 I/S WITH NO DIRECT TRANSFER TRIP FOR GEN REJECTION AT QUEBEC (MAX CHAT-MASSENA = 650)	1100	MS-2	11/29/84
MSU-1 MASSENA-MARCY 765KV O/S (MAX CHAT-MASSENA= 475)	675		2/9/84
MSU-1 MASSENA-MARCY 765 KV AND ONE MOSES-ADIRONDACK-PORTER 230 KV O/S	500		

MOSES-NORTH			
SEASONAL LIMIT	1600	MN-1	12/1/89
ONE OR TWO MOSES-ADIRONDACK-PORTER 230 KV CKTS O/S	1600	MN-2	2/10/90
MSU-1 MASSENA-MARCY 765 KV O/S	1100	MN-2	
WEST-CENTRAL			
SEASONAL LIMIT	2350	WC-1	9/18/89
NR-2 NIAGARA-ROCHESTER 345 KV OR SR-1 KINTIGH-ROCHESTER 345 KV O/S	2150	WC-2	10/14/91
DYSINGER-EAST			
SEASONAL LIMIT	2850	DE-1	7/27/92
67 STOLLE ROAD-MEYER 230 KV OR 68 MEYER-HILLSIDE 230 KV O/S	2650	DE-1	7/27/92
NR-2 NIAGARA - ROCHESTER 345 KV OR SR-1 KINTIGH - ROCHESTER 345 KV O/S	2500	DE-1	7/27/92
NYISO-PJM			
SEASONAL LIMIT	3600	NP-1	9/94
PJM-NYISO			
SEASONAL LIMIT	3600	NP-1	9/94
NYISO-IMO			
SEASONAL LIMIT	2500	NOH-1	11/10/93
PA301 OR PA302 BECK-NIAGARA 345 KV O/S	2300	NOH-1	11/10/93
PA27 OR BP76 OR L33P OR L34P O/S	2300	NOH-1	11/10/93
PA301 & PA302 BECK-NIAGARA 345 KV O/S	500	NOH-3	1995
IMO-NYISO			
SEASONAL LIMIT	2500	NOH-1	11/10/93
PA301 OR PA302 BECK-NIAGARA 345 KV O/S	2300	NOH-1	11/10/93
PA27 OR BP76 OR L33P OR L34P O/S	2300	NOH-1	11/10/93
PA301 & PA302 BECK-NIAGARA 345 KV O/S	800	NOH-3	1995

WESTERN NY EXPORT			
BOTH BECK-NIAGARA 345 KV CKTS O/S W/ NIAGARA GEN REJ I/S	1700	NOH-3	2/95
BOTH BECK-NIAGARA 345 KV CKTS O/S W/ NIAGARA GEN REJ O/S OR BOTH BECK-NIAGARA 345 KV CKTS O/S & PA27 CKT O/S OR ONE BECK-NIAGARA 345KV CKT O/S & PA27 & BP76 CKTS O/S	1100	NOH-3	2/95
NYISO-ISO-NE			
SEASONAL LIMIT	2200	NE-1	10/92- 1996
2 NEW SCOTLAND - ALPS 345 KV O/S	2150	NE-1	10/92
329 FROST BRIDGE - SOUTHINGTON 345 KV O/S	2100	NE-1	10/92
312 BERKSHIRE - NORTHFIELD 345 KV O/S	1950	NE-1	10/92
352 LONG MOUNTAIN - FROST BRIDGE 345 KV O/S	1850	NE-1	10/92
393 ALPS - BERKSHIRE 345 KV O/S	1600	NE-1	10/92
393/312 ALPS-BERKSHIRE-NORTHFIELD 345 KV O/S	1500	NE-1	10/92
398 PLEASANT VALLEY - LONG MOUNTAIN 345 KV O/S	1150	NE-1	10/92
ISO-NE-NYISO			
THIS LIMIT IS SET BY NE, NYISO SPD MUST CALL FOR LIMIT		NE-1	10/92

NYISO STABILITY REPORT
SUMMARY

REPORT	REPORT TITLE	LAST REVISED DATE
TE-2	TOTAL EAST STABILITY ANALYSIS WITH SITHE GENERATION O/S	1/95
TE-3	NYISO TOTAL EAST ANALYSIS - A. HARGRAVE	3/95
UC-1	REVISED MAINTENANCE STABILITY TRANSFER LIMITS FOR BRANCH-RAMAPO O/S-NYPP	1/93
UC-2	RWW ANALYSIS - NYPP	1/93
CE-1	REVISED CENTRAL EAST STABILITY LIMITS BASED ON SVC RESERVE - K. TAMMAR TO C. COREY	5/10/89
CE-2	CENTRAL EAST STABILITY LIMIT W/ 765 KV SYSTEM O/S - NYPA TO K. TAMMAR	7/12/90
CE-3	CE & OSWEGO COMPLEX STABILITY LIMITS FOR THE CHATEAUGUAY HVDC O/S-NYPP/NYPA	9/20/93
CE-5	NYISO CE STABILITY LIMITS FOR LEEDS OR FRASER SVC 0/S	4/12/94
CE-6	CENTRAL EAST STABILITY ANALYSIS PRE-SITHE CONFIGURATION	10/94
CE-7	CENTRAL EAST STABILITY ANALYSIS POST SITHE CONFIGURATION	2/95
CE-8	CENTRAL EAST STABILITY LIMITS FOR THREE OSWEGO UNITS I/S	6/1/95
CE-9	CENTRAL EAST STABILITY LIMITS FOR TWO OSWEGO UNITS I/S	4/17/96
CE-10	CENTRAL EAST STABILITY LIMITS FOR ONE OSWEGO UNIT I/S	4/1796
CE-11	CENTRAL EAST STABILITY LIMITS FOR ZERO OSWEGO UNITS I/S	6/27/97
CE-12	CENTRAL EAST STABILITY LIMITS FOR 4/5 OSWEGO UNIT I/S	11/99
CE-14	CENTRAL EAST VOLTAGE AND STABILITY ANALYSIS FOR MARCY FACTS PROJECT – PHASE I	04/11/2001
MS-2	RT GONZALES ANALYSIS	1/9/88
MS-3	RW WALDELE ANLAYSIS	11/29/84
MS-4	NYPA ANALYSIS W/2 HVDC POLES O/S	1990
MS-5	OPERATION OF THE MSC-7040 LINE W/1650 MW IMPORT FROM HYDRO QUEBEC & ONE HVDC CONVERTER I/S	12/20/93
MS-6	CHATEAUGUAY 2370MW IMPORT ANAYLSIS	5/6/93
MS-7	SPLIT 120 KV BUS OPERATION OF THE CHAT/BEAU COMPLEX W/ ONE HVDC CONVERTER O/S -NYPA	3/15/94
MN-1	RWW ANALYSIS 12/13/89 KT MEMO TO JEK	12/1/89
MN-2	JAM ANALYSIS #89030S MOSES-SOUTH W/MAP OS	2/10/90

WC-1	AWH ANALYSIS - NYISO	9/18/89
WC-2	WEST CENTRAL TRANSIENT STABILITY LIMITS FOR LINE OUTAGE CONDITIONS - NYISO	10/14/91
DE-1	DYSINGER EAST TRANSIENT STABILITY LIMITS FOR LINE OUTAGE CONDITIONS - NYISO	7/27/92
NOH-1	NYISO-OH DIRECT TIE STUDY OCTOBER 1993 SEE CA KING LETTER TO SOAS DATED 11/10/93	10/93
NOH-2	OH-NYISO TS STUDY GROUP ANALYSIS	1983-1984
NOH-3	NYISO STABILITY ANALYSIS WITH PA301/PA303 O/S	2/95
NE-1	1992-1996 NYISO-NEPOOL TRANSFER LIMIT STUDY	10/92
NP-1	NYISO-PJM STABILITY ANALYSIS ON THE DIRECT TIE TRANSFER CAPABILITY	9/94