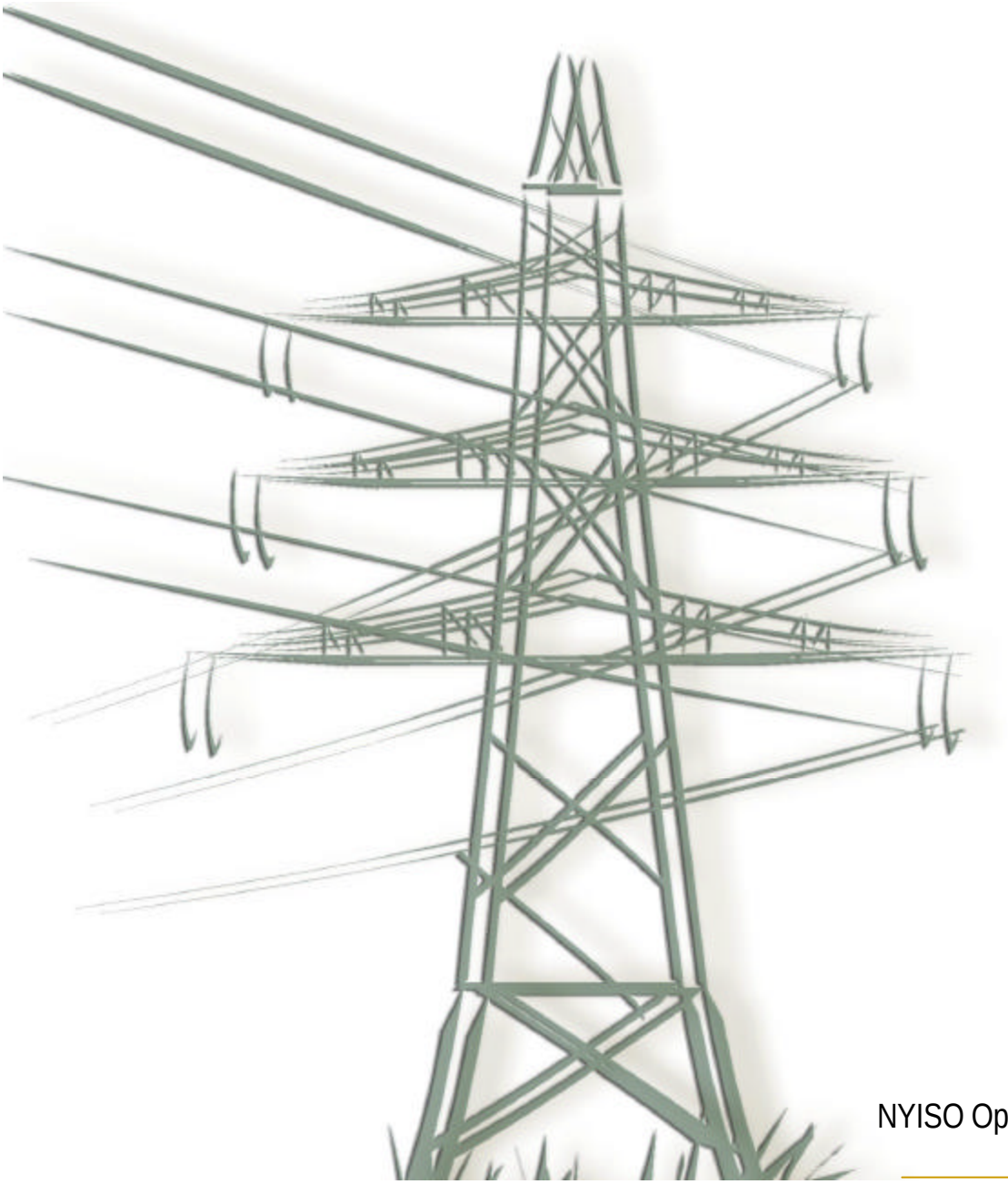
# WINTER 2001-2002 OPERATING STUDY



November 2001

*prepared by*

NYISO Operations Engineering

# NYISO OPERATING STUDY - WINTER 2001-02

## NOVEMBER 2001

Prepared by
Operations Engineering Staff
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And reviewed by
The NYISO Operating Studies Task Force

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**NYISO OPERATING STUDY - WINTER 2001-02**

# 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 2001-02 capability period. This analysis indicates that, for the Winter 2001-02 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.

# 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 36,132 MW are anticipated to be adequate to meet the forecast peak demand of 24,670 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 24,670 MW. The other NPCC members and adjacent regions representations were obtained from MEN/VEM Winter 2001-02 Reliability Assessment power flow.

For the Winter 2001-02 peak load period Ravenswood 3 (980 MW) unit is modeled as out of service. 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 2001-02 Reliability Assessment.

Significant changes in the transmission system for this season include:

| | |
|---|---|
| Dunwoodie – Shore Rd. 345kV (Y50) | Expected return 03/2002 |

New transmission facilities represented in this study include:

| | |
|---|---|
| Middletown 345/138kV transformer | Expected in service 11/2001 |

## II. Base Study Assumptions

The Normal and Emergency Criteria thermal limits have been determined by the PTI PSS/e thermal analysis activities (TLTG). The thermal limits presented have been determined for all transmission facilities scheduled in service during the Winter 2001-02 period.

The schedules used in the base case loadflows for this analysis assumed a net flow of 600 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 2001-02, and the NERC/MMWG Winter 2001-02 loadflow 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 2001-02 capability period is 24,670MW. This forecast is approximately 1.0% above the forecast for Winter 2000-01 capability period, and 1.03% 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 36,132 MW, based on the NYSRC 18% reserve requirement, is anticipated to be adequate to meet forecast demand.

**NYISO Peak Load and Capacity Assessment – Winter 2001-02**

| | |
|---|---|
| NYISO ICAP Requirement | 36132 |
| Net of full-responsibility purchases/sales | 0 |
| Scheduled generation outages | 1335 |
| Allowance for unplanned outages | 4878 |
| **Net capacity for load** | 29919 |
| NYISO Forecast Peak | 24670 |
| Operating Reserve Requirement | 1800 |
| ***Available Reserve*** | ***5249*** |
| **Net Margin** | 3449 |

The assumed allowance for unplanned outages is an equivalent rate of 13.5% and includes forced outages and deratings based on historical performance of all generation in the New York control area.

# II. Cross-State Interfaces

## A. Transfer Limit Analysis

Figure 1 presents a comparison of the Winter 2001-02 thermal transfer limits to Winter 2000-01. 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 2001-02 and 2000-01, with limiting element/contingency descriptions, is located in Appendix H.

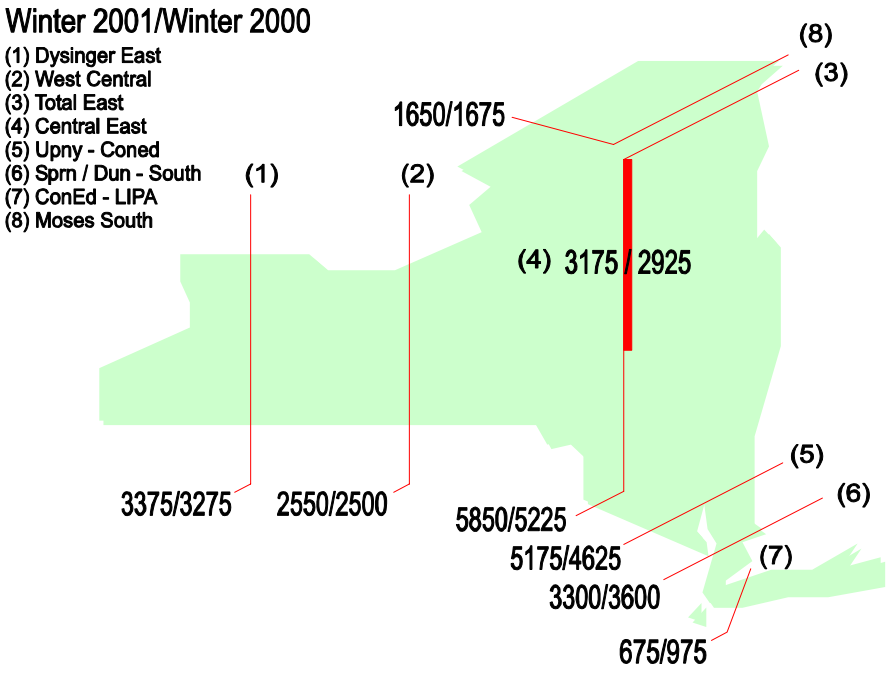


**Figure 1 – Cross-State Transfer Limits**

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

- ***UPNY – ConEd*** interface limit has increased 550 MW due to a decrease in the base loading of the Leeds – Pleasant Valley circuits of over 200 MW, return of the Hudson – Farragut 345kV circuit B3402, and slightly lower TDF and ODF.

- ***Sprain Brook/Dunwoodie – South*** interface limit has decreased 300 MW due to changes in pre-contingency circuit loading. The maintenance outage of Ravenswood 3 (980 MW) results in increased loading on the Dunwoodie – Rainey 345kV circuits and reduced loading on the Sprain Brook – West 49$^{th}$ Street 345kV circuits. This results in the thermal limit shifting from the Sprain Brook – West 49$^{th}$ Street circuit from last winter to the Dunwoodie – Rainey circuits.

- ***Con Edison – LIPA*** interface limit has decreased 300MW as a result of the scheduled outage of the Dunwoodie – Shore Road 345kV circuit Y50.

- ***Central East*** and ***Total East*** thermal transfer limits have increased; however this will not result in increased overall transfer capability, as both of these 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. LIPA Import 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

| | |
|---|---|
| Jamaica - Lake Success | 178MW |
| Jamaica - Valley Stream | 75MW |
| Sprain Brook - East Garden City | (free-flow) |
| Norwalk Harbor – Northport | 0MW |

***Dunwoodie – Shore Road 345kV circuit Y50*** is scheduled to be out of service for replacement of cable for most of the peak load period and is represented out of service in the study base case and for this analysis of transfers (ConEd – LIPA and New York – New England) into the Long Island load zone. The Y50 outage has a significant impact on the transfer capability between the ConEdison and LIPA systems.

***Norwalk Harbor – Northport 138kV circuit 1385 –*** Several times within the last year since being returned to service in July, 2000, the LIPA has not been able to maintain the scheduled power flow on the Norwalk Harbor – Northport 138kV circuit due to angle limitations on the phase angle regulator at Northport. This generally has occurred during periods with low generation on Long Island and high generation in southwest New England. System Operators should closely monitor this situation.

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. Transient Stability Limits

The thermal interface limits in Section 5 do not include the results of transient stability testing. The existing all lines in service and maintenance outage stability interface limits are summarized in Appendix I.

# III. Transfer Capabilities with Adjacent Control Areas

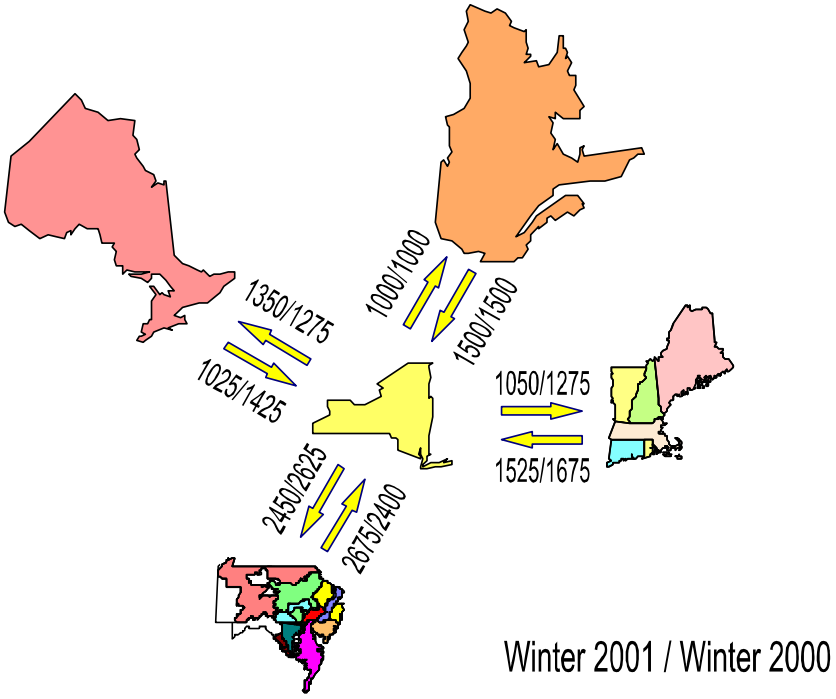


**Figure 2 – Inter-Area Transfer Capabilities**

## A. New York – ISO New England Analysis

### 1. New England Capacity Additions

In the New England Control Area, from April 2000 through January 2001, approximately 1,170 MW (winter capability) of new capacity has been added with an additional 1050 MW expected to be in service prior to the start of the Winter 2001-2002 capability period. During the Winter 2001-2002 period, an additional 500 MW of capacity is expected to become available. Since the beginning of the previous winter (2000-2001) capability period, the following new generation has become available or is expected to be available:

| | |
|---|---|
| Maine Independence | 520 MW |
| Tiverton | 250 MW |
| Rumford | 250 MW |
| Androscoggin | 150 MW |
| Bucksport | 180 MW |
| Millenium | 350 MW |
| Westbrook | 520 MW |
| ANP-Blackstone | 500 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 decreased by 225 MW due to an increase in the pre-transfer loading of the Greenbush – Reynolds Road 115kV line (toward Reynolds Road), and Pleasant Valley – Long Mountain 345kV line toward NY. This change in loading also results in a 150MW decrease in the NE to NY transfer capability.

3. 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.

4. 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.

5. Plattsburgh – Sandbar (PV-20) Circuit

A new phase angle regulating transformer controlling the Plattsburgh, NY, to Sandbar, VT, 115kV circuit (PV-20) was placed in service in February 2001 and normal operating procedures have been restored.

6. 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 2000-01 in Figure 2 shows an increase of 275 MW transfer capability toward NY. This is due to the changes in assumed phase angle regulator schedules in Winter 2001-02 and the return of the Hudson – Farragut circuit (B3402) that was out of service in the Winter 2000-01 analysis. For similar reason, the New York to PJM limit has decreased by 175MW.

### 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 75 MW. The Ontario to New York limit has decreased 400 MW due to increased counter-clockwise pre-contingency flow on the interface.

### 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.

# 5. SUMMARY OF RESULTS
# TRANSFER LIMIT ANALYSIS

TABLE 1

NYISO CROSS STATE INTERFACE THERMAL LIMITS-WINTER 2001-02
ALL LINES I/S

| | Dysinger East | West Central | UPNY-ConEd | Sprain Brook Dunwoodie So. | ConEd-LIPA |
|---|---|---|---|---|---|
| NORMAL | 3375[1] | 2550[2] | 5175[4] | 3300[5] | 675[7] |
| EMERGENCY | 3650[1] | 2600[3] | 5625[4] | 3925[6] | 925[7] |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Niagara – Rochester (NR2) 345kV | @LTE<br>@STE | 1591 MW<br>1744 MW | L/O | AES/Somerset – Rochester (SR-1) 345kV |
| (2) | Clay – Edic 345kV | @LTE | 1434 MW | L/O | (Breaker failure @ Clay 345kV)<br>Clay – Edic 345kV<br>Clay 345/115kV |
| (3) | Clay – Edic 345kV | @STE | 1434 MW | L/O | Clay – Edic 345kV |
| (4) | Leeds – Pleasant Valley 345kV | @LTE<br>@STE | 1783 MW<br>1912 MW | L/O | Leeds – Pleasant Valley 345kV |
| (5) | Dunwoodie - Rainey 345kV | @LTE | 871 MW | L/O | (Breaker failure @ Dunwoodie 345kV)<br>Dunwoodie – Rainey 345kV<br>Sprainbrook – Dunwoodie 345kV |
| (6) | Dunwoodie – Rainey 345kV | @STE | 1113 MW | L/O | Dunwoodie – Rainey 345kV |
| (7) | Sprainbrook – E.G.C. (Y49) 345kV | @NOR | 693 MW | | 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 2001-02
ALL LINES I/S

| | HQ -> NY @ 400 MW | HQ -> NY @ 0 MW |
|---|---|---|
| CENTRAL EAST | | |
| NORMAL | 3275(1) | 3175(1) |
| EMERGENCY | 3500(2) | 3225(2) |
| TOTAL EAST | | |
| NORMAL | 6000(1) | 5850(1) |
| EMERGENCY | 6450(2) | 5950(2) |
| MOSES SOUTH | | |
| NORMAL | 1650(3) | 1300(3) |
| EMERGENCY | 2250(4) | 2125(5) |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Oakdale - Fraser 345kV | @LTE | 1380 MW | L/O | Marcy – Coopers Corners (UCC2-41) 345kV<br>Edic – Fraser 345kV |
| (2) | Clay - Edic 345kV | @STE | 1434 MW | L/O | Clay – Edic 345kV |
| (3) | Adirondack – Porter 230kV | @LTE | 376 MW | L/O | Moses – Massena MMS-1 230kV<br>Moses – Massena MMS-2 230kV |
| (4) | Marcy 765/345 kV | @STE | 1654 MW | L/O | Marcy 765/345 kV |
| (5) | 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 2001-02
ALL LINES I/S

| **New York to New England** | | **Northport – Norwalk @ 100MW** | |
|---|---|---|---|
| | DIRECT TIE | NYISO FACILITY | ISO-NE FACILITY |
| NORMAL | 2075(1) | 1050(3) | 2450(5) |
| EMERGENCY | 2450(2) | 1500(3) | 2450(5) |

| | | **Northport – Norwalk @ 0 MW** | |
|---|---|---|---|
| NORMAL | 2300(4) | 975(3) | 2400(5) |
| EMERGENCY | 2375(2) | 1450(3) | 2400(5) |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Norwalk - Northport (1385) 138kV | @LTE | 318 MW | L/O | Pleasant Valley – Long Mtn (398) 345kV |
| (2) | Hoosick– Bennington 115kV | @STE | 159 MW | L/O | Alps – Berkshire (393) 345kV |
| (3) | Greenbush – Reynolds Rd. (9) 115kV | @LTE<br>@STE | 234 MW<br>278 MW | L/O | New Scotland – Alps (2) 345kV |
| (4) | Pleasant Valley–Long Mountain (398) 345kV | @LTE | 1317 MW | L/O | Millstone #3 |
| (5) | Pratts Junction (8AX) 230/115kV | @STE | 215 MW | L/O | Bear Swamp – Harriman - Adams (E131) 115kV |

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

TABLE 2.b

ISO-NE to NYISO INTERFACE LIMITS - WINTER 2001-02
ALL LINES I/S

| **New England to New York** | **Norwalk – Northport @ 100MW** | | |
|---|---|---|---|
| | DIRECT TIE | NYISO FACILITY | ISO-NE FACILITY |
| NORMAL | 1525[(1)] | 2425[(2)] | 1900[(4)] |
| EMERGENCY | 1925[(1)] | 2575[(3)] | 1900[(4)] |

| | **Norwalk – Northport @ 200MW** | | |
|---|---|---|---|
| NORMAL | 1050[(1)] | 2475[(2)] | 2050[(4)] |
| EMERGENCY | 1450[(1)] | 2625[(3)] | 2050[(4)] |

.

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Norwalk - Northport (1385) 138kV | @LTE<br>@STE | 318 MW<br>428 MW | L/O | Pleasant Valley – Long Mtn (398) 345kV |
| (2) | N.Troy – Boyntonville 115kV | @LTE | 159 MW | L/O | (Alps Bus Fault)<br>Alps – Berkshire (393) 345kV<br>Alps – Reynolds Rd. 345kV<br>New Scotland – Alps 345kV |
| (3) | N.Troy – Boyntonville 115kV | @STE | 159 MW | L/O | Alps – Berkshire (393) 345kV |
| (4) | Newtown - Plumtree (1760) 115kV | @STE | 335 MW | L/O | Frost Bridge - Long Mountain (352) 345kV<br>Frost Bridge (1X) 345/115 kV |

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

TABLE 3.a

PJM to NYISO INTERFACE LIMITS-WINTER 2001-02
ALL LINES I/S

| **PJM to NYISO** | DIRECT TIE | NYISO FACILITY | PJM FACILITY |
|---|---|---|---|
| NORMAL | 2000[1] | | |
| 3-115-O/S | 3350[2] | | 2675[3] |
| EMERGENCY | 3425[2] | | 3025[3] |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Warren-Falconer (171) 115 kV | @NOR | 96 MW | | Pre-Contingency Loading |
| (2) | E. Towanda-Hillside (70) 230kV | @LTE<br>@STE | 564 MW<br>598 MW | L/O | Homer City - Watercure (30) 345kV |
| (3) | No. Meshoppen 230/115kV | @LTE<br>@STE | 172 MW<br>217 MW | L/O | E. Towanda – No. Meshoppen 230kV |

**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 2001-02
ALL LINES I/S

| **NYISO to PJM** | DIRECT TIE | NYISO FACILITY | PJM FACILITY |
|---|---|---|---|
| NORMAL | 1775[(1)] | | |
| 3-115-O/S | 2450[(2)] | | 2200[(3)] |
| EMERGENCY | 1925[(4)] | | |
| 3-115-O/S | 2500[(5)] | | 2400[(6)]<br>2675[(3)] |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | E. Sayre - N. Waverly 115kV | @LTE | 139 MW | L/O | Grover – E. Towanda 230 kV<br>E. Towanda - Hillside 230 kV<br>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<br>@STE | 779 MW<br>975 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 |
| (6) | Homer City – Shelocta 230kV | @STE | 815 MW | L/O | Erie West – Wayne 345kV<br>Wayne 345/115kV |

**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 2001-02
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 | 2350(1) | 1025(2) | 2000(3) | 2725(1) | 1450(2) | 2375(3) |
| EMERGENCY | 2900(1) | 1325(2) | | 3275(1) | 1750(2) | |

| **New York to Ontario** | | **L33/L34P @ 0 MW** | | | **L33/34P @ 200 MW** | |
|---|---|---|---|---|---|---|
| NORMAL | 1625(4) | | 1350(6) | 1825(4) | | 1550(6) |
| EMERGENCY | 1950(5) | | 2050(7) | 2150(5) | | 2250(7) |

| | LIMITING ELEMENT | | | | LIMITING CONTINGENCY |
|---|---|---|---|---|---|
| (1) | Beck - Niagara 230kV (PA27) | @LTE<br>@STE | 540 MW<br>685 MW | L/O | Beck - Niagara (PA302) 345kV |
| (2) | Niagara - Rochester (NR-2) 345kV | @LTE<br>@STE | 1744 MW<br>1686 MW | L/O | AES/Somerset - Rochester (SR-1) 345kV |
| (3) | Middleport – Neal Jct 220kV (Q25BM) | @LTE | 569 MW | L/O | Beck- Hannon-Middleport (Q24HM) 220kV<br>Beck-Neal Jct-Burlington (Q23BM) 220kV |
| (4) | Beck - Niagara (PA27) 230kV | @LTE | 540 MW | L/O | (Breaker failure @ Niagara 345kV)<br>Beck – Niagara (PA301) 345 kV<br>Niagara 345/230 kV |
| (5) | Beck - Niagara 230kV (PA27) | @NOR | 480 MW | | Pre-Contingency Loading |
| (6) | Beck – Middleport 220kV (Q30HM) | @LTE | 515 MW | L/O | Beck- Hannon-Nebo-Middleport(Q24HM) 220kV<br>Beck- Hannon-Nebo-Middleport(Q29HM) 220kV |
| (7) | Beck – Middleport 220kV (Q30HM) | @NOR | 455 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

# WINTER 2001-02

# SCHEDULE OF NET INTERCHANGES

## NYISO Operating Study – Winter 2001-02
## Appendix A

| TO<br>FROM | NYISO | PJM | IMO | ISONE | NB/NS | ECAR | HQ | TOTAL<br>EXPORT+<br>IMPORT- |
|---|---|---|---|---|---|---|---|---|
| **NYISO** | | -392 | 0 | 123 | 0 | 82 | 0 | -187 |
| **PJM** | 392 | | 0 | 0 | 0 | -118 | 0 | 274 |
| **IMO** | 0 | 0 | | 0 | 0 | 0 | -500 | -500 |
| **ISONE** | -123 | 0 | 0 | | -600 | 0 | -750 | -1473 |
| **NB/NS** | 0 | 0 | 0 | 600 | | 0 | 0 | 600 |
| **ECAR** | -82 | 118 | 0 | 0 | 0 | | 0 | -36 |
| **HQ** | 0 | 0 | 500 | 750 | 500 | 0 | | 1750 |

*APPENDIX A*
*SUMMARY OF Winter 2001-02 BASE TRANSFERS*

| | |
|---|---|
| **NEW BRUNSWICK/NOVA SCOTIA** | |
| New Brunswick to Hydro-Quebec: 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 Hydro-Quebec: Sandy Pond and Highgate HVdc | -750 |
| New England to New York. | -123 |
| **Total Export (+) / Import (-)** | **-1473** |
| **NEW YORK ISO** | |
| New York to Hydro Quebec | 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) | -450 |
| **Total Export (+) / Import (-)** | **-187** |

| | |
|---|---|
| **IMO (Ontario)** | |
| IMO (Ontario) to Hydro-Quebec. | -500 |
| IMO (Ontario) to New York | 0 |
| IMO (Ontario) to MECS (DECO) | 0 |
| IMO (Ontario) to MAPP | -200 |
| **Total Export (+) / Import (-)** | **-700** |

*APPENDIX A*
*SUMMARY OF Winter 2001-02 BASE TRANSFERS*

| **PJM** | |
|---|---|
| PJM to New York: NYPA to PA-RECS | -94 |
| PJM to New York. ( Sithe Allegheny to NYSEG) | 36 |
| PJM to New York: (Non Firm Energy) | 450 |
| PJM to VACAR. | 0 |
| PJM to ECAR.( DLCO to PEPCO) | 0 |
| PJM to ECAR.( FE to PEPCO) | - 450 |
| PJM to ECAR.( HE to PECO) | 0 |
| PJM to FE. (Seneca Pumped Hydro) | 332 |
| **Total Export (+) / Import (-)** | **274** |

| **HYDRO-QUEBEC** | |
|---|---|
| Hydro-Quebec to Brunswick. Madawaska and Eel River HVdc | 500 |
| Hydro-Quebec to New England: Sandy Pond and Highgate HVdc | 750 |
| Hydro-Quebec to New York | 0 |
| Hydro-Quebec to IMO (Ontario) | 500 |
| **Total Export (+) / Import (-)** | **1750** |

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# APPENDIX B

# WINTER 2001-02 BASE CASE CONDITIONS

NYISO OPERATING STUDY
WINTER 2001-02

A. WINTER 2001-02 Conditions

## GENERATION FACILITIES (LEVEL OF MWS IN CASE)

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

***NYISO***

| | | |
|---|---|---|
| Indian Pt #2 | 926 MW | In Service |
| Indian Pt #3 | 1011 MW | In Service |
| AES/Somerset | 522 MW | In Service |
| Nine Mile Pt #1 | 626 MW | In Service |
| Nine Mile Pt #2 | 1212 MW | In Service |
| Oswego #5 | 648 MW | In Service |
| Oswego #6 | 0 MW | Out of Service |
| Albany | 371 MW | In Service |
| Ravenswood (#1 & #2) | 649 MW | In Service |
| Ravenswood #3 | 0 MW | Out of Service |
| Roseton 1 | 344 MW | In Service |
| Roseton 2 | 0 MW | Out of Service |
| Bowline Pt 1 | 0 MW | Out of Service |
| Bowline Pt 2 | 592 MW | In Service |
| Niagara (1-13) | 2420 MW | In Service |
| St. Lawrence/FDR (17-32) | 873 MW | In Service |
| Poletti | 855 MW | In Service |
| Gilboa | 500 MW | In Service |
| CoGen Tech | 645 MW | In Service |
| J.A. Fitzpatrick | 849 MW | In Service |
| JMC Selkirk II (A,B,C) | 221 MW | In Service |
| Saranac Energy | 239 MW | In Service |
| Sithe | 1064 MW | In Service |
| Ginna | 504 MW | In 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 | 162/168 MW | In Service |
| Seabrook | 1150 MW | In Service |
| ***IMO (Ontario)*** | | |
| Darlington | 3720 MW | In Service |
| Beck 1 & 2 | 163/1348 MW | In Service |
| Bruce ›B: | 3300 MW | In Service |
| Lambton | 1940 MW | In Service |
| Pickering (A & B) | 1080/1620 MW | In Service |
| Nanticoke | 3000 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 | 1120 MW | In Service |
| Limerick #1 | 1182 MW | In Service |
| Limerick #2 | 1198 MW | In Service |
| Hope Creek | 1100 MW | In Service |
| Susquehanna #1 | 1140 MW | In Service |
| Susquehanna #2 | 1144 MW | In Service |

## HQ 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 | 25096 MW |
| ISO-NE | 20976 MW |
| IMO (Ontario) | 24604 MW |
| PJM | 43765 MW |

## PHASE ANGLE REGULATOR SCHEDULES

| | |
|---|---|
| Inghams (CD-ED) | 120 MW |
| Plattsburgh-Sandbar (PV-20) | 90 MW |
| St. Lawrence-Moses L33P | 0 MW |
| St. Lawrence-Moses L34P | 0 MW |
| Norwalk Harbor-Northport | 0 MW |
| Jamaica-Valley Stream | 0 MW |
| Jamaica-Lake Success | 0 MW |
| Hudson-Farragut (B3402) | 300 MW |
| Hudson-Farragut (C3403) | 300 MW |
| Linden-Goethals | 0 MW |
| Waldwick-Hinchmans | 310 MW |
| Waldwick-Fairlawn | 300 MW |
| Waldwick-Hillsdale | 330 MW |
| Ramapo PAR #1 (+ to NY) | 265 MW |
| Ramapo PAR #2 (+ to NY) | 265 MW |
| East Garden City #1 | Free-Flow |
| East Garden City #2 | Free-Flow |

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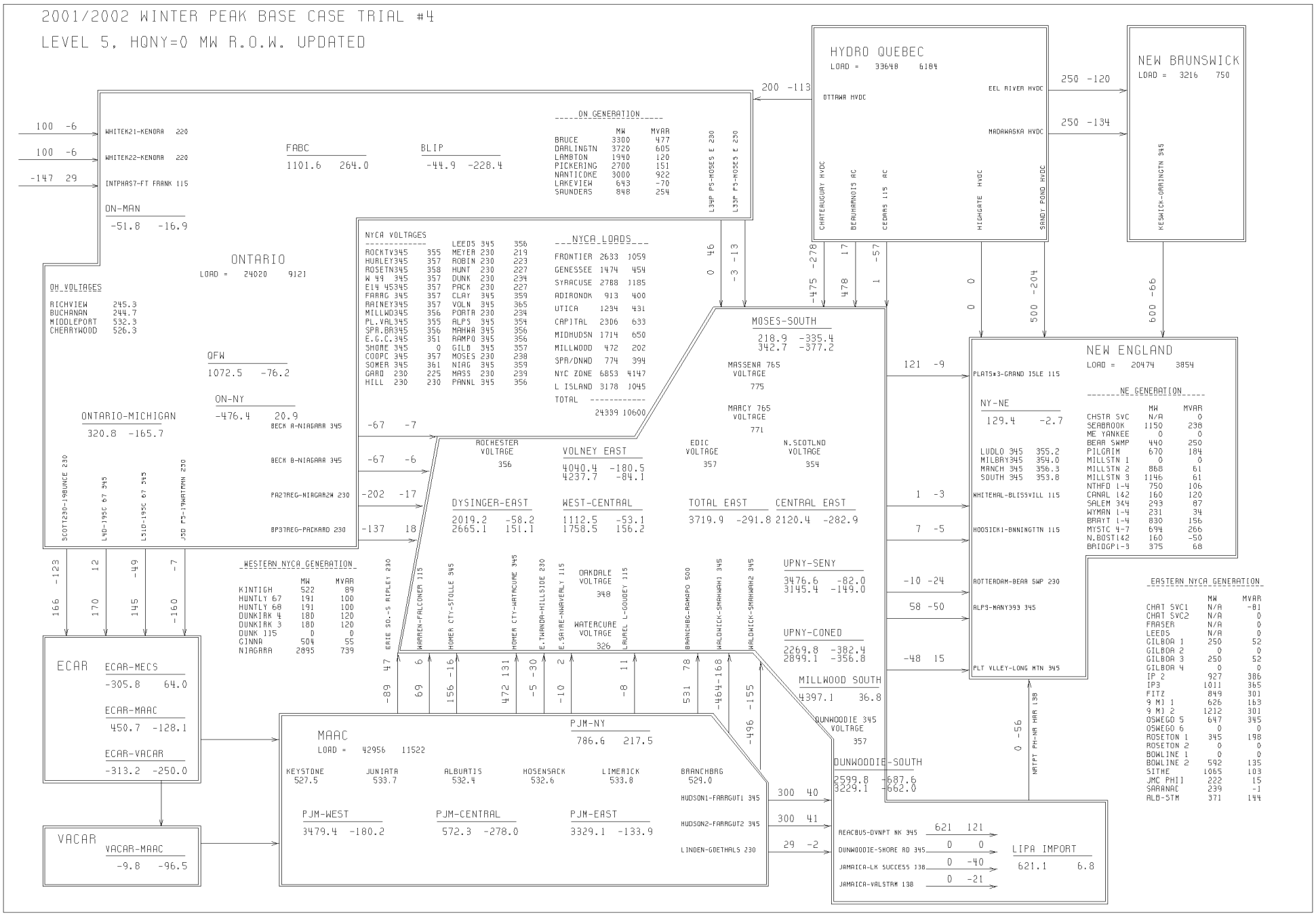
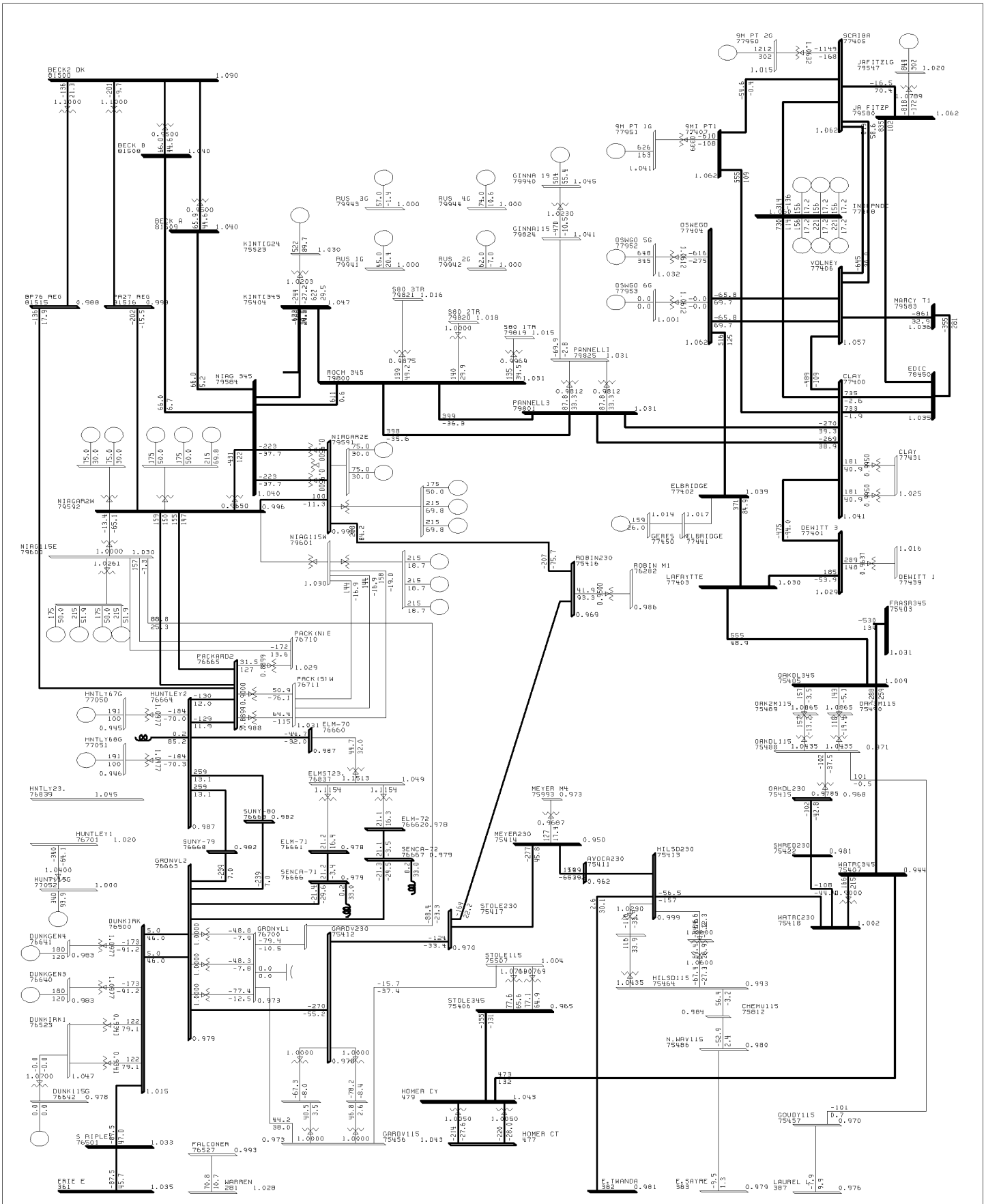
# APPENDIX C

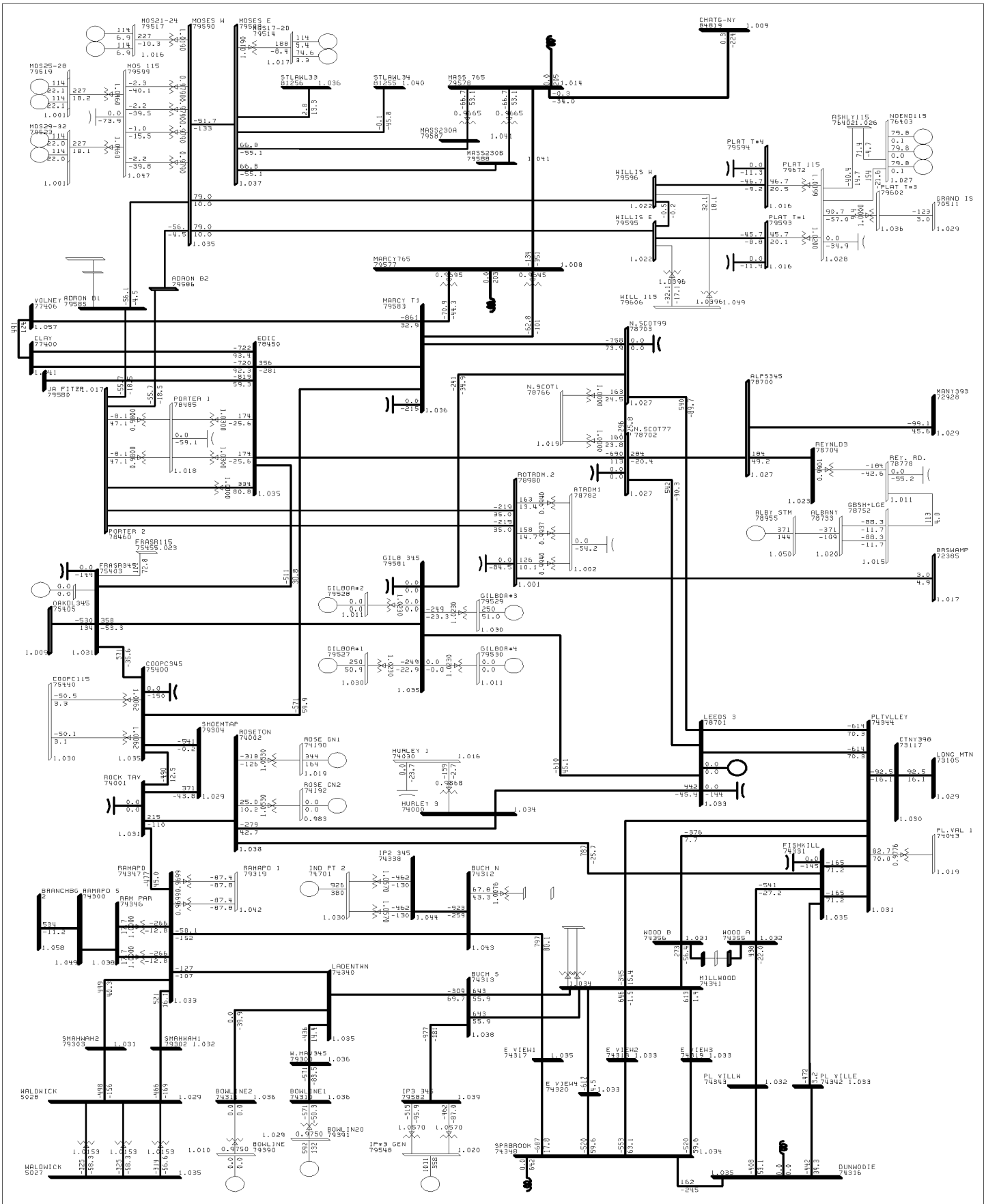
# POWER FLOW TRANSCRIPTION DIAGRAMS

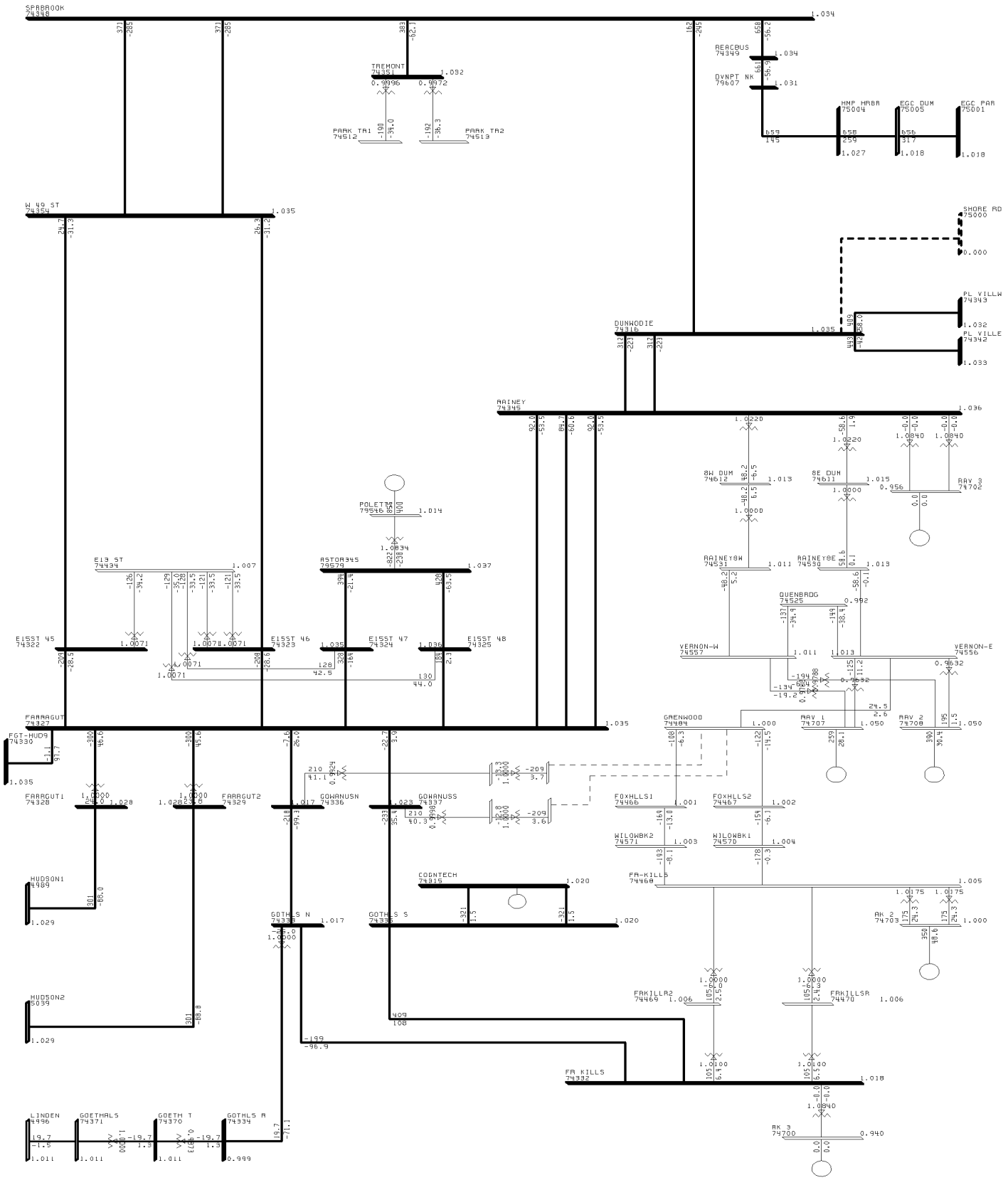
NYISO OPERATING STUDY
WINTER 2001-02

# INDEX

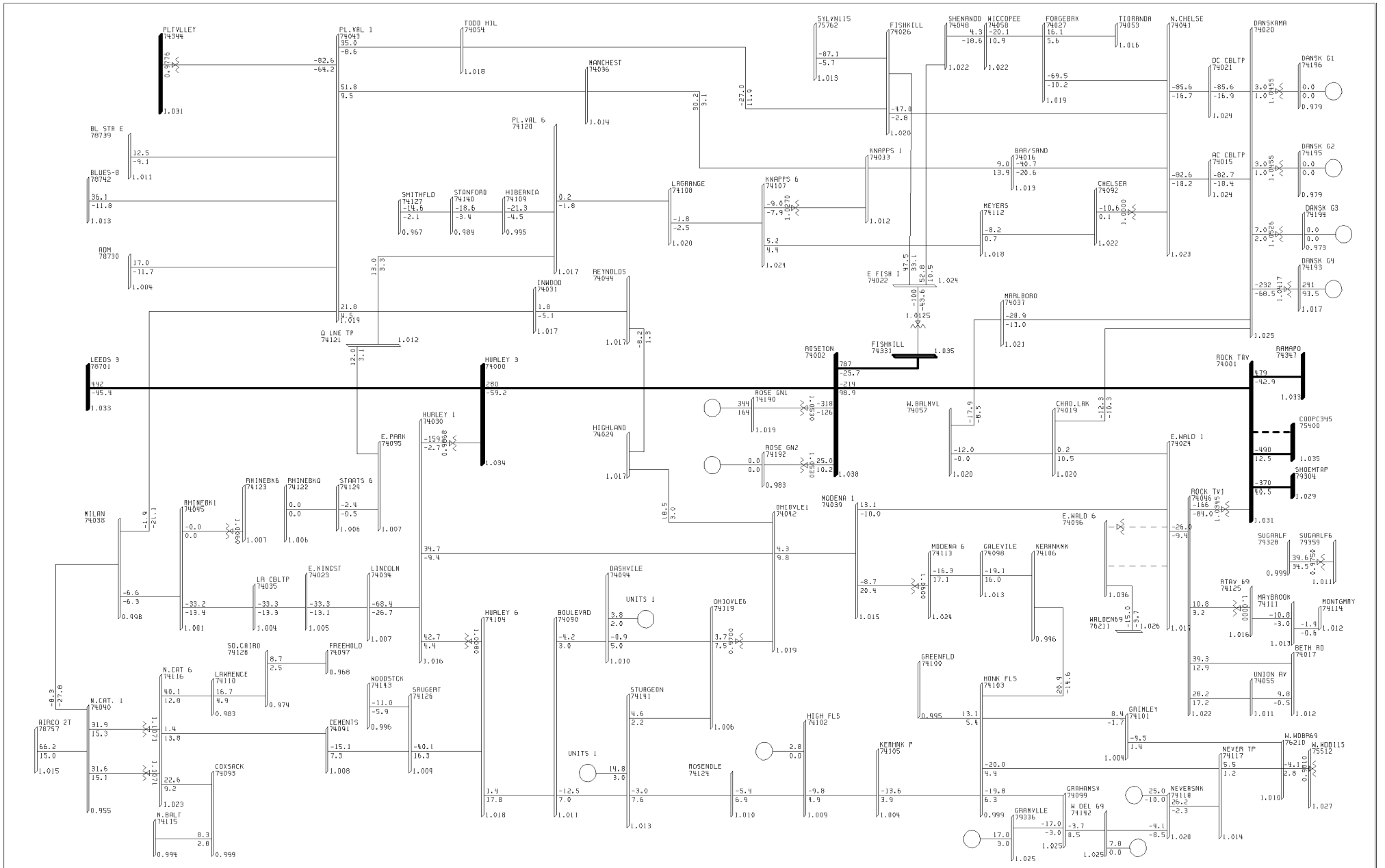

2001/2002 WINTER PEAK BASE CASE TRIAL #4
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
HYDRO QUEBEC
LOAD = 33648 6184
NEW BRUNSWICK
LOAD = 3216 750
ONTARIO
LOAD = 24020 9121
NEW ENGLAND
LOAD = 20474 3854
MAAC
LOAD = 42956 11522
ECAR
VACAR
ON-MAN
FABC
BLIP
QFW
ON-NY
ONTARIO-MICHIGAN
NY-NE
MOSES-SOUTH
VOLNEY EAST
DYSINGER-EAST
WEST-CENTRAL
TOTAL EAST
CENTRAL EAST
UPNY-SENY
UPNY-CONED
MILLWOOD SOUTH
DUNWOODIE-SOUTH
PJM-NY
PJM-WEST
PJM-CENTRAL
PJM-EAST
LIPA IMPORT
ECAR-MECS
ECAR-MAAC
ECAR-VACAR
VACAR-MAAC
ON GENERATION
NYCA VOLTAGES
NYCA LOADS
OH VOLTAGES
NE GENERATION
WESTERN NYCA GENERATION
EASTERN NYCA GENERATION


2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
1) WESTERN NYISO FRI, OCT 12 2001 9:37
KV: ≤138 ,≤230 ,≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.

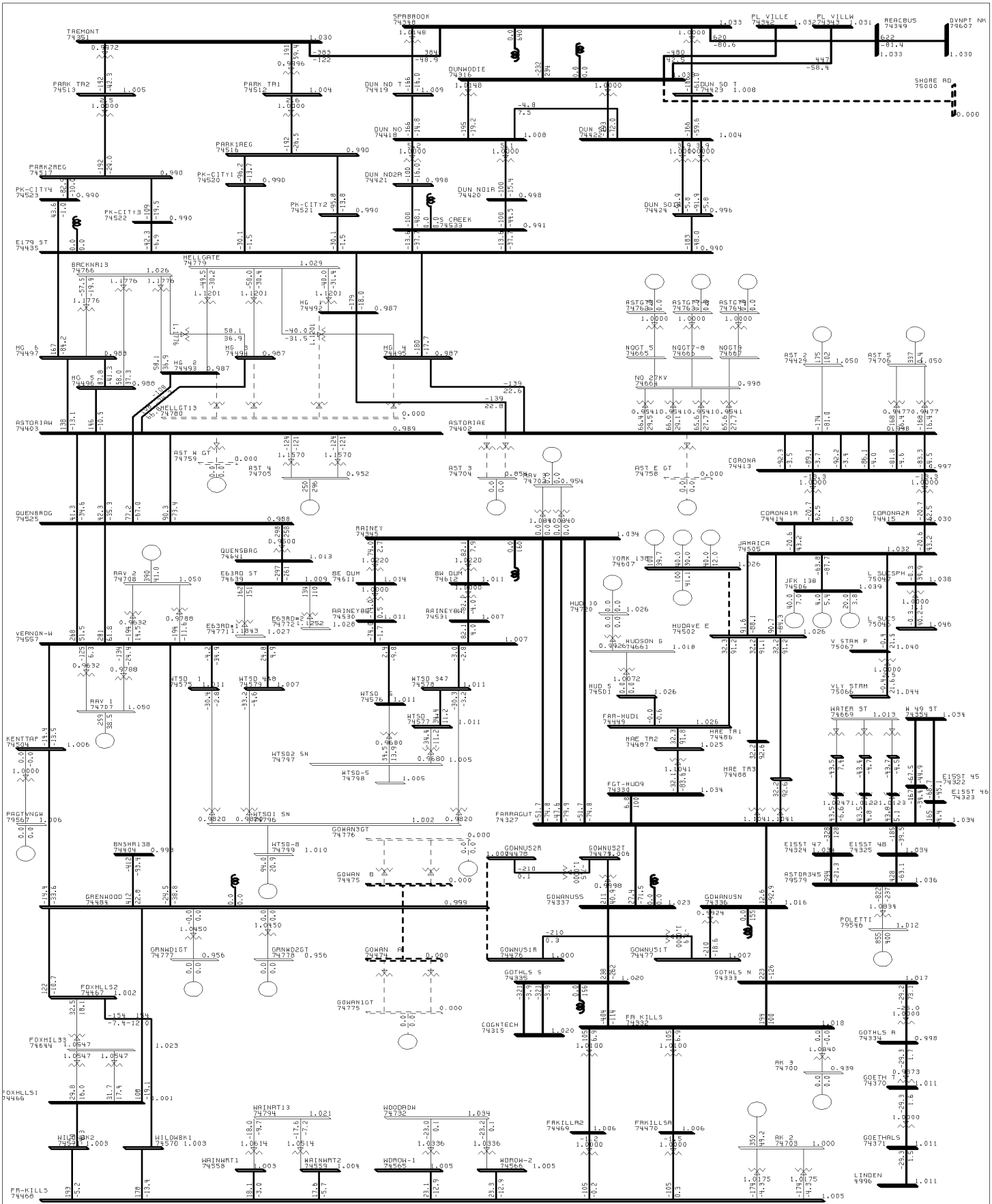

2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
2) EASTERN NYISO FRI, OCT 12 2001 9:37
POWER TECHNOLOGIES, INC.
KV: ≤138 ≤230 ≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR

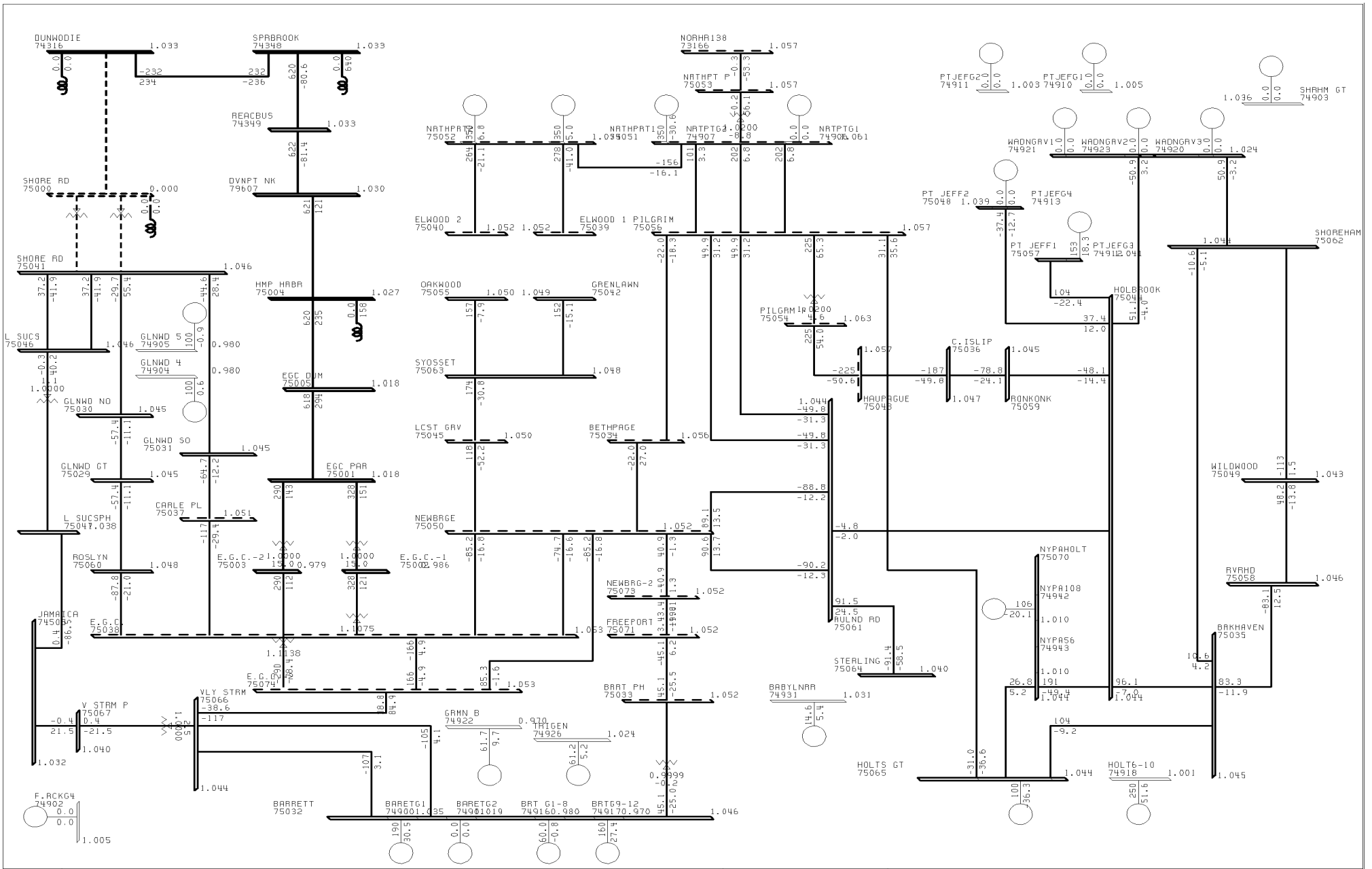



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>3) SOUTHERN NYISO FRI, OCT 12 2001 9:37 | KV: ≤138 . ≤230 . ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

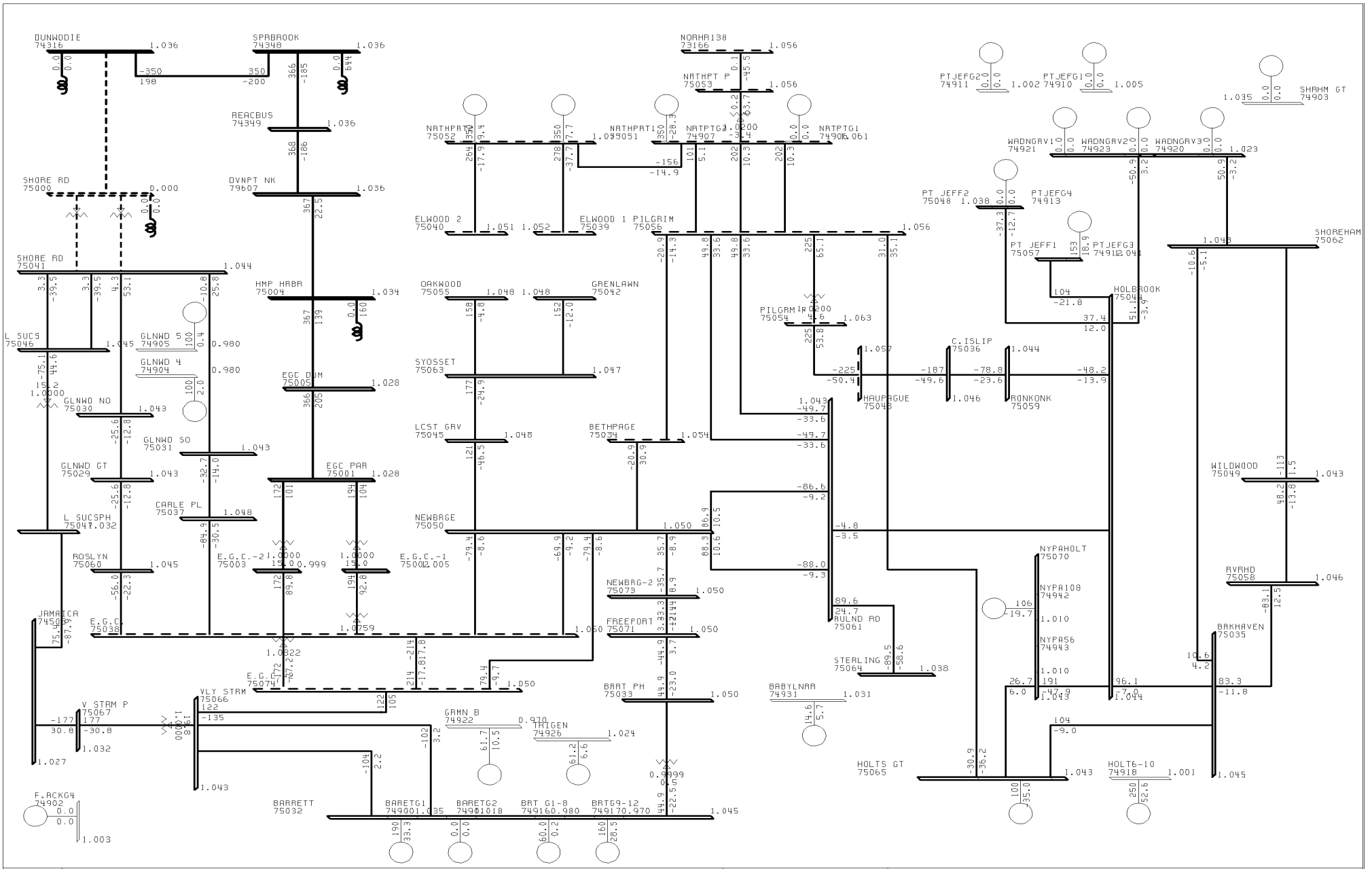



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC.® | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>4) CENTRAL HUDSON FRI, OCT 12 2001 9:38 | KV: ≤138 . ≤230 . ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

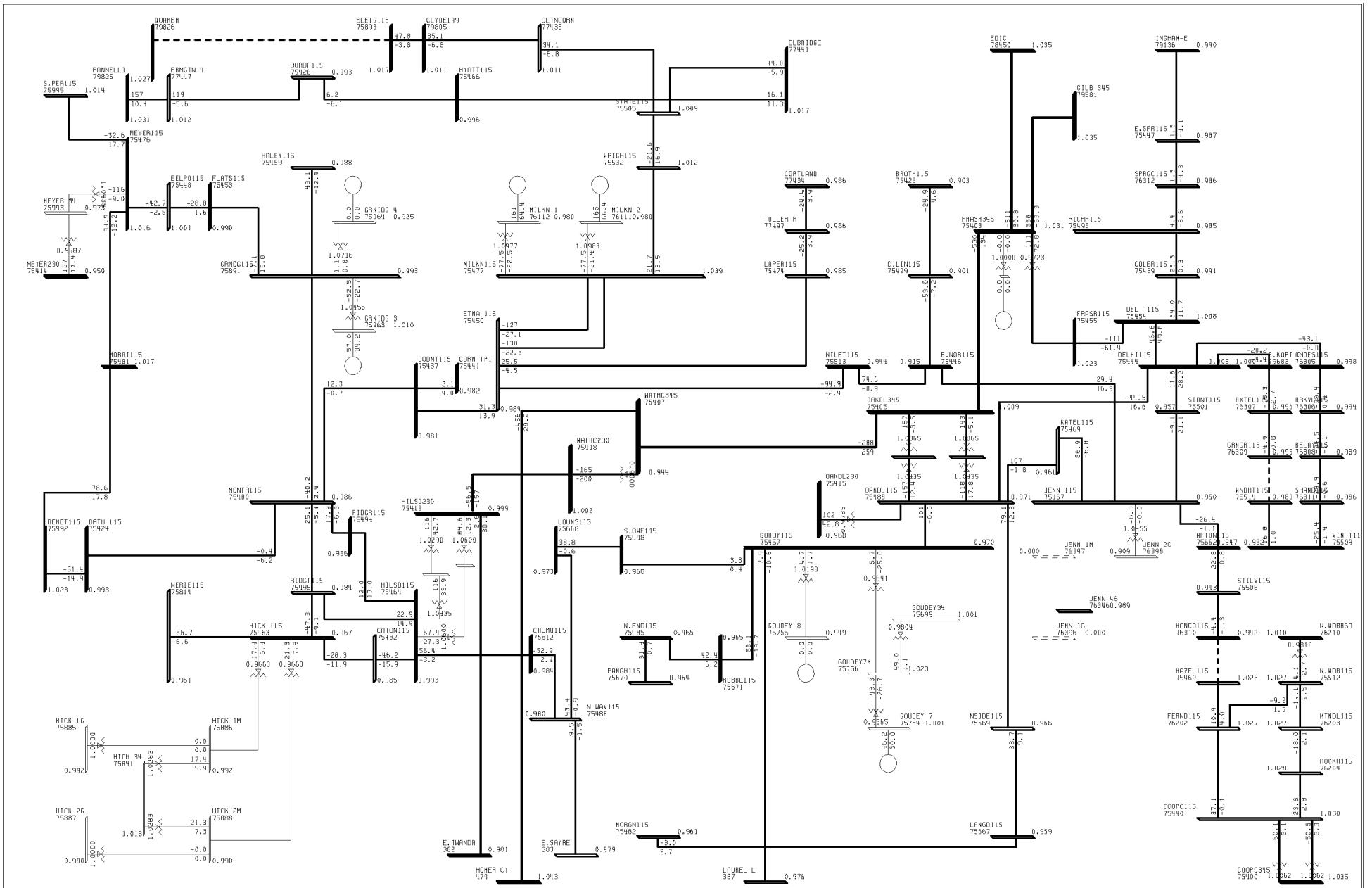

2001/2002 WINTER PEAK BASE CASE TRIAL #4
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
5) CON EDISON THU, NOV 01 2001 14:45
KV: ≤34 . ≤138 . ≤345
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.

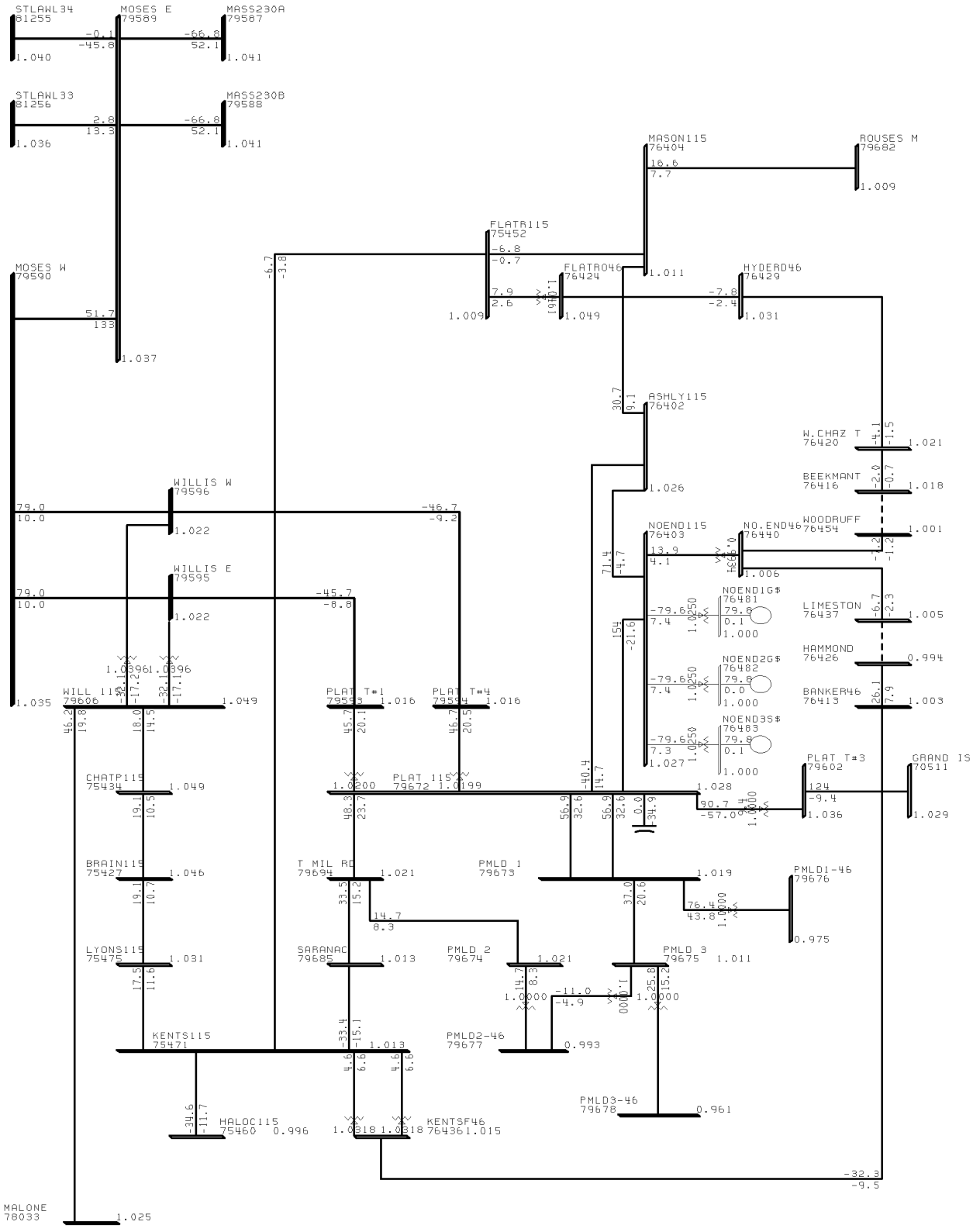



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC.® | 2001/2002 WINTER PEAK BASE CASE TRIAL #4<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>6) LIPA THU, OCT 25 2001 16:38 | 100% RATEC<br>0.950 UV 1.050 OV<br>KV: ≤69 , ≤138 , ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

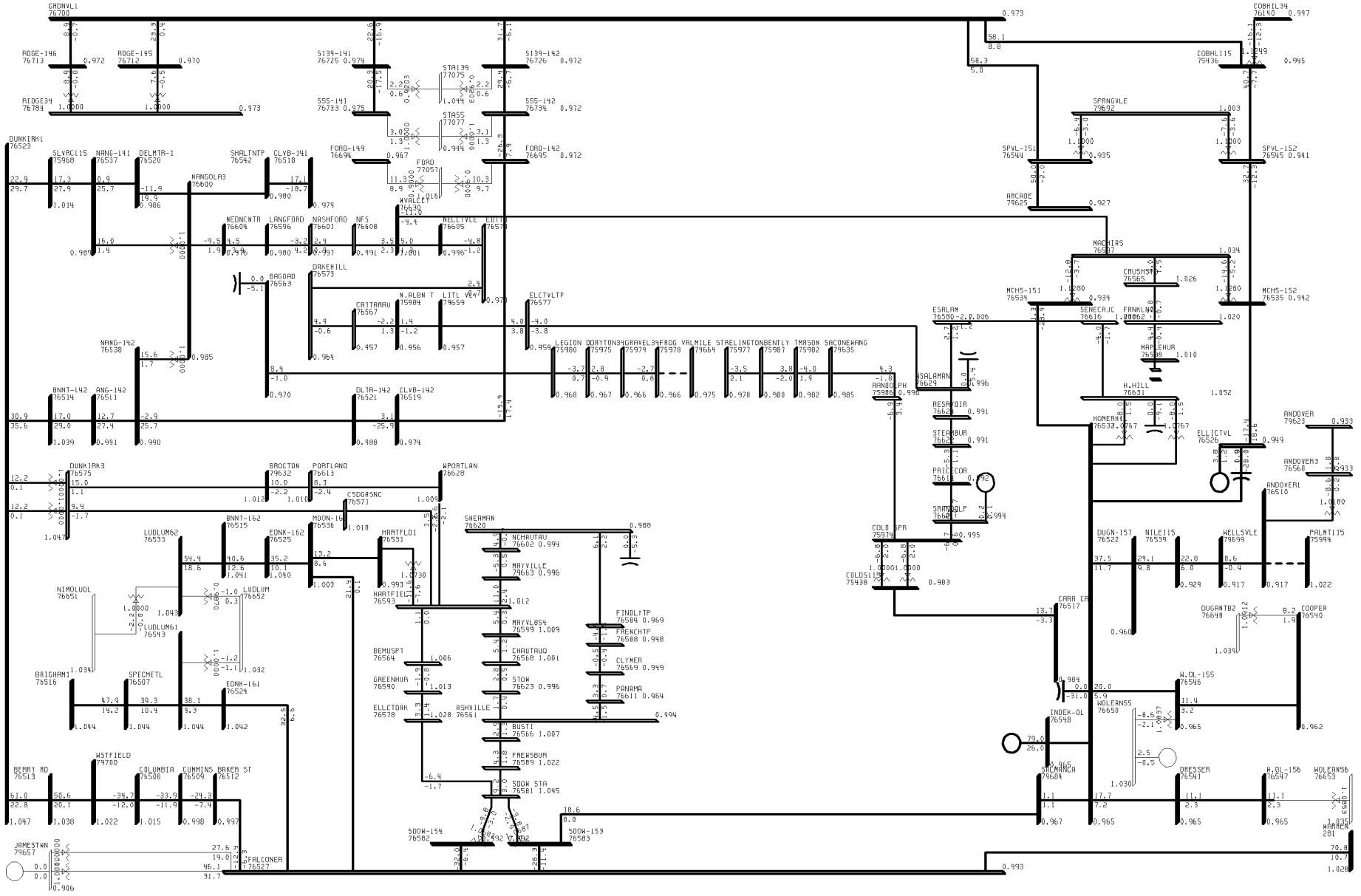



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC.® | 2001/2002 WINTER PEAK BASE CASE TRIAL #4<br>LIPA EMERGENCY TRANSFER CASE<br>7) LIPA EMERGENCY TRANSFER THU, OCT 25 2001 16:38 | 100% RATEC<br>0.950 UV 1.050 OV<br>KV: ≤69 , ≤138 , ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

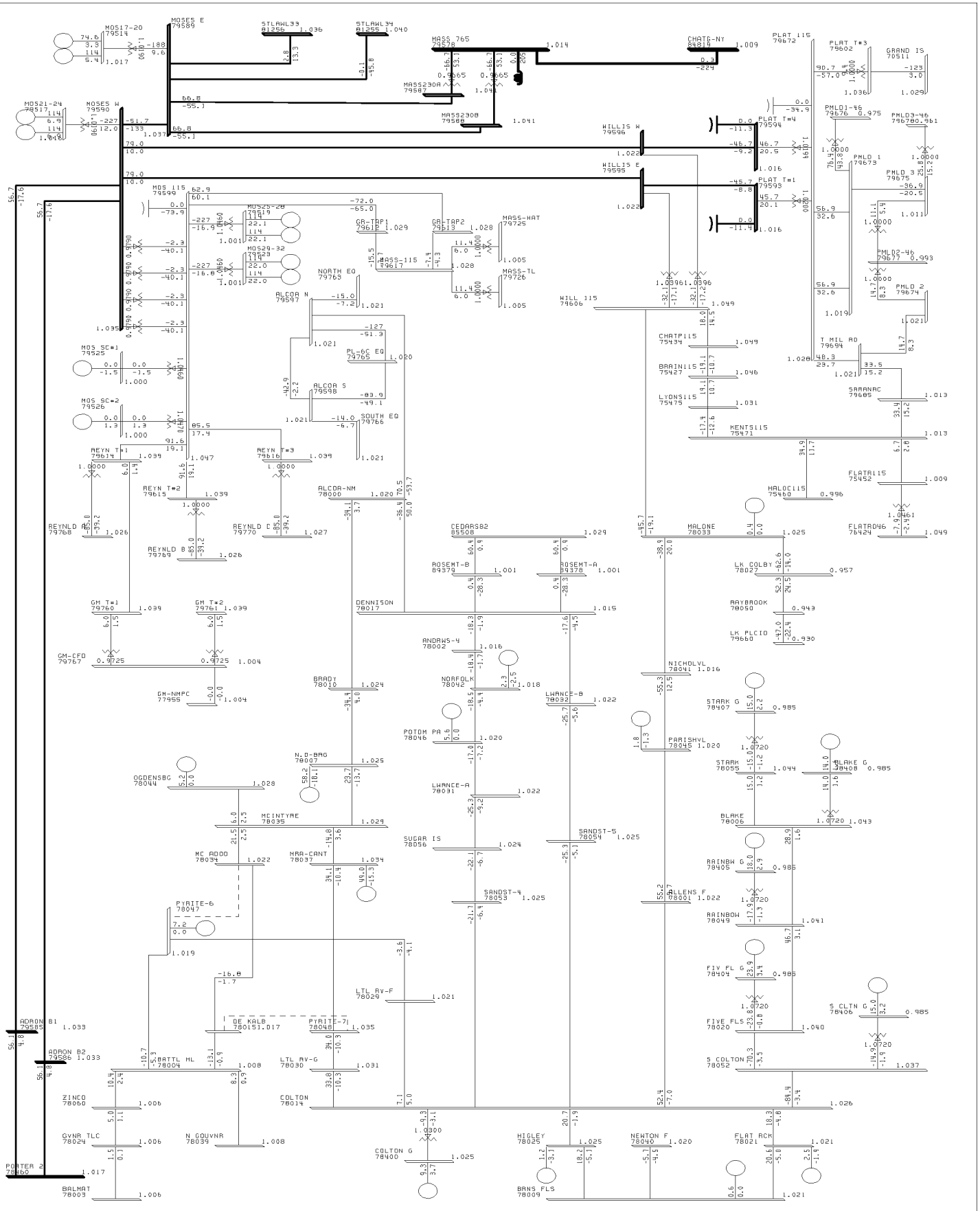

2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
8) NYSEG FRI, OCT 12 2001 9:39
POWER TECHNOLOGIES, INC.
KV: ≤35 . ≤115 . ≤230
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR




| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>9) NYSEG PLATTSBG FRI, OCT 12 2001 9:39 | KV: ≤38 , ≤115 , ≤230 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

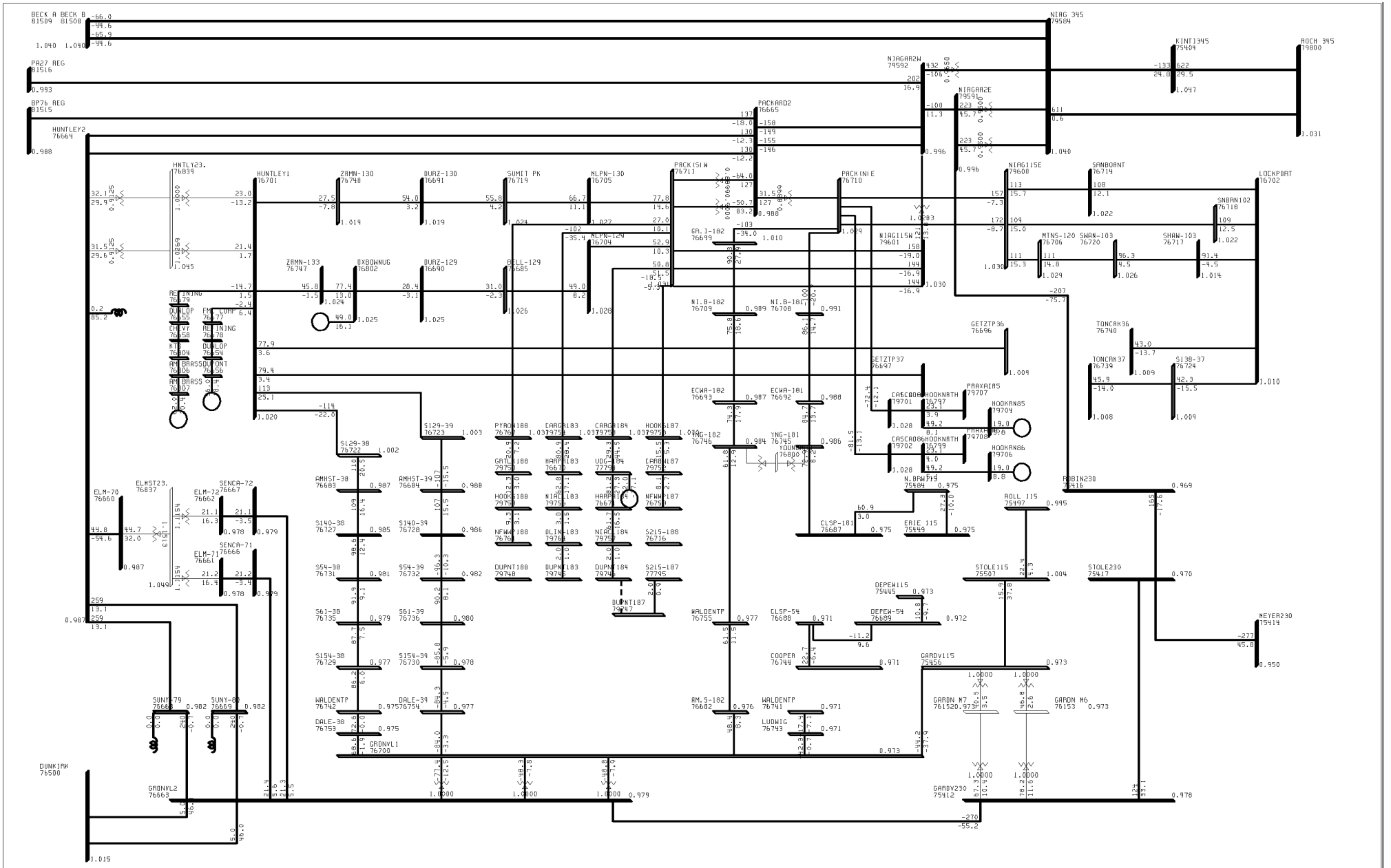



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC.® | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>10) NMPC SOUTHWEST FRI, OCT 12 2001 9:39 | KV: ≤23 . ≤35 . ≤115 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

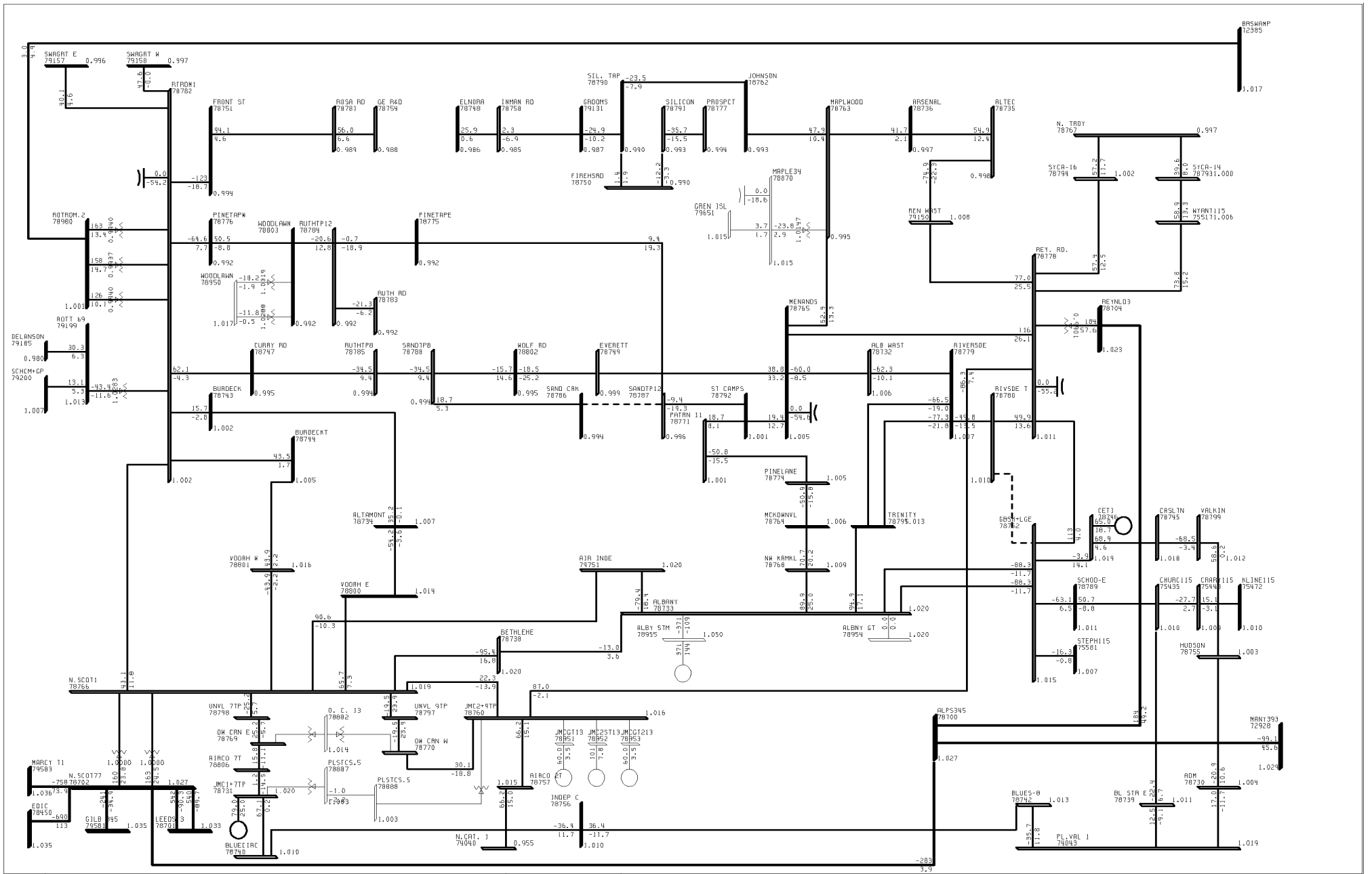


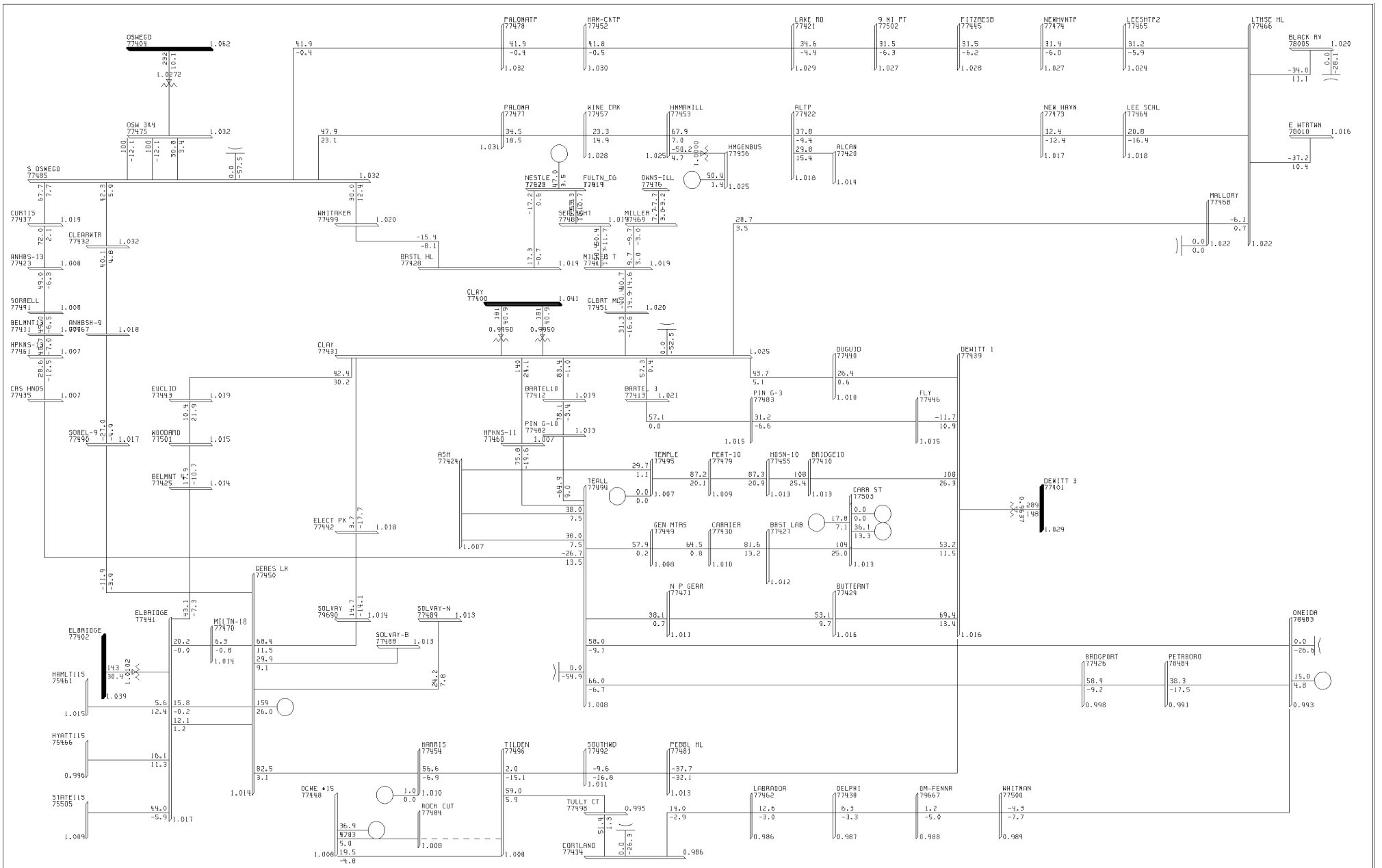

2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
11) NMPC NORTH FRI, OCT 12 2001 9:40

POWER TECHNOLOGIES, INC.

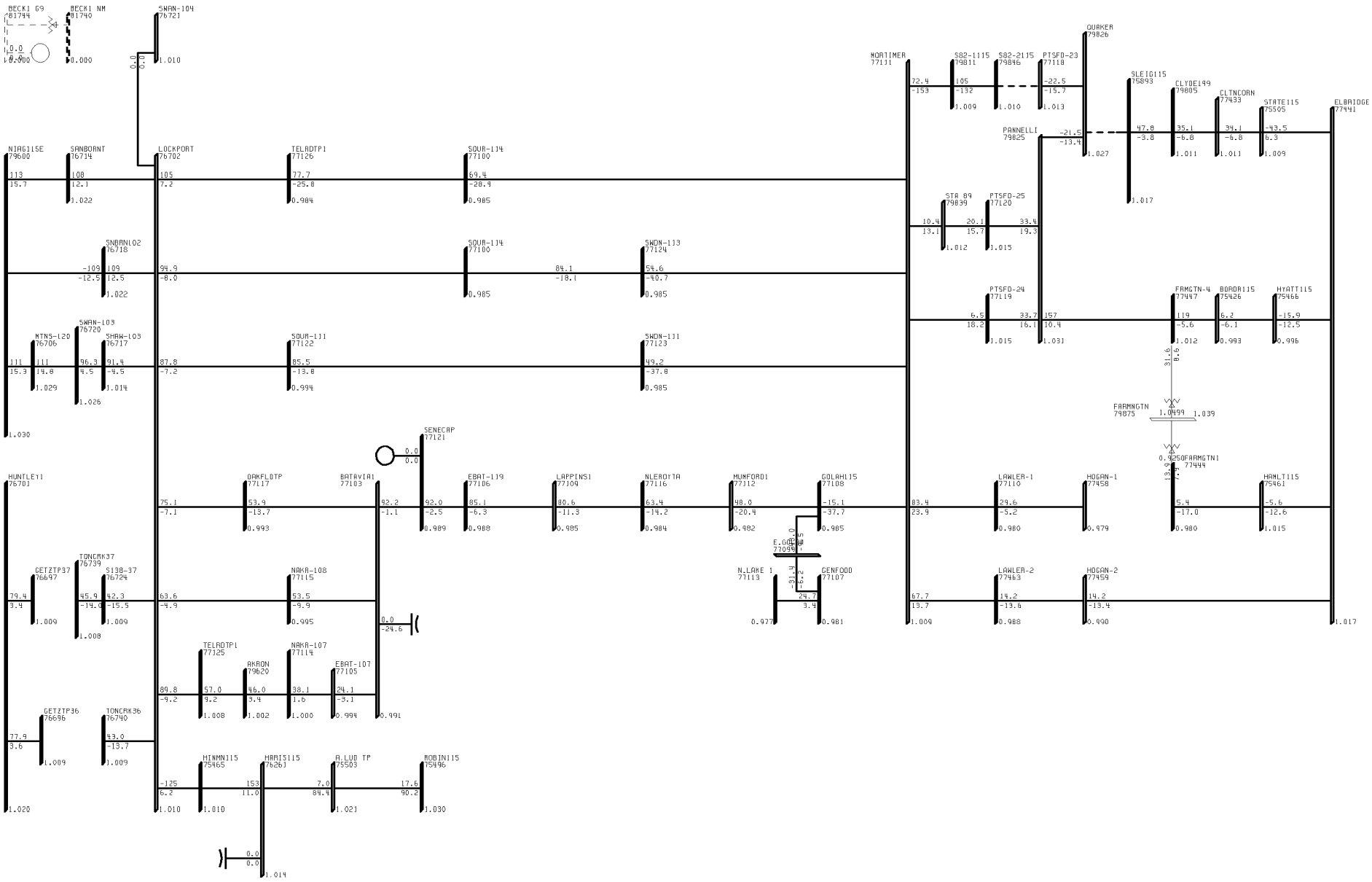



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>12) NMPC BUFFALO FRI, OCT 12 2001 9:40 | KV: ≤35 , ≤115 , ≤230 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

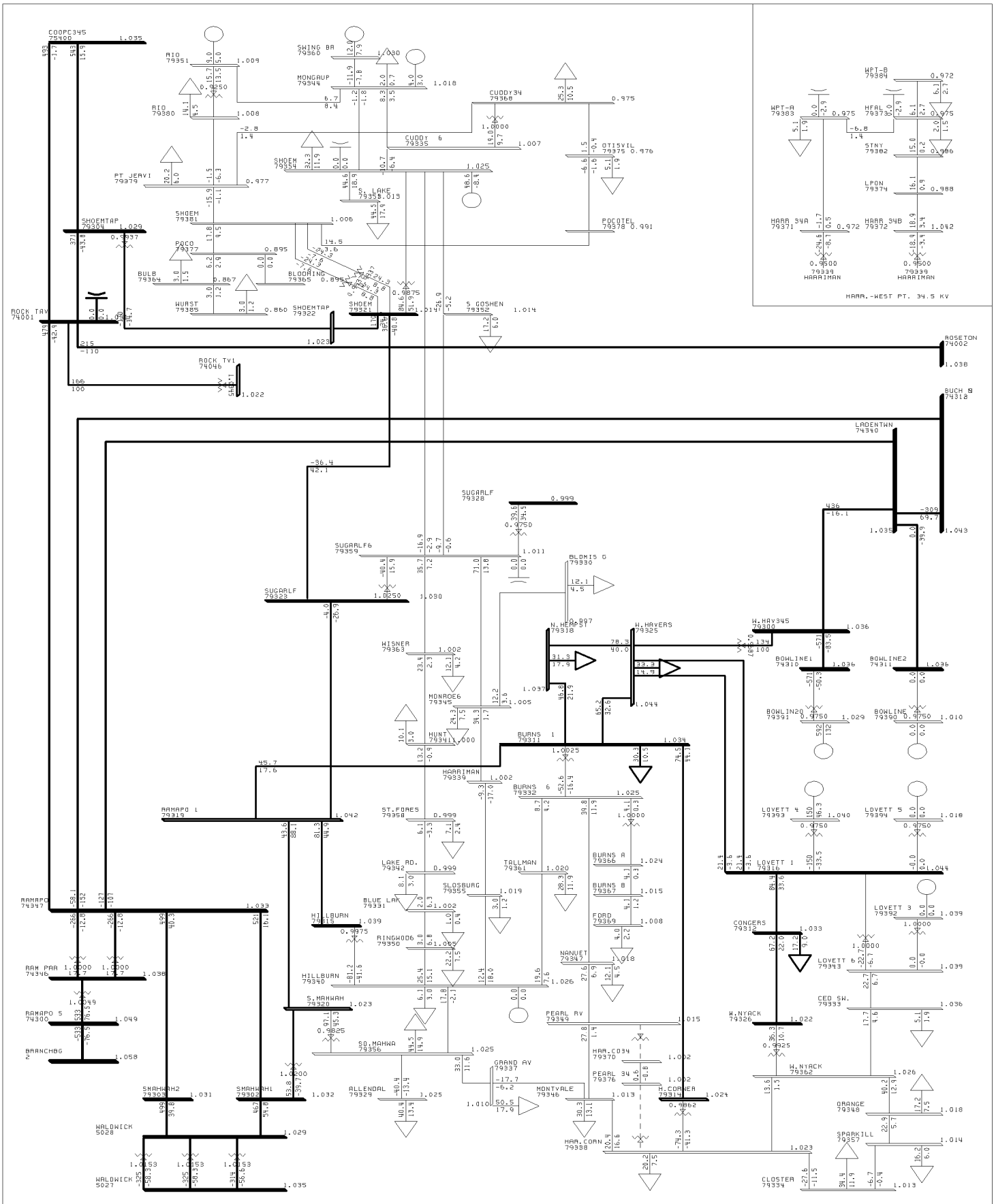

2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
13) NMPC ALBANY FRI, OCT 12 2001 9:40
KV: ≤35 , ≤115 , ≤230
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.®



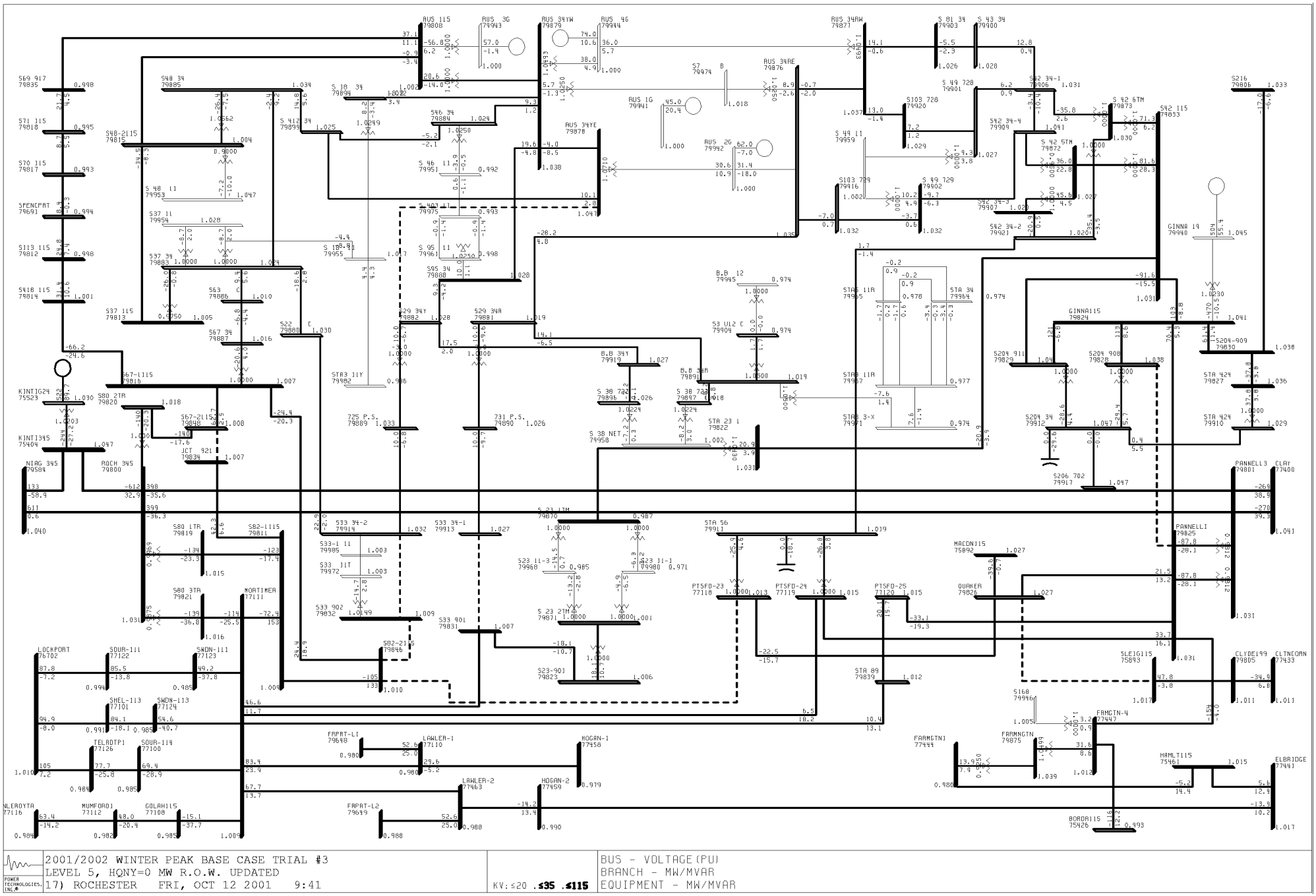

| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>14) NMPC SYRACUSE FRI, OCT 12 2001 9:40 | KV: ≤138 . ≤230 . ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

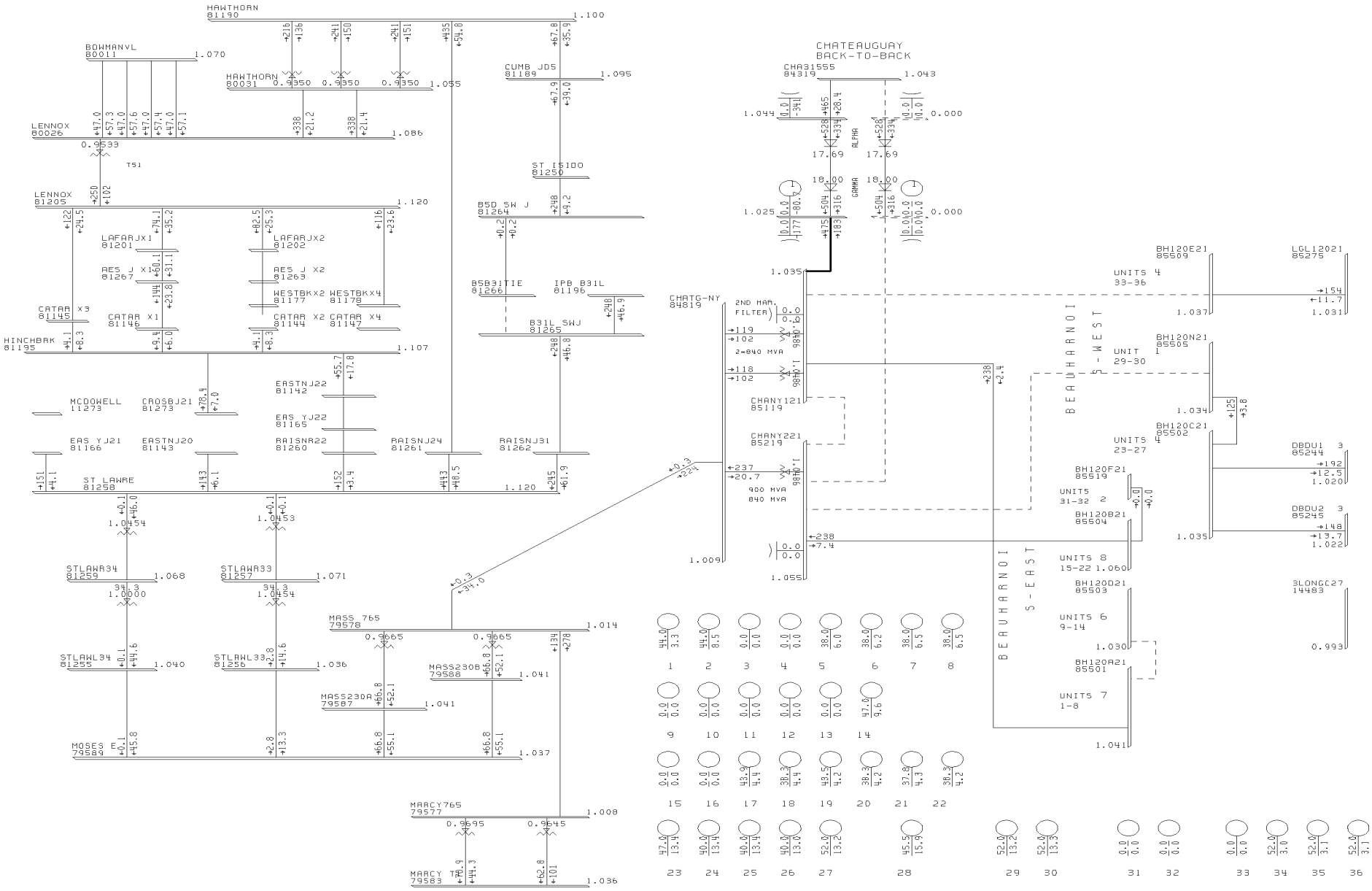



| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>15) NMPC LOCKPORT 115 FRI, OCT 12 2001 9:40 | KV: ≤69 , ≤138 , ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |

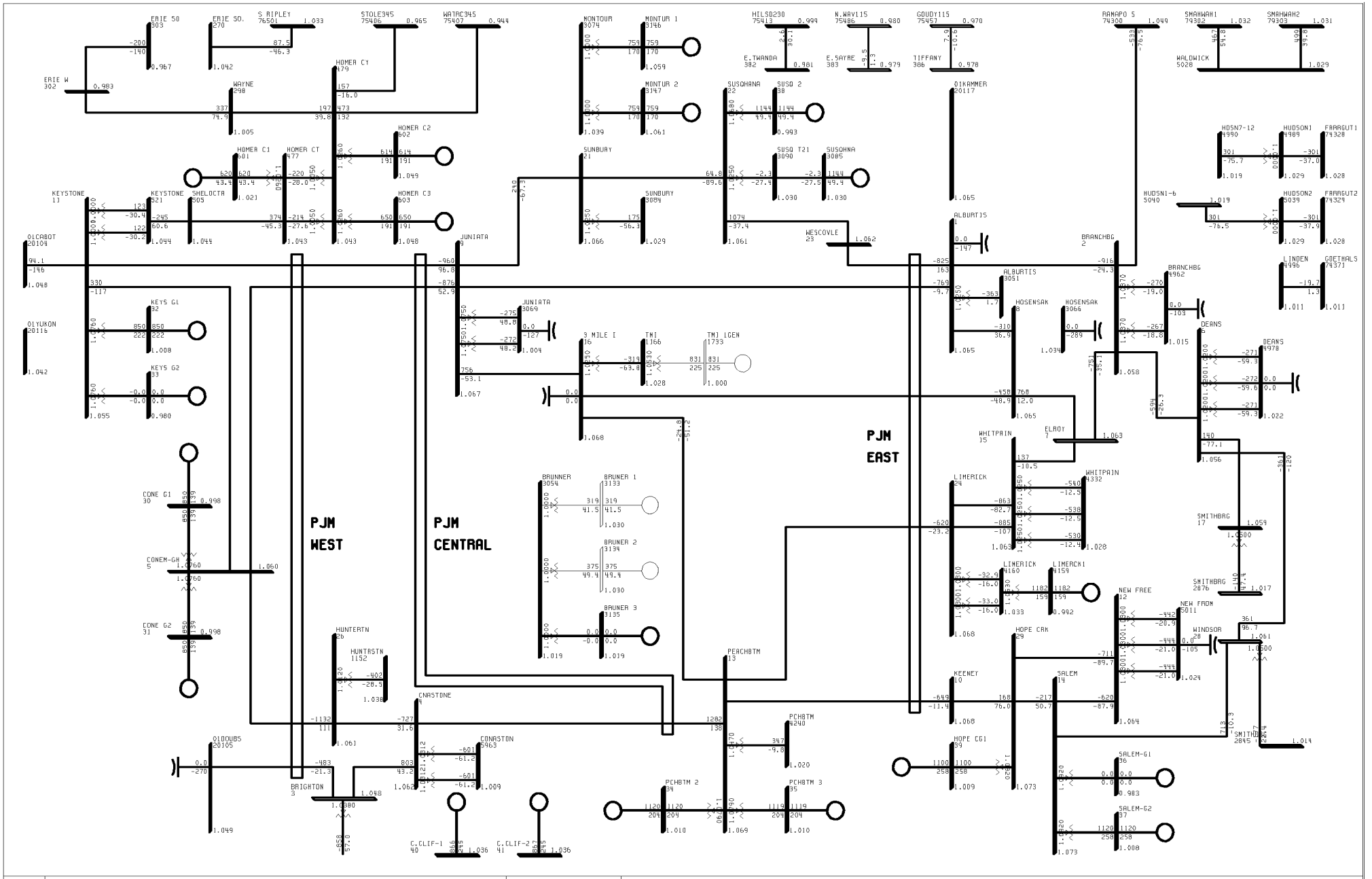


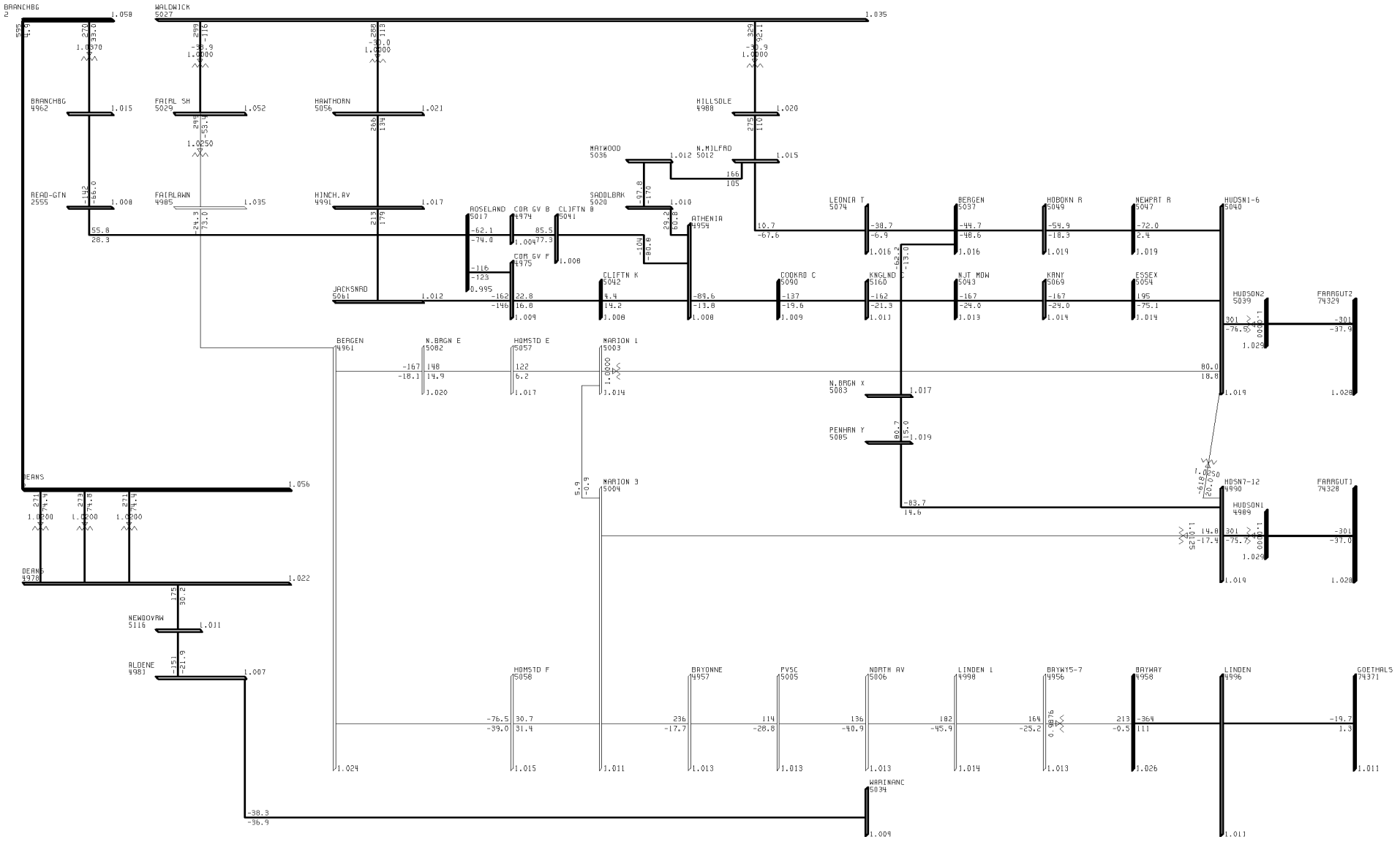

| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>16) ORANGE & ROCKLAND FRI, OCT 12 2001 9:41 | KV: ≤69 , ≤138 , ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |


2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
17) ROCHESTER FRI, OCT 12 2001 9:41
KV: ≤20 .≤35 .≤115
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.

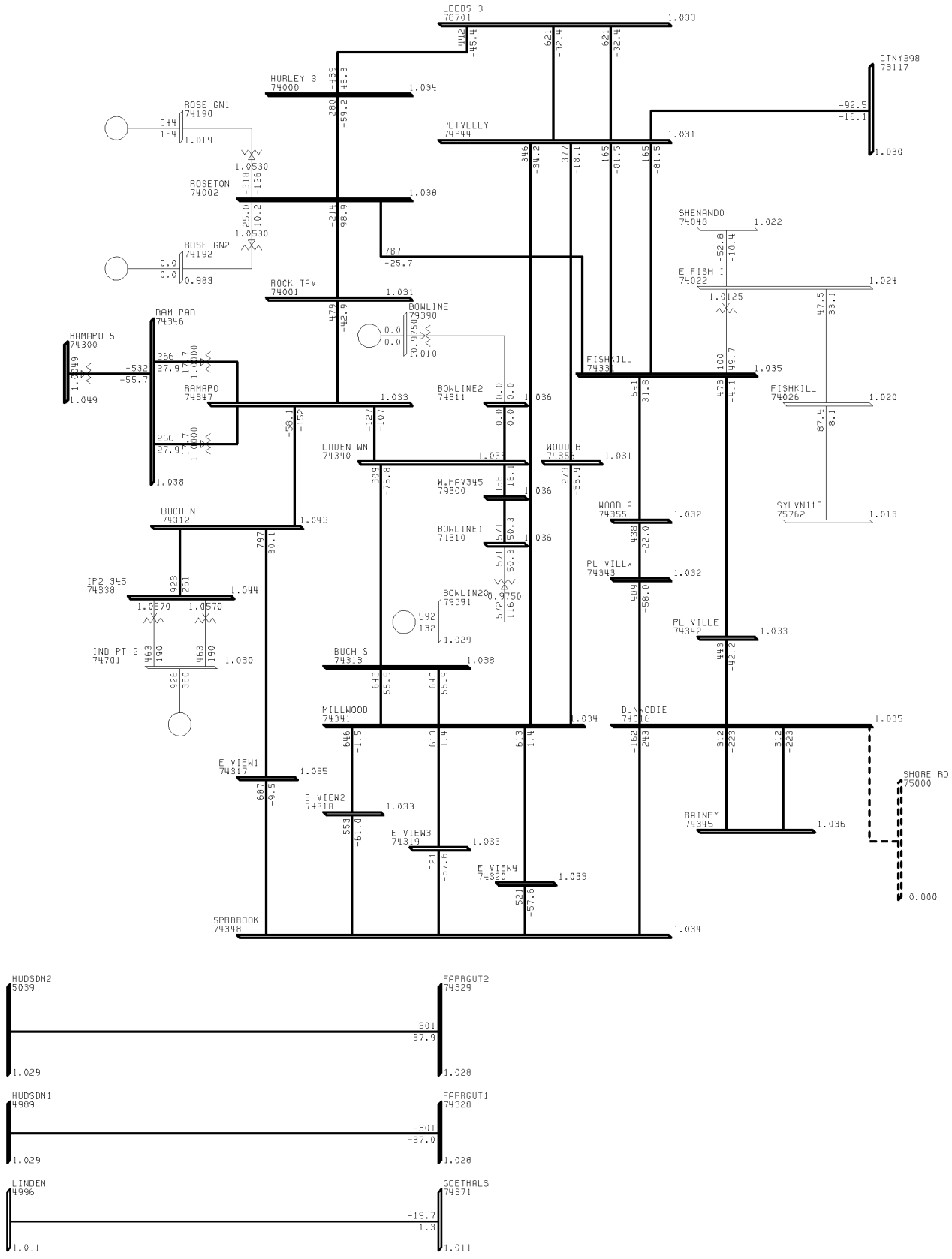



| | | |
|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>18) BEAU FRI, OCT 12 2001 9:41 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |


PJM WEST
PJM CENTRAL
PJM EAST
ERIE SO 303
ERIE SO. 270
S RIPLEY 76501
STOLE345 75406
WATRC345 75407
ERIE W 302
WAYNE 298
HOMER CY 479
HOMER C1 601
HOMER CT 477
HOMER C2 602
HOMER C3 603
KEYSTONE 11
KEYSTONE 521
SHELOCTR 505
OLCABOT 20104
OLYUKON 20116
KEYS G1 32
KEYS G2 33
CONE G1 30
CONE G2 31
CONEM-GN 5
HUNTERTN 26
HUNTRSTN 1152
CNARSTONE 4
CONASTON 5963
OLDOUBS 20105
BRIGHTON 3
C.CLIF-1 40
C.CLIF-2 41
JUNIATA 9
JUNIATA 3069
MONTOUR 3074
MONTUR 1 3146
MONTUR 2 3147
SUNBURY 21
SUNBURY 3084
SUSQHANA 22
SUSQ 2 38
SUSQ T21 3090
SUSQHNA 3085
3 MILE I 16
TMI 1166
TMI 1GEN 1793
BRUNNER 3054
BRUNER 1 3133
BRUNER 2 3134
BRUNER 3 3135
PEACHBTM 13
PCHBTM 4240
PCHBTM 2 34
PCHBTM 3 35
HILSD230 75413
E.TWANDA 382
N.WAV115 75486
E.SAYRE 383
GOUDY115 75457
TIFFANY 386
OLKAMMER 20117
ALBURTIS 1
ALBURTIS 3051
WESCOVLE 23
HOSENSAK 8
HOSENSAK 3066
BRANCHBG 2
BRANCHBG 4962
DEANS 18
DEANS 4978
ELROY 7
WHITPAIN 15
WHITPAIN 4332
LIMERICK 24
LIMERICK 4160
LIMERCK1 4159
SMITHBRG 17
SMITHBRG 2876
NEW FREE 12
NEW FROM 5011
WINDSOR 28
HOPE CRK 29
KEENEY 10
SALEM 14
HOPE CG1 39
SALEM-G1 36
SALEM-G2 37
RANAPO 5 74300
SMAHWAH1 79302
SMAHWAH2 79303
WALDWICK 5028
HDSN7-12 4990
HUDSON1 4989
FRARGUT1 74328
HUDSN1-6 5040
HUDSON2 5039
FRARGUT2 74329
LINDEN 4996
GOETHALS 74371
2001/2002 WINTER PEAK BASE CASE TRIAL #3
LEVEL 5, HQNY=0 MW R.O.W. UPDATED
19) PJM FRI, OCT 12 2001 9:41
KV: ≤20 .≤95 .≤115
BUS - VOLTAGE(PU)
BRANCH - MW/MVAR
EQUIPMENT - MW/MVAR
POWER TECHNOLOGIES, INC.




| | | | |
|---|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>20) PSE&G FRI, OCT 12 2001 9:42 | KV: ≤138 . ≤230 . ≤345 | BUS - VOLTAGE(PU)<br>BRANCH - MW/MVAR<br>EQUIPMENT - MW/MVAR |




| | | |
|---|---|---|
| POWER TECHNOLOGIES, INC. | 2001/2002 WINTER PEAK BASE CASE TRIAL #3<br>LEVEL 5, HQNY=0 MW R.O.W. UPDATED<br>21) UPNY – CONED FRI, OCT 12 2001 9:42 | KV: ≤115 . **≤230** . **≤345** |

# APPENDIX D

# RATINGS OF MAJOR TRANSMISSION FACILITIES

# IN NEW YORK

NYISO OPERATING STUDY
WINTER 2001-02

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| ADRON B1 - MOSES W | MA-1 | 348 | 359 | 440 | 782 | 25269 |
| ADRON B2 - MOSES W | MA-2 | 348 | 386 | 440 | 784 | 25270 |
| ALBANY - AIR INDE | 8 | 278 | 321 | 368 | 2817 | 25496 |
| ALCOA N - GR-TAP1 | MAL-6 | 218 | 253 | 291 | 792 | 25582 |
| ALCOA-NM - ALCOA N | R8105 | 206 | 247 | 310 | 786 | 25202 |
| ALCOA-NM - BRADY | 13 | 128 | 147 | 159 | 787 | 25230 |
| ALCOA-NM - BRADY | 9 | 159 | 159 | 159 | 820 | 25230 |
| ALCOA-NM - DENNISON | 12 | 166 | 191 | 210 | 788 | 25227 |
| ALLENS F - COLTON | 3 | 119 | 128 | 152 | 846 | 25241 |
| ALPS345 - N.SCOT77 | 2 | 1204 | 1326 | 1589 | 993 | 25217 |
| ALPS345 - REYNLD3 | 1 | 459 | 562 | 755 | 994 | 25587 |
| ANDRWS-4 - DENNISON | 5 | 182 | 197 | 248 | 861 | 25226 |
| ASTORIAE - CORONA | 34186 | 154 | 239 | 387 | 133 | 25282 |
| ASTORIAE - CORONA | 34185 | 154 | 239 | 387 | 132 | 25281 |
| ASTORIAE - CORONA | 34184 | 154 | 239 | 387 | 131 | 25280 |
| ASTORIAE - CORONA | 34183 | 154 | 239 | 387 | 130 | 25279 |
| ASTORIAE - CORONA | 34182 | 154 | 239 | 387 | 129 | 25278 |
| ASTORIAE - HG 1 | 34052 | 161 | 245 | 393 | 134 | 25324 |
| ASTORIAE - HG 4 | 34051 | 161 | 245 | 393 | 135 | 25323 |
| ASTORIAW - HG 2 | 24054 | 140 | 186 | 186 | 146 | 25213 |
| ASTORIAW - HG 3 | 24053 | 140 | 186 | 186 | 147 | 25212 |
| ASTORIAW - HG 5 | 24051 | 177 | 249 | 480 | 148 | 25210 |
| ASTORIAW - HG 6 | 24052 | 177 | 249 | 480 | 149 | 25211 |
| ASTORIAW - QUENBRDG | 28241 | 154 | 239 | 387 | 151 | 25315 |
| ASTORIAW - QUENBRDG | 28242 | 154 | 239 | 387 | 150 | 25316 |
| ASTORIAW - QUENBRDG | 28243 | 308 | 478 | 645 | 152 | 25317 |
| ASTORIAW - QUENBRDG | 28244 | 308 | 478 | 645 | 153 | 25318 |
| BARRETT - BRRT PH | 461 | 169 | 259 | 297 | 7 | 25155 |
| BARRETT - VLY STRM | 291 | 233 | 289 | 364 | 9 | 25312 |
| BARRETT - VLY STRM | 292 | 233 | 289 | 364 | 10 | 25313 |
| BATAVIA1 - EBAT-107 | 107 | 119 | 128 | 152 | 636 | 25124 |
| BATAVIA1 - NAKR-108 | 108 | 130 | 136 | 159 | 647 | 25125 |
| BATAVIA1 - OAKFLDTP | 112 | 128 | 136 | 159 | 446 | 25126 |
| BELL-129 - DURZ-129 | 129 | 168 | 185 | 199 | 765 | 69854 |
| BELL-129 - MLPN-129 | 129 | 168 | 185 | 199 | 765 | 69854 |
| BLUE LAK - LAKE RD. | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| BLUE LAK - RINGWOD6 | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| BORDR115 - FRMGTN-4 | 977/4 | 150 | 179 | 195 | 507 | 25057 |
| BORDR115 - HYATT115 | 979 | 129 | 148 | 160 | 506 | 25106 |
| BOWLINE1 - W.HAV345 | 67 | 687 | 747 | 747 | 164 | 25567 |
| BOWLINE2 - LADENTWN | 68 | 687 | 747 | 747 | 166 | 25249 |
| BRANCHBG - RAMAPO 5 | 5018 | 999 | 1303 | 1751 | 366 | 25019 |
| BRDGPORT - PETRBORO | 5 | 116 | 120 | 145 | 940 | 25896 |
| BRDGPORT - TEALL | 5 | 116 | 120 | 145 | 940 | 25896 |
| BRKHAVEN - HOLBROOK | 887 | 390 | 435 | 498 | 11 | 25340 |
| BRKHAVEN - RVRHD | 864 | 250 | 288 | 322 | 14 | 25553 |
| BRKHAVEN - SHOREHAM | 861 | 433 | 480 | 586 | 16 | 25114 |
| BUCH N - E VIEW1 | W93 | 1720 | 1890 | 2401 | 175 | 25133 |
| BUCH N - RAMAPO | Y94 | 1703 | 1890 | 2401 | 178 | 25184 |
| BUCH S - LADENTWN | Y88 | 1703 | 1890 | 2401 | 180 | 25185 |
| BUCH S - MILLWOOD | W98 | 1493 | 1680 | 1902 | 182 | 25146 |
| BUCH S - MILLWOOD | W97 | 1493 | 1680 | 1902 | 181 | 25247 |
| BURNS 1 - W.HAVERS | 530/531 | 224 | 260 | 274 | 473 | 68644 |
| BURNS 6 - TALLMAN | 59/591 | 50 | 104 | 110 | 469 | 68642 |
| CARLE PL - E.G.C. | 361 | 250 | 288 | 322 | 18 | 25533 |
| CARML115 - UNION115 | 991/992 | 215 | 247 | 270 | 190 | 68885 |
| CATON115 - HICK 115 | 958/960 | 102 | 113 | 120 | 574 | 69341 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| CLAY - 9MI PT1 | 8 | 1032 | 1271 | 1562 | 839 | 25167 |
| CLAY - CLAY | BK#1 | 308 | 367 | 405 | 826 | 25387 |
| CLAY - CLAY | BK#2 | 308 | 367 | 405 | 827 | 25421 |
| CLAY - DEWITT 3 | 13 | 1032 | 1284 | 1434 | 835 | 25168 |
| CLAY - DUGUID | 5 | 193 | 213 | 240 | 829 | 25519 |
| CLAY - HPKNS-11 | 11 | 220 | 239 | 239 | 831 | 25516 |
| CLAY - HPKNS-11 | 10 | 116 | 120 | 145 | 834 | 25520 |
| CLAY - PANNELL3 | PC-2 | 1032 | 1284 | 1434 | 768 | 25050 |
| CLAY - PANNELL3 | PC-1 | 1032 | 1284 | 1434 | 769 | 25058 |
| CLAY - VOLNEY | 6 | 1032 | 1284 | 1434 | 838 | 25198 |
| CLINTON - MARSH115 | 11/12 | 125 | 143 | 154 | 1012 | 68794 |
| CLTNCORN - CLYDE199 | 971/3 | 108 | 128 | 145 | 510 | 25063 |
| CLYDE199 - CLYDE 34 | 3 | 125 | 143 | 154 | 509 | 25221 |
| COBHL115 - COBHIL34 | 906 | 40 | 41 | 45 | 513 | 25426 |
| CODNT115 - ETNA 115 | 998 | 227 | 253 | 283 | 515 | 25734 |
| CODNT115 - MONTR115 | 982 | 108 | 128 | 144 | 516 | 25728 |
| COFFEEN - E WTRTWN | 5 | 116 | 119 | 119 | 840 | 25504 |
| COOPC345 - COOPC115 | #2 | 212 | 266 | 300 | 519 | 25433 |
| COOPC345 - COOPC115 | #3 | 232 | 296 | 300 | 520 | 25434 |
| COOPC345 - FRASR345 | FCC-33 | 1207 | 1404 | 1703 | 521 | 25236 |
| COOPC345 - MARCY T1 | UCC2-41 | 1345 | 1345 | 1345 | 2803 | 25113 |
| CORONA1R - JAMAICA | 18001 | 161 | 245 | 393 | 185 | 25285 |
| CORONA2R - JAMAICA | 18002 | 161 | 245 | 393 | 186 | 25286 |
| CORTLAND - LABRADOR | 3 | 125 | 143 | 154 | 855 | 25894 |
| CORTLAND - TULLER H | 947 | 108 | 128 | 143 | 631 | 25059 |
| CROTN115 - UNION115 | 991/992 | 215 | 247 | 270 | 190 | 68885 |
| DELPHI - LABRADOR | 3 | 125 | 143 | 154 | 855 | 25894 |
| DELPHI - OM-FENNR | 3 | 125 | 143 | 154 | 855 | 25894 |
| DENNISON - LWRNCE-B | 4 | 182 | 197 | 248 | 796 | 25225 |
| DENNISON - LWRNCE-B | 4 | 182 | 197 | 248 | 935 | 25225 |
| DEWITT 3 - DEWITT 1 | 2 | 516 | 657 | 796 | 862 | 25418 |
| DEWITT 3 - LAFAYTTE | 22 | 1434 | 1434 | 1434 | 866 | 25174 |
| DUN NO - DUN SO | 99997 | 226 | 317 | 342 | 194 | 25532 |
| DUN NO1R - S CREEK | 99031 | 129 | 188 | 290 | 197 | 25193 |
| DUN NO2R - S CREEK | 99032 | 129 | 188 | 290 | 198 | 25239 |
| DUN SO1R - E179 ST | 99153LM | 223 | 314 | 396 | 203 | 25287 |
| DUNKIRK - DUNKIRK1 | 41 | 139 | 177 | 226 | 657 | 25386 |
| DUNKIRK - DUNKIRK1 | 31 | 138 | 173 | 223 | 656 | 25430 |
| DUNKIRK - GRDNVL2 | 73 | 556 | 637 | 637 | 663 | 25166 |
| DUNKIRK - GRDNVL2 | 74 | 556 | 637 | 637 | 664 | 25197 |
| DUNWODIE - DUN NO | W74 | 352 | 484 | 578 | 195 | 25209 |
| DUNWODIE - DUN SO | W73 | 352 | 484 | 578 | 202 | 25208 |
| DUNWODIE - PL VILLE | W89 | 1720 | 1976 | 2265 | 206 | 25182 |
| DUNWODIE - PL VILLW | W90 | 1720 | 1976 | 2265 | 205 | 25250 |
| DUNWODIE - RAINEY | 72 | 715 | 817 | 1081 | 208 | 25191 |
| DUNWODIE - RAINEY | 71 | 715 | 817 | 1081 | 207 | 25151 |
| DUNWODIE - SHORE RD | Y50 | 400 | 877 | 1416 | 115 | 25091 |
| DUNWODIE - SPRBROOK | W75 | 2384 | 2708 | 3247 | 209 | 25071 |
| DURZ-130 - SUMIT PK | 130 | 168 | 181 | 206 | 764 | 69855 |
| DURZ-130 - ZRMN-130 | 130 | 168 | 181 | 206 | 764 | 69855 |
| E FISH I - FISHKILL | F33 | 412 | 445 | 445 | 2868 | 25724 |
| E VIEW1 - EASTVIEW | 87874 | 370 | 424 | 424 | 211 | 25471 |
| E VIEW1 - SPRBROOK | W79 | 1720 | 2214 | 2657 | 224 | 25153 |
| E VIEW2 - EASTVIEW | 87873 | 370 | 424 | 424 | 210 | 25472 |
| E VIEW2 - MILLWOOD | W82 | 2293 | 2708 | 3236 | 225 | 25147 |
| E VIEW2 - SPRBROOK | W64 | 2293 | 2708 | 3236 | 223 | 25143 |
| E VIEW3 - EASTVIEW | 87872 | 370 | 424 | 424 | 212 | 25470 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| E VIEW3 - MILLWOOD | W99 | 2293 | 2708 | 3236 | 222 | 25255 |
| E VIEW3 - SPRBROOK | W65 | 1720 | 2214 | 2657 | 226 | 25144 |
| E VIEW4 - EASTVIEW | 87871 | 370 | 424 | 424 | 2835 | 25373 |
| E VIEW4 - MILLWOOD | W85 | 2293 | 2708 | 3236 | 325 | 25258 |
| E VIEW4 - SPRBROOK | W78 | 2293 | 2708 | 3236 | 2834 | 25346 |
| E.G.C. - NEWBRGE | 462 | 200 | 294 | 396 | 24 | 25303 |
| E.G.C. - NEWBRGE | 465 | 216 | 311 | 424 | 26 | 25535 |
| E.G.C. - ROSLYN | 362 | 258 | 297 | 332 | 28 | 25534 |
| E.G.C.-1 - E.G.C. | BK#2 | 444 | 556 | 761 | 2860 | 25552 |
| E.NOR115 - JENN 115 | 946 | 80 | 110 | 131 | 530 | 25729 |
| E.NOR115 - WILET115 | 945 | 108 | 128 | 145 | 531 | 25732 |
| E.SAYRE - N.WAV115 | 956 | 90 | 124 | 124 | 608 | 25013 |
| E.SPR115 - INGHAM-E | 941 | 80 | 106 | 131 | 536 | 25061 |
| E.TWANDA - HILSD230 | 70 | 483 | 531 | 554 | 582 | 25014 |
| E.WALD 1 - ROCK TV1 | D | 232 | 265 | 311 | 416 | 69038 |
| E15ST 45 - E13 ST | 37375 | 232 | 305 | 321 | 228 | 25468 |
| E15ST 45 - FARRAGUT | 45 | 726 | 882 | 1258 | 234 | 25190 |
| E15ST 45 - W 49 ST | M55 | 774 | 866 | 1291 | 237 | 25222 |
| E15ST 46 - E13 ST | 37373 | 225 | 299 | 362 | 230 | 25465 |
| E15ST 46 - FARRAGUT | 46 | 726 | 882 | 1258 | 236 | 25251 |
| E15ST 46 - W 49 ST | M54 | 774 | 866 | 1291 | 235 | 25228 |
| E15ST 47 - ASTOR345 | Q35L | 538 | 621 | 1476 | 139 | 25134 |
| E15ST 47 - E RIVER | 44371 | 240 | 254 | 275 | 217 | 25459 |
| E15ST 47 - E13 ST | 37378 | 240 | 305 | 384 | 231 | 25469 |
| E15ST 47 - FARRAGUT | B47 | 419 | 683 | 1124 | 238 | 25177 |
| E15ST 48 - ASTOR345 | Q35M | 538 | 621 | 1476 | 140 | 25142 |
| E15ST 48 - E13 ST | 37376 | 232 | 305 | 321 | 232 | 25463 |
| E15ST 48 - FARRAGUT | 48 | 419 | 683 | 1124 | 239 | 25252 |
| E179 ST - HG 1 | 15054 | 161 | 245 | 393 | 240 | 25290 |
| E179 ST - HG 4 | 15053 | 161 | 245 | 393 | 241 | 25289 |
| E179 ST - HG 6 | 15055 | 222 | 328 | 480 | 242 | 25288 |
| E179 ST - PK-CITY1 | 38X01 | 108 | 151 | 189 | 243 | 25327 |
| E179 ST - PK-CITY2 | 38X02 | 108 | 151 | 189 | 244 | 25328 |
| E179 ST - PK-CITY3 | 38X03 | 108 | 151 | 189 | 245 | 25330 |
| E179 ST - PK-CITY4 | 38X04 | 108 | 151 | 189 | 246 | 25329 |
| E179 ST - S CREEK | 15032 | 161 | 245 | 393 | 248 | 25156 |
| E179 ST - S CREEK | 15031 | 161 | 245 | 393 | 247 | 25157 |
| EDIC - JA FITZP | FE-1 | 1434 | 1434 | 1912 | 867 | 25077 |
| EDIC - MARCY T1 | UE1-7 | 1677 | 1792 | 1792 | 868 | 25229 |
| EDIC - N.SCOT77 | 14 | 1331 | 1538 | 1724 | 873 | 25170 |
| EDIC - PORTER 1 | BK#3/10 | 455 | 539 | 679 | 871 | 25424 |
| EDIC - PORTER 1 | BK#4/20 | 505 | 629 | 794 | 870 | 25454 |
| EDIC - PORTER 2 | BK#2/17 | 478 | 562 | 637 | 872 | 25422 |
| ELBRIDGE - ELBRIDGE | BK#1 | 470 | 557 | 717 | 874 | 25448 |
| ELBRIDGE - LAFAYTTE | 17 | 940 | 1562 | 1912 | 880 | 25149 |
| ELBRIDGE - OSWEGO | 17 | 1206 | 1326 | 1685 | 881 | 25234 |
| ELWOOD 1 - NRTHPRT2 | 681 | 352 | 504 | 604 | 33 | 25544 |
| ELWOOD 2 - NRTHPRT2 | 678 | 352 | 504 | 604 | 2863 | 25543 |
| ERIE E - S RIPLEY | 69 | 499 | 607 | 617 | 665 | 25016 |
| ETNA 115 - WILET115 | 945 | 108 | 128 | 145 | 540 | 25731 |
| FARRAGUT - GOWANUSN | 41 | 618 | 807 | 1183 | 260 | 25141 |
| FARRAGUT - GOWANUSS | 42 | 618 | 807 | 1183 | 261 | 25140 |
| FARRAGUT - HAE TR1 | B43 | 110 | 155 | 195 | 262 | 25293 |
| FARRAGUT - RAINEY | 63 | 661 | 758 | 1081 | 267 | 25152 |
| FARRAGUT - RAINEY | 62 | 694 | 791 | 1097 | 266 | 25253 |
| FARRAGUT - RAINEY | 61 | 661 | 758 | 1081 | 265 | 25254 |
| FISHKILL - PL VILLE | F38/Y86 | 1839 | 2606 | 3105 | 270 | 25367 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| FISHKILL - PLTVLLEY | F36 | 1720 | 2214 | 2657 | 268 | 25256 |
| FISHKILL - PLTVLLEY | F37 | 1720 | 2214 | 2657 | 269 | 25257 |
| FISHKILL - SYLVN115 | A/990 | 232 | 253 | 312 | 376 | 25066 |
| FISHKILL - WOOD A | F39 | 1839 | 2606 | 3400 | 271 | 25368 |
| FOXHLLS1 - GRENWOOD | 29231 | 154 | 239 | 387 | 276 | 25321 |
| FOXHLLS2 - GRENWOOD | 29232 | 154 | 239 | 387 | 278 | 25322 |
| FR KILLS - FRKILLR2 | TA1 | 275 | 387 | 486 | 283 | 25457 |
| FR KILLS - FRKILLSR | TB1 | 272 | 372 | 440 | 284 | 25458 |
| FR KILLS - GOTHLS N | 22 | 982 | 1390 | 1624 | 285 | 25137 |
| FR KILLS - GOTHLS S | 21 | 920 | 1010 | 1283 | 286 | 25138 |
| FR-KILLS - FRKILLR2 | 21192 | 275 | 387 | 486 | 2804 | 25639 |
| FR-KILLS - FRKILLSR | 21192 | 272 | 372 | 440 | 280 | 25640 |
| FR-KILLS - WILOWBK1 | 29211 | 169 | 271 | 452 | 277 | 25319 |
| FR-KILLS - WILOWBK1 | 29212 | 169 | 271 | 452 | 281 | 25319 |
| FR-KILLS - WILOWBK2 | 29212 | 169 | 271 | 452 | 279 | 25320 |
| FR-KILLS - WILOWBK2 | 29211 | 169 | 271 | 452 | 282 | 25320 |
| FRASR345 - EDIC | EF24-40 | 1380 | 1380 | 1380 | 2802 | 25112 |
| FRASR345 - FRASR115 | BK#2 | 305 | 386 | 420 | 2851 | 25391 |
| FRASR345 - GILB 345 | GF5-35 | 1428 | 1524 | 1524 | 544 | 25060 |
| FRASR345 - OAKDL345 | 32 | 1255 | 1380 | 1380 | 543 | 25235 |
| FRMGTN-4 - PANNELLI | 4 | 207 | 247 | 280 | 887 | 25080 |
| GALEVILE - KERHNKMK | MK | 33 | 41 | 44 | 425 | 69391 |
| GALEVILE - MODENA 6 | MK | 33 | 41 | 44 | 425 | 69391 |
| GARDV115 - LANGN115 | 903/904 | 139 | 163 | 183 | 524 | 68914 |
| GARDV115 - STOLE115 | 925 | 203 | 226 | 239 | 547 | 25116 |
| GARDV230 - GARDN M6 | #6 | 316 | 409 | 420 | 545 | 25405 |
| GARDV230 - GARDN M7 | #7 | 204 | 246 | 300 | 546 | 25435 |
| GARDV230 - GRDNVL2 | T8-12 | 663 | 739 | 773 | 550 | 25089 |
| GARDV230 - STOLE230 | 66 | 474 | 478 | 478 | 549 | 25180 |
| GERES LK - SOREL-9 | 9 | 142 | 151 | 185 | 890 | 25510 |
| GINNA115 - PANNELLI | 912 | 207 | 247 | 285 | 1074 | 25260 |
| GLNWD GT - ROSLYN | 364 | 291 | 320 | 372 | 42 | 25556 |
| GLNWD NO - SHORE RD | 366 | 447 | 499 | 572 | 44 | 25154 |
| GLNWD SO - CARLE PL | 363 | 291 | 321 | 372 | 19 | 25554 |
| GLNWD SO - SHORE RD | 365 | 492 | 549 | 630 | 46 | 25205 |
| GOETH T - GOETHALS | BKA2253 | 528 | 727 | 817 | 287 | 25642 |
| GOTHLS N - GOWANUSN | 25 | 460 | 683 | 1022 | 290 | 25139 |
| GOTHLS R - GOETH T | BKA2253 | 528 | 727 | 817 | 287 | 25642 |
| GOTHLS S - GOWANUSS | 26 | 460 | 683 | 1022 | 291 | 25571 |
| GOUDY115 - S.OWE115 | 961 | 112 | 131 | 143 | 555 | 25725 |
| GOWANUSN - GOWNUS1T | T2 | 238 | 276 | 328 | 292 | 25476 |
| GOWANUSS - GOWNUS2T | T14 | 238 | 276 | 328 | 293 | 25475 |
| GOWNUS1R - GRENWOOD | 42232 | 226 | 301 | 409 | 301 | 25214 |
| GOWNUS2R - GRENWOOD | 42231 | 226 | 301 | 409 | 297 | 25215 |
| GRDNVL2 - GRDNVL1 | 2 | 257 | 280 | 354 | 677 | 25385 |
| GRDNVL2 - GRDNVL1 | 4 | 141 | 183 | 250 | 679 | 25417 |
| GRDNVL2 - GRDNVL1 | 3 | 141 | 182 | 250 | 678 | 25416 |
| GRDNVL2 - SUNY-79 | 79 | 566 | 654 | 755 | 690 | 25165 |
| GRDNVL2 - SUNY-80 | 80 | 566 | 654 | 755 | 691 | 25196 |
| GRENWOOD - VERNON-E | 31232 | 154 | 239 | 387 | 305 | 25298 |
| GRENWOOD - VERNON-E | 31231 | 154 | 239 | 387 | 304 | 25299 |
| HAE TR1 - HUDAVE E | 32077 | 110 | 155 | 195 | 264 | 25291 |
| HAE TR3 - HUDAVE E | 32078 | 110 | 155 | 195 | 263 | 25292 |
| HAMLT115 - ELBRIDGE | 983 | 125 | 143 | 154 | 878 | 69053 |
| HAMLT115 - FARMGTN1 | 983 | 125 | 143 | 154 | 884 | 69138 |
| HAMLT115 - HAMLTN34 | 1 | 30 | 37 | 56 | 563 | 25394 |
| HAR.CORN - W.NYACK | 751 | 65 | 76 | 79 | 478 | 69314 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| HARRIMAN - SLOSBURG | 31/311 | 112 | 130 | 137 | 479 | 69318 |
| HILLBURN - RINGWOD6 | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| HILLBURN - SLOSBURG | 31/311 | 112 | 130 | 137 | 479 | 69318 |
| HILLBURN - TALLMAN | 59/591 | 50 | 104 | 110 | 469 | 68642 |
| HILSD230 - HILSD M3 | BK#3 | 231 | 294 | 336 | 576 | 25397 |
| HILSD230 - WATRC230 | 69 | 504 | 584 | 657 | 581 | 25181 |
| HINMN115 - LOCKPORT | 100 | 220 | 252 | 280 | 585 | 25087 |
| HOLBROOK - NYPAHOLT | 888 | 703 | 817 | 935 | 2927 | 25542 |
| HOLBROOK - PT JEFF1 | 886 | 284 | 312 | 373 | 61 | 25540 |
| HOLBROOK - RULND RD | 882 | 468 | 520 | 623 | 68 | 25538 |
| HOLBROOK - WADNGRV1 | 884 | 328 | 392 | 434 | 70 | 25341 |
| HOMER CY - STOLE345 | 37 | 605 | 757 | 840 | 630 | 25036 |
| HOMER CY - WATRC345 | 30 | 926 | 927 | 927 | 635 | 25018 |
| HONK FLS - KERHNKMK | MK | 33 | 41 | 44 | 425 | 69391 |
| HUDAVE E - JAMAICA | 702 | 129 | 213 | 366 | 317 | 25295 |
| HUDAVE E - JAMAICA | 701 | 129 | 213 | 366 | 316 | 25294 |
| HUNT - ST.FORES | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| HUNT - WISNER | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| HUNTLEY1 - S129-39 | 38 | 129 | 151 | 185 | 703 | 69428 |
| HUNTLEY1 - ZRMN-130 | 129 | 168 | 181 | 199 | 705 | 69426 |
| HUNTLEY2 - PACKARD2 | 78 | 556 | 644 | 746 | 707 | 25164 |
| HUNTLEY2 - PACKARD2 | 77 | 556 | 644 | 746 | 706 | 25195 |
| HUNTLEY2 - SUNY-79 | 79 | 566 | 654 | 755 | 708 | 25127 |
| HUNTLEY2 - SUNY-80 | 80 | 566 | 654 | 755 | 709 | 25128 |
| HURLEY 3 - HURLEY 1 | BK 1 | 419 | 481 | 488 | 431 | 25419 |
| HURLEY 3 - ROSETON | 303 | 1395 | 1623 | 1870 | 434 | 25218 |
| HYATT115 - ELBRIDGE | 15 | 129 | 148 | 160 | 587 | 25109 |
| INGMS-CD - INGHAM-E | 2 | 167 | 197 | 239 | 898 | 25242 |
| JAMAICA - L SUCSPH | 903 | 238 | 341 | 428 | 78 | 25090 |
| JAMAICA - V STRM P | 901L+M | 272 | 361 | 441 | 118 | 25048 |
| KINTI345 - ROCH 345 | SR1-39 | 1301 | 1501 | 1685 | 624 | 25073 |
| KNAPPS 6 - LAGRANGE | G | 41 | 44 | 51 | 438 | 69534 |
| LADENTWN - RAMAPO | W72 | 1720 | 1890 | 2401 | 320 | 25233 |
| LADENTWN - W.HAV345 | 67 | 1720 | 2214 | 2657 | 321 | 25248 |
| LAGRANGE - PL.VAL 6 | G | 41 | 44 | 51 | 438 | 69534 |
| LAKE RD. - ST.FORES | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| LAUREL L - GOUDY115 | 952 | 108 | 128 | 143 | 556 | 25012 |
| LCST GRV - NEWBRGE | 558 | 393 | 466 | 568 | 2898 | 25158 |
| LEEDS 3 - GILB 345 | GL-3 | 1428 | 1605 | 1912 | 1017 | 25219 |
| LEEDS 3 - N.SCOT77 | 93 | 1331 | 1538 | 1724 | 1029 | 25171 |
| LEEDS 3 - N.SCOT99 | 94 | 1331 | 1538 | 1724 | 1028 | 25203 |
| LOCKPORT - NAKR-108 | 108 | 130 | 136 | 165 | 712 | 25266 |
| LOCKPORT - OAKFLDTP | 112 | 131 | 144 | 159 | 646 | 25300 |
| LOCKPORT - SHEL-113 | 113 | 143 | 165 | 180 | 718 | 25263 |
| LOCKPORT - SOUR-111 | 111 | 131 | 144 | 159 | 717 | 25262 |
| LOCKPORT - TELRDTP1 | 107 | 199 | 199 | 199 | 637 | 25265 |
| LOCKPORT - TELRDTP1 | 114 | 143 | 165 | 180 | 721 | 25264 |
| LONGTAP - NIAG115E | GV-180 | 160 | 166 | 206 | 681 | 25104 |
| LTHSE HL - BLACK RV | 6 | 106 | 114 | 134 | 805 | 25506 |
| LTHSE HL - E WTRTWN | 5 | 116 | 119 | 119 | 840 | 25504 |
| MACDN115 - QUAKER | 930 | 60 | 75 | 112 | 594 | 25093 |
| MALONE - NICHOLVL | 3 | 119 | 128 | 152 | 905 | 25585 |
| MALONE - WILL 115 | WM-1 | 129 | 159 | 175 | 906 | 25586 |
| MARCY765 - MARCY T1 | MAR-AT2 | 1488 | 1793 | 2338 | 908 | 25456 |
| MARCY765 - MARCY T1 | MAR-AT1 | 1488 | 1654 | 1654 | 907 | 25455 |
| MARCY765 - MASS 765 | MSU1 | 3975 | 3975 | 5300 | 911 | 25224 |
| MASS 765 - CHATG-NY | MSC7040 | 3975 | 3975 | 5300 | 825 | 25301 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| MASS 765 - MASS230A | MAS-AT1 | 936 | 1151 | 1348 | 912 | 25665 |
| MASS 765 - MASS230B | MAS-AT2 | 936 | 1151 | 1348 | 914 | 25666 |
| MASS230A - MOSES E | MMS1 | 936 | 1151 | 1348 | 913 | 25274 |
| MASS230B - MOSES E | MMS2 | 936 | 1151 | 1348 | 915 | 25275 |
| MEYER230 - MEYER M4 | BK#4 | 231 | 294 | 336 | 595 | 25398 |
| MEYER230 - STOLE230 | 67 | 430 | 494 | 540 | 598 | 25064 |
| MILAN - N.CAT. 1 | T7 | 124 | 138 | 159 | 441 | 69719 |
| MILAN - PL.VAL 1 | R10 | 129 | 166 | 206 | 338 | 69896 |
| MILLWOOD - MLWD TA | 96922 | 216 | 307 | 346 | 323 | 25530 |
| MILLWOOD - MLWD TA | 96921 | 205 | 297 | 321 | 322 | 25531 |
| MILLWOOD - WOOD B | W80 | 1720 | 2214 | 2657 | 326 | 25148 |
| MLPN-129 - PACK(S)W | 133 | 168 | 181 | 199 | 465 | 69854 |
| MLPN-130 - PACK(S)W | 130 | 168 | 181 | 206 | 764 | 69855 |
| MLPN-130 - SUMIT PK | 130 | 168 | 181 | 206 | 764 | 69855 |
| MORAI115 - BENET115 | 966 | 125 | 152 | 179 | 503 | 68439 |
| MORTIMER - PTSFD-24 | NMP #24 | 129 | 148 | 160 | 728 | 25096 |
| MORTIMER - S33 901 | 901 | 129 | 159 | 159 | 731 | 25097 |
| MORTIMER - S33 901 | 902 | 123 | 139 | 159 | 1117 | 25097 |
| MORTIMER - S80 3TR | 904 | 227 | 251 | 284 | 732 | 25081 |
| MORTIMER - STA 89 | NMP#25 | 114 | 123 | 142 | 729 | 25095 |
| MORTIMER - SWDN-111 | 111 | 129 | 136 | 153 | 723 | 25347 |
| MOS 115 - GR-TAP1 | MAL-6 | 218 | 253 | 291 | 792 | 25582 |
| MOS 115 - GR-TAP2 | MAL-5 | 238 | 275 | 310 | 794 | 25583 |
| MOSES W - MOS 115 | SL-AT1 | 401 | 490 | 646 | 922 | 25411 |
| MOSES W - MOS 115 | SL-AT2 | 401 | 490 | 646 | 923 | 25451 |
| MOSES W - MOS 115 | SL-AT3 | 192 | 240 | 287 | 920 | 25452 |
| MOSES W - MOS 115 | SL-AT4 | 537 | 598 | 773 | 921 | 25453 |
| MOSES W - WILLIS E | MW-2 | 349 | 418 | 512 | 927 | 25188 |
| MOSES W - WILLIS W | MW-1 | 349 | 418 | 512 | 926 | 25271 |
| MOUNTAIN - NIAG115E | MT-121 | 176 | 211 | 240 | 2902 | 25070 |
| MOUNTAIN - NIAG115E | MT-122 | 176 | 211 | 240 | 2903 | 25072 |
| MTNS-120 - NIAG115E | MT-120 | 176 | 211 | 239 | 733 | 25135 |
| N.SCOT1 - AIR INDE | 8 | 278 | 321 | 368 | 2817 | 25496 |
| N.SCOT1 - RTRDM1 | 13 | 241 | 265 | 318 | 1041 | 25494 |
| N.SCOT77 - N.SCOT1 | BK#1 | 458 | 474 | 489 | 1039 | 25445 |
| N.SCOT99 - GILB 345 | GNS-1 | 1242 | 1386 | 1589 | 1018 | 25052 |
| N.SCOT99 - MARCY T1 | UNS-18 | 1488 | 1792 | 1792 | 910 | 25276 |
| N.SCOT99 - N.SCOT1 | BK#2 | 455 | 461 | 484 | 2816 | 25460 |
| N.WAV115 - CHEMU115 | 962 | 112 | 131 | 143 | 577 | 25726 |
| N.WAV115 - LOUNS115 | 962 | 112 | 131 | 143 | 607 | 25727 |
| NEWBRGE - RULND RD | 561 | 255 | 294 | 329 | 81 | 25305 |
| NEWBRGE - RULND RD | 562 | 255 | 294 | 329 | 80 | 25306 |
| NIAG 345 - BECK A | PA302 | 1070 | 1322 | 1714 | 759 | 25041 |
| NIAG 345 - BECK B | PA301 | 1070 | 1322 | 1714 | 758 | 25040 |
| NIAG 345 - NIAGAR2E | N-AT5 | 384 | 479 | 575 | 745 | 25408 |
| NIAG 345 - NIAGAR2E | N-AT3 | 384 | 479 | 575 | 744 | 25450 |
| NIAG 345 - NIAGAR2W | N-AT4 | 767 | 943 | 1104 | 752 | 25449 |
| NIAG 345 – ROCH 345 | NR-2 | 1793 | 1793 | 1793 | 623 | 25074 |
| NIAG 345 – KINTI345 | 38 | 1793 | 1793 | 1793 | 757 | 25084 |
| NIAGAR2W - NIAG115E | N-AT1 | 220 | 276 | 288 | 739 | 25409 |
| NIAGAR2W - NIAG115W | N-AT2 | 286 | 329 | 400 | 747 | 25410 |
| NIAGAR2W - PA27 REG | PA27 | 400 | 460 | 558 | 756 | 25025 |
| NRTHPRT1 - NRTHPRT2 | BUS/PS2 | 407 | 505 | 570 | 91 | 25599 |
| NRTHPRT1 - PILGRIM | 679 | 409 | 575 | 604 | 93 | 25309 |
| NRTHPRT1 - PILGRIM | 677 | 409 | 575 | 604 | 92 | 25308 |
| NRTHPRT1 - PILGRIM | 672 | 204 | 288 | 353 | 94 | 25307 |
| OAKDL230 - OAKDL115 | BK#1 | 275 | 400 | 440 | 609 | 25400 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| OAKDL345 - LAFAYTTE | 4-36 | 1255 | 1380 | 1380 | 614 | 25049 |
| OAKDL345 - OAK2M115 | BK#3 | 428 | 556 | 600 | 571 | 25399 |
| OAKDL345 - OAK3M115 | BK#2 | 428 | 556 | 600 | 610 | 25401 |
| OAKDL345 - WATRC345 | 31 | 926 | 1076 | 1076 | 613 | 25178 |
| OAKWOOD - SYOSSET | 675 | 269 | 358 | 541 | 96 | 25547 |
| ONEIDA - PETRBORO | 5 | 116 | 120 | 145 | 940 | 25896 |
| OSW 3&4 - S OSWEGO | 5 | 209 | 239 | 239 | 952 | 25508 |
| OSW 3&4 - S OSWEGO | 8 | 400 | 462 | 478 | 953 | 25509 |
| OSWEGO - OSW 3&4 | BK 7 | 496 | 552 | 690 | 966 | 25372 |
| OSWEGO - VOLNEY | 11 | 1200 | 1326 | 1685 | 948 | 25199 |
| OSWEGO - VOLNEY | 12 | 1200 | 1326 | 1685 | 949 | 25201 |
| OW CRN W - UNVL 9TP | 2 | 116 | 120 | 145 | 450 | 25067 |
| PACK(N)E - NIAG115E | PK-191 | 248 | 299 | 354 | 742 | 25075 |
| PACK(N)E - NIAG115E | PK-192 | 248 | 299 | 354 | 741 | 25099 |
| PACK(S)W - NIAG115W | PK-194 | 248 | 299 | 354 | 750 | 25100 |
| PACK(S)W - NIAG115W | PK-193 | 248 | 299 | 354 | 749 | 25101 |
| PACK(S)W - NIAG115W | PK-195 | 233 | 253 | 335 | 751 | 25102 |
| PACKARD2 - BP76 REG | BP76 | 478 | 492 | 569 | 763 | 25024 |
| PACKARD2 - NIAGAR2W | PK-62 | 620 | 717 | 841 | 755 | 25186 |
| PACKARD2 - NIAGAR2W | PK-61 | 620 | 717 | 841 | 754 | 25220 |
| PACKARD2 - PACK(N)E | 3 | 141 | 182 | 250 | 760 | 25414 |
| PACKARD2 - PACK(S)W | 2 | 106 | 136 | 183 | 761 | 25383 |
| PACKARD2 - PACK(S)W | 4 | 141 | 182 | 250 | 762 | 25415 |
| PALMT115 - ANDOVER1 | 932 | 78 | 85 | 98 | 615 | 25094 |
| PALOMA - S OSWEGO | 6 | 114 | 120 | 142 | 903 | 25513 |
| PALOMA - S OSWEGO | 6 | 116 | 120 | 145 | 954 | 25513 |
| PANNELL3 - PANNELLI | 122 2TR | 255 | 320 | 330 | 771 | 25396 |
| PANNELL3 - PANNELLI | 122 1TR | 255 | 320 | 330 | 770 | 25431 |
| PANNELLI - QUAKER | 914 | 207 | 247 | 285 | 1081 | 25261 |
| PANNELLI - QUAKER | 883/889 | 468 | 515 | 654 | 67 | 25682 |
| PANNELLI - QUAKER | 925 | 275 | 300 | 355 | 136 | 25682 |
| PARK TR1 - PARK1REG | R11 | 215 | 301 | 379 | 330 | 25649 |
| PARK TR2 - PARK2REG | R12 | 215 | 301 | 379 | 333 | 25650 |
| PAWLN115 - SYLVN115 | 990/994 | 176 | 179 | 179 | 188 | 68887 |
| PILGRIM - RULND RD | 661 | 549 | 549 | 549 | 105 | 25310 |
| PILGRIM - RULND RD | 662 | 549 | 549 | 549 | 104 | 25311 |
| PL VILLE - PLTVILLE | 1 | 59 | 67 | 67 | 345 | 25477 |
| PL VILLW - PLTVILLE | 2 | 59 | 67 | 67 | 344 | 25478 |
| PL VILLW - WOOD A | Y87 | 1839 | 2605 | 3105 | 352 | 25132 |
| PL.VAL 1 - PLTVLLEY | BK S1 | 415 | 450 | 450 | 334 | 25382 |
| PLAT 115 - T MIL RD | PS-1/B | 96 | 123 | 150 | 959 | 25078 |
| PLAT T#1 - WILLIS E | WP-1 | 170 | 203 | 249 | 967 | 25272 |
| PLAT T#4 - WILLIS W | WP-2 | 170 | 203 | 249 | 956 | 25273 |
| PLTVLLEY - LEEDS 3 | 91 | 1331 | 1538 | 1724 | 347 | 25054 |
| PLTVLLEY - LEEDS 3 | 92 | 1331 | 1538 | 1724 | 348 | 25056 |
| PLTVLLEY - WOOD B | F30 | 1720 | 2214 | 2657 | 346 | 25237 |
| PORTER 1 - ILION | 5 | 116 | 120 | 145 | 896 | 25232 |
| PORTER 1 - ILION | 2 | 116 | 120 | 145 | 991 | 25232 |
| PORTER 1 - VALLEY | 4 | 116 | 120 | 145 | 973 | 25231 |
| PORTER 2 - ADRON B1 | AP11 | 321 | 353 | 449 | 783 | 25051 |
| PORTER 2 - ADRON B2 | AP12 | 321 | 353 | 449 | 785 | 25082 |
| PORTER 2 - PORTER 1 | 2 | 268 | 320 | 338 | 972 | 25389 |
| PORTER 2 - PORTER 1 | 1 | 268 | 320 | 338 | 971 | 25423 |
| PORTER 2 - ROTRDM.2 | 30 | 440 | 505 | 560 | 974 | 25173 |
| PORTER 2 - ROTRDM.2 | 31 | 439 | 505 | 560 | 975 | 25194 |
| PTSFD-24 - PANNELLI | 24 | 129 | 148 | 160 | 1079 | 69863 |
| PTSFD-25 - PANNELLI | 25 | 114 | 123 | 142 | 1080 | 69862 |

# NYISO WINTER 2001-02 OPERATING STUDY
## WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| QUENBRDG - VERNON-E | 31282 | 308 | 478 | 602 | 354 | 25159 |
| QUENBRDG - VERNON-W | 31281 | 312 | 542 | 602 | 353 | 25160 |
| RAINEY - 8E DUM | 36311 | 215 | 302 | 348 | 358 | 25296 |
| RAINEY - 8W DUM | 36312 | 215 | 305 | 358 | 359 | 25297 |
| RAM PAR - RAMAPO | BK4500 | 545 | 741 | 999 | 2806 | 25370 |
| RAM PAR - RAMAPO | BK3500 | 545 | 741 | 999 | 2805 | 25371 |
| RAMAPO - RAMAPO 1 | 1300 | 391 | 513 | 567 | 363 | 25441 |
| RAMAPO - RAMAPO 1 | 2300 | 391 | 513 | 567 | 362 | 25442 |
| RAMAPO - SMAHWAH1 | 69 | 1226 | 1737 | 2271 | 364 | 25021 |
| RAMAPO - SMAHWAH2 | 70 | 1720 | 1890 | 2401 | 365 | 25259 |
| RAMAPO 5 - RAM PAR | 1500 | 995 | 1304 | 1752 | 360 | 25656 |
| REYNLD3 - REY. RD. | BK#2 | 459 | 562 | 755 | 1050 | 25403 |
| ROBIN230 - NIAGAR2E | RR-64 | 496 | 598 | 704 | 618 | 25088 |
| ROBIN230 - ROBIN M1 | BK#1 | 297 | 367 | 420 | 616 | 25395 |
| ROBIN230 - STOLE230 | 65 | 550 | 637 | 717 | 617 | 25065 |
| ROCH 345 - PANNELL3 | RP-1 | 1301 | 1501 | 1685 | 767 | 25192 |
| ROCH 345 - PANNELL3 | RP-2 | 1301 | 1501 | 1685 | 766 | 25172 |
| ROCH 345 - S80 1TR | BK #1TR | 207 | 247 | 284 | 772 | 25412 |
| ROCH 345 - S80 3TR | BK #3TR | 245 | 296 | 360 | 774 | 25446 |
| ROCK TAV - COOPC345 | CRT-34 | 1464 | 1793 | 1793 | 2800 | 25110 |
| ROCK TAV - COOPC345 | CRT-42 | 1554 | 1733 | 1793 | 2801 | 25111 |
| ROCK TAV - ROCK TV1 | BK TR | 396 | 445 | 445 | 457 | 25406 |
| ROCK TV1 - SUGARLF | SL/6108 | 179 | 196 | 206 | 498 | 25420 |
| ROSETON - FISHKILL | RFK-305 | 1935 | 2677 | 3137 | 272 | 25108 |
| RTRDM1 - ROTRDM.2 | BK#6 | 345 | 375 | 522 | 1056 | 25407 |
| RTRDM1 - ROTRDM.2 | BK#7 | 300 | 355 | 402 | 1057 | 25392 |
| RTRDM1 - ROTRDM.2 | BK#8 | 326 | 369 | 423 | 1058 | 25413 |
| S.PER115 - STA 162 | T224 | 125 | 152 | 180 | 625 | 25062 |
| SANBORNT - NIAG115E | LK-101 | 233 | 253 | 318 | 713 | 25267 |
| SARANAC - T MIL RD | PS-1/B | 96 | 123 | 150 | 959 | 25078 |
| SCRIBA - 9M PT 2G | 23 | 1670 | 1931 | 2211 | 981 | 70513 |
| SCRIBA - 9MI PT1 | 9 | 994 | 1109 | 1271 | 980 | 25359 |
| SCRIBA - JA FITZP | FS-10 | 1434 | 1434 | 1912 | 900 | 25076 |
| SCRIBA - VOLNEY | 20 | 1200 | 1396 | 1686 | 978 | 25204 |
| SCRIBA - VOLNEY | 21 | 1670 | 1912 | 1912 | 979 | 25314 |
| SHEL-113 - SWDN-113 | 113 | 129 | 149 | 153 | 724 | 25263 |
| SHORE RD - L SUCS | 368 | 208 | 346 | 604 | 76 | 25150 |
| SHORE RD - L SUCS | 367 | 208 | 346 | 604 | 75 | 25145 |
| SHORE RD - SHORE RD | BK#2 | 457 | 569 | 731 | 114 | 25440 |
| SHORE RD - SHORE RD | BK#1 | 457 | 569 | 731 | 113 | 25439 |
| SLEIG115 - QUAKER | NMP #13 | 150 | 170 | 189 | 621 | 25079 |
| SMAHWAH1 - S.MAHWAH | 258 | 436 | 528 | 602 | 496 | 25393 |
| SNBRN102 - NIAG115E | LK-102 | 233 | 253 | 318 | 743 | 25103 |
| SOUR-114 - MORTIMER | 114 | 129 | 149 | 153 | 725 | 25349 |
| SPRBROOK - REACBUS | Y49 | 660 | 936 | 1392 | 2856 | 25105 |
| SPRBROOK - TREMONT | X28 | 452 | 656 | 879 | 373 | 25175 |
| SPRBROOK - W 49 ST | M52 | 774 | 866 | 1291 | 375 | 25223 |
| SPRBROOK - W 49 ST | M51 | 774 | 866 | 1291 | 374 | 25053 |
| STATE115 - CLTNCORN | 971/3 | 108 | 128 | 145 | 510 | 25063 |
| STATE115 - ELBRIDGE | 972/5 | 108 | 128 | 145 | 627 | 25107 |
| STILV115 - HANCO115 | 954/955 | 102 | 113 | 120 | 565 | 69271 |
| STOLE345 - STOLE115 | #4 | 305 | 387 | 420 | 629 | 25462 |
| STOLE345 - STOLE115 | #3 | 300 | 370 | 420 | 628 | 25461 |
| SUGARLF6 - WISNER | 89/993 | 112 | 130 | 137 | 483 | 69353 |
| TEALL - ONEIDA | 2 | 116 | 120 | 145 | 939 | 25895 |
| TREMONT - PARK TR1 | R11 | 215 | 301 | 379 | 350 | 25473 |
| TREMONT - PARK TR2 | R12 | 215 | 301 | 379 | 351 | 25474 |

NYISO WINTER 2001-02 OPERATING STUDY
WINTER ONLINE RATINGS

| LINE NAME | LINE_ID | NORMAL | LTE | STE | MGF_NO | PTID |
|---|---|---|---|---|---|---|
| VOLNEY - MARCY T1 | VU-19 | 1434 | 1793 | 1912 | 909 | 25345 |
| W.HAV345 - W.HAVERS | BK#194 | 432 | 558 | 623 | 382 | 25447 |
| W.WDB115 - W.WDBR69 | T152 | 48 | 50 | 50 | 467 | 25404 |
| WALDA113 - AM.S-182 | 923 | 38 | 39 | 42 | 633 | 25429 |
| WARREN - FALCONER | 171 | 82 | 120 | 136 | 673 | 25015 |
| WATRC345 - WATRC230 | BK#1 | 452 | 584 | 600 | 634 | 25402 |
| WHITMAN - ONEIDA | 3 | 125 | 143 | 154 | 855 | 25894 |
| WILLIS E - WILL 115 | WIL-AT1 | 150 | 184 | 216 | 984 | 25388 |
| WILLIS W - WILL 115 | WIL-AT2 | 150 | 184 | 216 | 983 | 25390 |
| WOODA345 - WOODS115 | BK#1 | 327 | 409 | 420 | 384 | 25437 |
| WOODB345 - WOODS115 | BK#2 | 325 | 406 | 420 | 383 | 25438 |
| WOODS115 - AMWLK115 | 996 | 215 | 247 | 275 | 327 | 25574 |
| WYANT115 - REY. RD. | 13 | 186 | 214 | 237 | 1052 | 69928 |

# APPENDIX E

# INTERFACE DEFINITIONS AND GENERATION CHANGES ASSUMED FOR THERMAL ANALYSIS

NYISO Operating Study
Winter 2001-2002

# 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-Shoemaker Tap* | 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 | BK |

### 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 |

## 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 |

***** indicates the metered end of circuit

**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 |

**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 |
| *Fishkill Plains - Sylvan Lake | A/990 | 115 |
| East Fishkill *345/115 | F33 | 345 |
| East Fishkill 115/345 | | 115/345 |

***** indicates the metered end of circuit

**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 |

**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 |

***** indicates the metered end of circuit

| 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 |

| 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 |

***** indicates the metered end of circuit

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 | 43.9 | 1043.9 | 1000.0 | 74190 | ROSE GN124.0 | 343.7 | 263.7 | -80.0 |
| | | | | | 74702 | RAV 3 22.0 | 0.0 | -260.0 | -260.0 |
| | | | | | 74703 | AK 2 20.0 | 350.0 | 270.0 | -80.0 |
| | | | | | 74705 | AST 4 20.0 | 300.0 | 220.0 | -80.0 |
| | | | | | 74907 | NRTPTG2 22.0 | 350.0 | 250.0 | -100.0 |
| | | | | | 74908 | NRTPTG3 22.0 | 350.0 | 250.0 | -100.0 |
| | | | | | 79391 | BOWLIN2020.0 | 592.0 | 472.0 | -120.0 |
| | | | | | 79546 | POLETTI 26.0 | 855.0 | 675.0 | -180.0 |

SPRAINBROOK/DUNWODIE SOUTH

| <---------- STUDY SYSTEM ----------> | | | | <---------- OPPOSING SYSTEM ----------> | | | |
|---|---|---|---|---|---|---|---|
| | | <---- GENERATOR MW ----> | | | | <---- GENERATOR MW ----> | |
| BUS | BUS NAME | BASE | SHIFT | CHANGE | BUS | BUS NAME | BASE | SHIFT | CHANGE |
| 80900 | LAKEVWG518.0 | 43.9 | 493.9 | 450.0 | 74702 | RAV 3 22.0 | 0.0 | -300.0 | -300.0 |
| 81422 | LENNOXG220.0 | 525.0 | 1075.0 | 550.0 | 74703 | AK 2 20.0 | 350.0 | 250.0 | -100.0 |
| | | | | | 74705 | AST 4 20.0 | 300.0 | 200.0 | -100.0 |
| | | | | | 74907 | NRTPTG2 22.0 | 350.0 | 250.0 | -100.0 |
| | | | | | 74908 | NRTPTG3 22.0 | 350.0 | 250.0 | -100.0 |
| | | | | | 79546 | POLETTI 26.0 | 855.0 | 555.0 | -300.0 |

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 | 43.9 | 243.9 | 200.0 | 74302 | ER G7 13.2 | 70.0 | 0.0 | -70.0 |
| 81422 | LENNOXG220.0 | 525.0 | 925.0 | 400.0 | 74702 | RAV 3 22.0 | 0.0 | -300.0 | -300.0 |
| 81424 | LENNOXG320.0 | 0.0 | 400.0 | 400.0 | 74705 | AST 4 20.0 | 300.0 | 100.0 | -200.0 |
| | | | | | 74706 | AST 5 20.0 | 288.1 | 188.1 | -100.0 |
| | | | | | 74707 | RAV 1 20.0 | 259.3 | 109.3 | -150.0 |
| | | | | | 74907 | NRTPTG2 22.0 | 350.0 | 170.0 | -180.0 |

GENERATION PARICIPATION FOR INTERFACES

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 | 74.6 | 324.6 | 250.0 | 74702 | RAV 3 22.0 | 0.0 | -50.0 | -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 | 343.7 | 443.7 | 100.0 | 74900 | BARETG1 20.0 | 190.0 | 100.0 | -90.0 |
| 74302 | ER G7 13.2 | 70.0 | 103.3 | 33.3 | 74907 | NRTPTG2 22.0 | 350.0 | 230.0 | -120.0 |
| 74700 | AK 3 22.0 | 0.0 | 66.7 | 66.7 | 74908 | NRTPTG3 22.0 | 350.0 | 230.0 | -120.0 |
| 74705 | AST 4 20.0 | 300.0 | 333.3 | 33.3 | 74909 | NRTPTG4 22.0 | 350.0 | 230.0 | -120.0 |
| 74706 | AST 5 20.0 | 288.1 | 354.8 | 66.7 | 74942 | NYPA108 13.8 | 105.7 | 55.7 | -50.0 |
| 74707 | RAV 1 20.0 | 259.3 | 359.3 | 100.0 | | | | | |
| 79546 | POLETTI 26.0 | 855.0 | 955.0 | 100.0 | | | | | |

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 | 0.0 | 500.0 | 500.0 | 74190 | ROSE GN124.0 | 344.5 | 194.5 | -150.0 |
| 81425 | LENNOXG420.0 | 0.0 | 500.0 | 500.0 | 74702 | RAV 3 22.0 | 0.0 | -400.0 | -400.0 |
| | | | | | 76640 | DUNKGEN313.8 | 180.0 | 130.0 | -50.0 |
| | | | | | 77051 | HNTLY68G13.8 | 190.6 | 140.6 | -50.0 |
| | | | | | 78955 | ALBY STM13.2 | 370.7 | 320.7 | -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 | 342.7 | 492.7 | 150.0 | 80898 | LAKEVWG216.0 | 300.0 | 50.0 | -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 | 370.7 | 470.7 | 100.0 | 81764 | NANTICG722.0 | 500.0 | 250.0 | -250.0 |
| 79390 | BOWLINE 20.0 | 0.0 | 450.0 | 450.0 | 81765 | NANTICG622.0 | 500.0 | 250.0 | -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 |
| 356 | PENNTECH13.8 | 0.0 | 23.4 | 23.4 | 74700 | AK 3 22.0 | 0.0 | -206.0 | -206.0 |
| 1735 | PORT 5CT13.8 | 0.0 | 117.4 | 117.4 | 74702 | RAV 3 22.0 | 0.0 | -206.0 | -206.0 |
| 2901 | GG A1&2 13.8 | 0.0 | 16.0 | 16.0 | 76641 | DUNKGEN413.8 | 180.0 | 20.0 | -160.0 |
| 2902 | GG A3&4 13.8 | 0.0 | 32.0 | 32.0 | 77950 | 9M PT 2G25.0 | 1212.0 | 612.0 | -600.0 |
| 2903 | GG B5&6 13.8 | 0.0 | 16.0 | 16.0 | 77952 | OSWGO 5G22.0 | 394.5 | -45.5 | -440.0 |
| 2904 | GG B7&8 13.8 | 0.0 | 32.0 | 32.0 | 79546 | POLETTI 26.0 | 651.0 | 263.0 | -388.0 |
| 2918 | GILCT1&213.8 | 0.0 | 36.0 | 36.0 | | | | | |
| 2919 | GILCT3&413.8 | 0.0 | 36.0 | 36.0 | | | | | |
| 2922 | RRCT3&4 13.8 | 0.0 | 86.7 | 86.7 | | | | | |
| 2937 | O CRK C113.8 | 0.0 | 30.0 | 30.0 | | | | | |
| 2938 | O CRK C213.8 | 0.0 | 30.0 | 30.0 | | | | | |
| 3150 | MTN CK 324.0 | 246.5 | 448.9 | 202.4 | | | | | |
| 3151 | MTN CK 424.0 | 246.2 | 449.4 | 203.2 | | | | | |
| 4099 | DELWARE713.8 | 0.0 | 70.1 | 70.1 | | | | | |
| 4100 | DELWARE813.8 | 0.0 | 68.0 | 68.0 | | | | | |
| 4113 | EDDYSTN324.0 | 0.0 | 25.4 | 25.4 | | | | | |
| 4283 | SCHYLKL113.8 | 15.0 | 22.3 | 7.3 | | | | | |
| 4961 | BERGEN 138 | 0.0 | 12.7 | 12.7 | | | | | |
| 5044 | COGEN TE 138 | 0.0 | 1.1 | 1.1 | | | | | |
| 5066 | KRNY9&1013.0 | 0.0 | 92.7 | 92.7 | | | | | |
| 5067 | KEARNY1113.0 | 0.0 | 80.0 | 80.0 | | | | | |
| 5075 | LINDN1-424.0 | 0.0 | 13.3 | 13.3 | | | | | |
| 5076 | LINDEN 224.0 | 0.0 | 10.0 | 10.0 | | | | | |
| 5078 | LINDEN I26.0 | 0.0 | 48.7 | 48.7 | | | | | |
| 5120 | SEWAREN113.0 | 71.4 | 87.7 | 16.3 | | | | | |
| 5121 | SEWAREN213.0 | 97.0 | 107.2 | 10.2 | | | | | |
| 5122 | SEWAREN313.0 | 85.6 | 93.6 | 8.0 | | | | | |
| 5906 | GOULD G313.8 | 0.0 | 32.5 | 32.5 | | | | | |

| | | | | |
|---|---|---|---|---|
| 5907 | N.C G1-413.8 | 0.0 | 45.4 | 45.4 |
| 5908 | N.C G5-813.8 | 0.0 | 45.4 | 45.4 |
| 5914 | RVRSDEG413.8 | 0.0 | 21.6 | 21.6 |
| 5917 | WAGNERG116.5 | 87.6 | 113.0 | 25.4 |
| 5920 | WAGNERG424.0 | 0.0 | 202.8 | 202.8 |
| 6843 | PENWD 4G13.8 | 36.3 | 37.4 | 1.1 |
| 6844 | PENWD 3G13.8 | 36.3 | 37.4 | 1.1 |
| 6845 | PENWD 2G13.8 | 36.3 | 37.4 | 1.1 |
| 6846 | PENWD 1G13.8 | 36.3 | 37.4 | 1.1 |
| 7107 | CHALK U424.0 | 577.9 | 580.0 | 2.1 |

NYISO - PJM

| <---------- STUDY SYSTEM ----------> | | | | | <---------- OPPOSING SYSTEM ----------> | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | <---- GENERATOR MW ----> | | | | | <---- GENERATOR MW ----> | | |
| BUS | BUS NAME | BASE | SHIFT | CHANGE | BUS | BUS NAME | BASE | SHIFT | CHANGE |
| 74195 | DANSK G213.8 | 50.0 | 86.0 | 36.0 | 601 | HOMER C122.0 | 620.0 | 300.0 | -320.0 |
| 74196 | DANSK G113.8 | 50.0 | 81.8 | 31.8 | 3149 | MTN CK 218.0 | 150.0 | 50.0 | -100.0 |
| 74352 | NARRGT1A13.8 | 0.0 | 43.5 | 43.5 | 3150 | MTN CK 324.0 | 0.0 | -460.0 | -460.0 |
| 74353 | NARRGT1B13.8 | 0.0 | 43.5 | 43.5 | 4112 | EDDYSTN220.0 | 0.0 | -200.0 | -200.0 |
| 74358 | NARRGT2A13.8 | 0.0 | 43.5 | 43.5 | 4192 | MDYRN3-413.8 | 230.0 | 30.0 | -200.0 |
| 74359 | NARRGT2B13.8 | 0.0 | 43.5 | 43.5 | 4193 | MDYRN5-613.8 | 220.0 | 20.0 | -200.0 |
| 74727 | RNYGT4-713.8 | 0.0 | 34.3 | 34.3 | 5055 | BERGEN 124.0 | 216.0 | 96.0 | -120.0 |
| 74728 | RYYGT81113.8 | 0.0 | 37.3 | 37.3 | 5167 | HUDSON 224.0 | 620.0 | 220.0 | -400.0 |
| 74777 | GRNWD1GT13.0 | 0.0 | 67.1 | 67.1 | | | | | |
| 74778 | GRNWD2GT13.0 | 0.0 | 67.1 | 67.1 | | | | | |
| 74786 | RNY 2EGT13.0 | 0.0 | 31.8 | 31.8 | | | | | |
| 74787 | RNY 7EGT13.0 | 0.0 | 31.8 | 31.8 | | | | | |
| 74788 | RNY 7WGT13.0 | 0.0 | 31.8 | 31.8 | | | | | |
| 74789 | RNY 9EGT13.0 | 0.0 | 31.8 | 31.8 | | | | | |
| 74903 | SHRHM GT13.8 | 0.0 | 28.1 | 28.1 | | | | | |
| 74910 | PTJEFG1 13.8 | 0.0 | 25.6 | 25.6 | | | | | |
| 74911 | PTJEFG2 13.8 | 0.0 | 25.6 | 25.6 | | | | | |
| 74918 | HOLT6-1013.8 | 250.0 | 332.0 | 82.0 | | | | | |
| 74919 | HOLTS1-513.8 | 100.0 | 176.5 | 76.5 | | | | | |
| 74920 | WADNGRV313.8 | 0.0 | 49.2 | 49.2 | | | | | |
| 74932 | GLNWDGT213.8 | 0.0 | 28.1 | 28.1 | | | | | |
| 74933 | GLNWDGT313.8 | 0.0 | 28.1 | 28.1 | | | | | |
| 76548 | INDEK-OL 115 | 79.0 | 127.9 | 48.9 | | | | | |
| 76807 | AM BRASS 115 | 62.0 | 100.5 | 38.5 | | | | | |
| 77121 | SENECAP 115 | 44.0 | 81.3 | 37.3 | | | | | |
| 77450 | GERES LK 115 | 159.0 | 212.4 | 53.4 | | | | | |
| 77952 | OSWGO 5G22.0 | 732.5 | 1260.3 | 527.8 | | | | | |
| 77978 | ESYR GT113.2 | 0.0 | 22.4 | 22.4 | | | | | |

| | | | | |
|---|---|---|---|---|
| 78022 | FT. DRUM 115 | 32.0 | 63.0 | 31.0 |
| 79391 | BOWLIN2020.0 | 592.0 | 805.1 | 213.1 |
| 79655 | ILION 115 | 54.7 | 84.0 | 29.3 |
| 79657 | JAMESTWN13.2 | 60.0 | 106.7 | 46.7 |
| 79995 | KAMIN 1313.8 | 41.0 | 75.3 | 34.3 |

GENERATION PARTICIPATION FOR INTERFACES

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 | 345.0 | 645.0 | 300.0 | 71063 | MYST G7 22.0 | 425.0 | 175.0 | -250.0 |
| 74700 | AK 3 22.0 | 0.0 | 200.0 | 200.0 | 71252 | CANAL G218.0 | 160.0 | -140.0 | -300.0 |
| 74702 | RAV 3 22.0 | 0.0 | 100.0 | 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 | 425.0 | 675.0 | 250.0 | 74193 | DANSK G416.1 | 241.0 | 41.0 | -200.0 |
| 71252 | CANAL G218.0 | 160.0 | 460.0 | 300.0 | 74702 | RAV 3 22.0 | 0.0 | -200.0 | -200.0 |
| 72868 | NWNGT G124.0 | 0.0 | 250.0 | 250.0 | 78955 | ALBY STM13.2 | 370.7 | 170.7 | -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 2001-2002

| | | | % Pickup of Transfer | KINTI-ROCH | NIAGAR-ROCH | STOLLE-MEYER | LOCKPT-SOUR | LOCKPT-SHEL | NIAGAR-ROCH |
|---|---|---|---|---|---|---|---|---|---|
| STOLE230 230 | MEYER230 230 | 1 | 12.4% | 6.1% | 7.4% | TRIP | 6.8% | 6.2% | 13.6% |
| GOLAH66K66.0 | MORT66KV66.0 | 1 | | 0.3% | 0.3% | 0.3% | 0.8% | 0.7% | 0.6% |
| LOCKPORT 115 | NAKR-108 115 | 1 | 1.4% | 1.3% | 1.6% | 1.5% | 4.1% | 3.8% | 3.0% |
| LOCKPORT 115 | OAKFLDTP 115 | 1 | 1.7% | 1.6% | 1.9% | 1.8% | 4.9% | 4.5% | 3.5% |
| LOCKPORT 115 | SOUR-111 115 | 1 | 3.5% | 3.3% | 4.0% | 3.7% | TRIP | 12.1% | 7.3% |
| LOCKPORT 115 | SHEL-113 115 | 1 | 3.7% | 3.5% | 4.2% | 3.9% | 14.2% | TRIP | 7.8% |
| LOCKPORT 115 | TELRDTP1 115 | 1 | 1.7% | 1.6% | 1.9% | 1.8% | 6.2% | 6.7% | 3.5% |
| LOCKPORT 115 | TELRDTP1 115 | 1 | 3.6% | 3.4% | 4.1% | 3.8% | 11.7% | 19.3% | 7.5% |
| KINTI345 345 | ROCH 345 345 | 1 | 29.2% | TRIP | 45.5% | 15.0% | 14.8% | 13.4% | O/S |
| NIAG 345 345 | ROCH 345 345 | 1 | 42.8% | 55.0% | TRIP | 21.9% | 21.7% | 19.7% | TRIP |
| | | | | --- | --- | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 76.1% | 71.0% | 53.6% | 85.2% | 86.6% | 46.9% |
| ***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% | 99.6% | 99.5% | 97.3% | 100.2% | 100.2% | 99.1% |

TABLE 2

DISTRIBUTION FACTORS FOR WEST CENTRAL CIRCUITS

Winter 2001-2002

| | | | % Pickup of Transfer | PANNEL-CLAY | STOLLE-MEYER | S121-SLEGH | PANNEL-FARM | PANNEL-CLAY |
|---|---|---|---|---|---|---|---|---|
| PANNELL3 345 | CLAY 345 | 1 | 37.5% | TRIP | 9.9% | 18.8% | 20.0% | O/S |
| PANNELL3 345 | CLAY 345 | 2 | 37.6% | 58.1% | 9.9% | 18.8% | 20.1% | TRIP |
| STOLE230 230 | MEYER230 230 | 1 | 12.4% | 2.9% | TRIP | 3.0% | 7.7% | 6.8% |
| MORTIMER 115 | LAWLER-1 115 | 1 | 3.1% | 2.5% | 1.0% | 4.0% | 16.9% | 6.0% |
| MORTIMER 115 | LAWLER-2 115 | 1 | 3.2% | 2.9% | 0.9% | 4.6% | 4.0% | 6.9% |
| S121 B#2 115 | SLEIG115 115 | 1 | 2.9% | 3.6% | 2.0% | TRIP | 11.2% | 8.5% |
| PANNELLI 115 | FRMGTN-4 115 | 1 | 3.4% | 6.1% | 8.2% | 18.1% | TRIP | 14.6% |
| STA 162 115 | S.PER115 115 | 1 | -0.3% | 2.4% | 21.3% | 2.4% | 6.4% | 5.6% |
| QUAKER 115 | MACDN115 115 | 1 | 0.3% | 0.4% | 0.3% | 19.9% | 2.6% | 1.0% |
| | | | | --- | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 78.8% | 53.5% | 89.6% | 89.0% | 49.5% |
| ***L33P-L34P*** | | | | 7.6% | 8.6% | 3.1% | 2.4% | 18.3% |
| ***PJM-NYISO*** | | | | 13.4% | 35.1% | 6.6% | 6.7% | 31.9% |
| | | | --- | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 100.0% | 99.8% | 97.2% | 99.2% | 98.2% | 99.6% |

TABLE 3

DISTRIBUTION FACTORS FOR TOTAL EAST CIRCUITS

Winter 2001-2002

| | | | % 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 | 18.3% | 13.7% | TRIP | 32.6% | 19.4% | 3.2% | 0.2% | 1.5% | 2.6% | 1.5% | 2.2% |
| MARCY T1 345 | N.SCOT99 345 | 1 | 19.7% | 14.5% | 34.4% | TRIP | 21.0% | 3.5% | 0.2% | 1.6% | 2.8% | 1.7% | 2.4% |
| PORTER 2 230 | ROTRDM.2 230 | 1 | 4.3% | TRIP | 5.3% | 5.4% | 3.1% | 0.7% | 0.0% | 0.3% | 0.6% | 0.3% | 0.5% |
| PORTER 2 230 | ROTRDM.2 230 | 2 | 4.4% | 34.0% | 5.5% | 5.5% | 3.2% | 0.8% | 0.0% | 0.4% | 0.6% | 0.4% | 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 | 1.3% | 3.5% | 3.1% | 3.3% | 1.9% | 0.8% | 0.0% | 0.3% | 0.5% | 0.4% | 0.6% |
| FRASR345 345 | GILB 345 345 | 1 | 16.4% | 9.2% | 22.8% | 23.4% | TRIP | 3.5% | 0.2% | 2.3% | 3.6% | 1.3% | 3.4% |
| BRANCHBG 500 | RAMAPO 5 500 | 1 | 0.0% | 1.9% | 3.2% | 3.3% | 3.0% | TRIP | 3.0% | 7.4% | 20.8% | 26.3% | 11.5% |
| COOPC345 345 | SHOEMTAP 345 | 1 | 17.5% | 3.8% | 6.9% | 7.2% | 18.3% | 4.8% | 0.3% | 0.3% | 1.5% | 3.5% | 0.4% |
| COOPC345 345 | ROCK TAV 345 | 2 | 16.7% | 3.8% | 6.9% | 7.2% | 17.6% | 4.5% | 0.4% | 0.4% | 1.5% | 3.3% | 0.7% |
| HUDSON1 345 | FARRGUT1 345 | 1 | 0.0% | 1.0% | 1.7% | 1.7% | 2.2% | 8.5% | 2.8% | TRIP | 19.5% | 25.3% | O/S |
| HUDSON2 345 | FARRGUT2 345 | 1 | 0.0% | 1.0% | 1.7% | 1.7% | 2.2% | 8.5% | 2.9% | 31.4% | 19.9% | 25.8% | TRIP |
| LINDEN 230 | GOETHALS 230 | 1 | 0.0% | 1.0% | 1.7% | 1.7% | 2.0% | 13.5% | 1.1% | 12.3% | TRIP | 9.7% | 16.1% |
| WALDWICK 345 | SMAHWAH1 345 | 1 | 0.2% | 0.8% | 1.4% | 1.4% | 1.0% | 23.5% | 88.9% | 21.2% | 13.1% | O/S | 31.2% |
| WALDWICK 345 | SMAHWAH2 345 | 1 | 0.2% | 0.8% | 1.4% | 1.4% | 1.1% | 23.3% | TRIP | 20.4% | 12.5% | TRIP | 29.9% |
| | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***TOALS*** | | | 100.0% | 99.6% | 99.3% | 99.3% | 99.1% | 99.6% | 100.0% | 99.9% | 99.9% | 99.8% | 99.8% |

TABLE 4

DISTRIBUTION FACTORS FOR UPNY-CONED CIRCUITS

Winter 2001-2002

| | | | % Pickup of Transfer | PLVLLY-MILLW | PLVLLY-FISHK | RAMAPO-BUCHN | LADNTW-BUCHS | LINDEN-GOETH | HUDSON-FARGT | ROSETN-FISHK |
|---|---|---|---|---|---|---|---|---|---|---|
| ROSETON 345 | FISHKILL 345 | 1 | 20.3% | -11.3% | 15.3% | 16.0% | 22.0% | 9.9% | 9.0% | TRIP |
| PLTVLLEY 345 | MILLWOOD 345 | 1 | 17.4% | TRIP | 8.8% | 3.1% | 12.8% | 3.0% | 2.0% | -8.9% |
| PLTVLLEY 345 | FISHKILL 345 | 1 | 7.6% | 24.0% | TRIP | -0.5% | -7.1% | 1.1% | 0.7% | 32.4% |
| PLTVLLEY 345 | FISHKILL 345 | 2 | 7.6% | 24.0% | 66.6% | -0.5% | -7.1% | 1.1% | 0.7% | 32.4% |
| PLTVLLEY 345 | WOOD B 345 | 1 | 17.1% | 35.3% | 9.2% | 3.1% | 12.3% | 3.0% | 2.0% | -8.6% |
| RAMAPO 345 | BUCH N 345 | 1 | 13.6% | 3.3% | -0.2% | TRIP | 42.3% | 17.2% | 17.4% | 13.3% |
| LADENTWN 345 | BUCH S 345 | 1 | 13.6% | 17.8% | -3.7% | 55.6% | TRIP | 24.9% | 25.6% | 24.0% |
| FISHKILL 115 | SYLVN115 115 | 1 | 1.0% | 0.8% | 0.0% | 0.3% | 0.6% | 0.3% | 0.2% | 0.5% |
| E FISH I 115 | FISHKILL 345 | 1 | 1.7% | -0.5% | 2.4% | 0.7% | 0.8% | 0.6% | 0.5% | 5.9% |
| | | | | --- | --- | --- | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 93.4% | 98.4% | 78.0% | 76.6% | 61.0% | 58.2% | 91.1% |
| ***LINDEN-GOETH*** | | | | 0.9% | 0.1% | 4.7% | 5.2% | TRIP | 11.1% | 2.2% |
| ***HUDSON-FAR1*** | | | | 1.0% | 0.1% | 7.8% | 8.7% | 18.8% | 29.4% | 3.4% |
| ***HUDSON-FAR2*** | | | | 1.0% | 0.1% | 7.9% | 8.9% | 18.4% | TRIP | 3.4% |
| ***NORHBR-NRPRT*** | | | | 3.8% | 1.2% | 1.5% | 0.7% | 1.7% | 1.3% | -0.1% |
| | | | --- | --- | --- | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

## DISTRIBUTION FACTORS FOR SPRAINBROOK / DUNWOODIE SOUTH CIRCUITS

### Winter 2001-2002

| | | | % Pickup of Transfer | SPRAIN-TRMNT | SPRAIN-W49TH | DUNWDE-RAINY | DUNWDE-SHORE | SPRAIN-DVNPT | SPRAIN-W49TH | DUNWDE RAINY |
|---|---|---|---|---|---|---|---|---|---|---|
| DUN NO1R 138 | S CREEK 138 | 1 | | 15.2% | 0.3% | 0.5% | 2.1% | 4.0% | 0.6% | 0.9% |
| DUN NO2R 138 | S CREEK 138 | 1 | | 15.5% | 0.3% | 0.5% | 2.2% | 4.1% | 0.6% | 0.9% |
| DUN SO1R 138 | E179 ST 138 | 1 | | 22.1% | 0.4% | 0.7% | 3.1% | 5.8% | 0.8% | 1.2% |
| DUNWODIE 345 | RAINEY 345 | 3 | 29.0% | 8.7% | 24.1% | TRIP | 10.0% | 11.6% | 43.8% | O/S |
| DUNWODIE 345 | RAINEY 345 | 4 | 29.0% | 8.7% | 24.1% | 45.8% | 10.0% | 11.6% | 43.8% | TRIP |
| DUNWODIE 345 | SHORE RD 345 | 1 | | | | | TRIP | | | |
| SPRBROOK 345 | TREMONT 345 | 1 | | TRIP | 0.8% | 0.7% | 4.1% | 7.9% | 1.4% | 1.3% |
| SPRBROOK 345 | W 49 ST 345 | 1 | 21.0% | 9.1% | TRIP | 23.5% | 4.7% | 13.1% | O/S | 43.5% |
| SPRBROOK 345 | W 49 ST 345 | 2 | 21.0% | 9.1% | 45.0% | 23.5% | 4.7% | 13.1% | TRIP | 43.5% |
| REACBUS 345 | DVNPT NK 345 | 1 | | 7.3% | 1.0% | 0.9% | 46.5% | TRIP | 1.9% | 1.6% |
| ***SUB-TOTALS*** | | | | 95.8% | 96.0% | 96.1% | 87.4% | 71.1% | 92.7% | 92.8% |
| ***LINDEN-GOETH*** | | | | 1.8% | 0.8% | 0.8% | 0.3% | 0.1% | 1.5% | 1.6% |
| ***HUDSON-FAR#1*** | | | | 0.1% | 1.5% | 1.4% | -0.1% | -0.2% | 2.7% | 2.6% |
| ***HUDSON-FAR#2*** | | | | 0.2% | 1.5% | 1.4% | -0.1% | -0.2% | 2.8% | 2.6% |
| ***NORHRBR-NRPRT*** | | | | 2.1% | 0.2% | 0.2% | 12.6% | 29.3% | 0.3% | 0.4% |
| ***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 2001-2002

| | | | % Pickup of Transfer | MASSEN-MARCY | MASSEN-CHAT | MOSES2-ADRON | MOSES2-PORTR |
|---|---|---|---|---|---|---|---|
| MASS 765 765 | MARCY765 765 | 1 | 74.1% | TRIP | 66.4% | 44.1% | O/S |
| DENNISON 115 | ANDRWS-4 115 | 1 | 2.3% | 4.3% | 0.9% | 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% | 36.3% | 48.7% |
| DENNISON 115 | LWRNCE-B 115 | 1 | 2.3% | 4.3% | 0.9% | 1.5% | 3.7% |
| ALCOA-NM 115 | BRADY 115 | 1 | 1.1% | 2.1% | 0.4% | 0.7% | 1.8% |
| ALLENS F 115 | COLTON 115 | 1 | 1.3% | | | | |
| | | | | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 48.5% | 75.2% | 84.2% | 58.0% |
| ***MOSES-L33P*** | | | | 16.7% | 9.6% | 4.9% | 13.4% |
| ***MOSES-L34P*** | | | | 19.4% | 11.1% | 5.7% | 15.5% |
| ***MOSES-WILLE*** | | | | 7.7% | 2.0% | 2.6% | 6.6% |
| ***MOSES-WILLW*** | | | | 7.7% | 2.0% | 2.6% | 6.6% |
| | | | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

TABLE 7

DISTRIBUTION FACTORS FOR NYISO-ISONE CIRCUITS

Winter 2001-2002

| | | | % 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 | 35.7% | TRIP | 40.5% | 20.5% | 41.9% | 36.6% | 36.3% | 25.5% | 36.6% | 36.6% |
| PLAT T#3 115 | GRAND IS 115 | 1 | 2.0% | 9.5% | 5.4% | 4.4% | 8.5% | 7.8% | 7.7% | 33.9% | 7.8% | 7.8% |
| HOOSICK 115 | BNNINGTN 115 | 1 | 2.8% | 10.2% | 2.9% | 1.5% | 2.4% | 2.8% | 2.8% | 1.3% | 2.8% | 2.8% |
| WHITEHAL 115 | BLISSVIL 115 | 1 | 4.7% | 9.8% | 4.3% | 2.2% | 6.1% | 5.0% | 4.9% | 9.8% | 5.0% | 5.0% |
| ROTRDM.2 230 | BRSWAMP 230 | 1 | 7.2% | 16.1% | 7.3% | 4.4% | 6.3% | 7.8% | 8.0% | 4.0% | 7.8% | 7.8% |
| PLTVLLEY 345 | CTNY398 345 | 1 | 47.3% | 42.4% | TRIP | 47.2% | 25.8% | 29.8% | 30.1% | 18.7% | 29.8% | 29.8% |
| NRTHPT P 138 | NORHR138 138 | 1 | 0.0% | 10.5% | 35.8% | 18.4% | 8.3% | 9.3% | 9.4% | 6.3% | 9.3% | 9.3% |
| | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 99.7% | 98.6% | 96.2% | 98.6% | 99.2% | 99.1% | 99.1% | 99.5% | 99.1% | 99.1% |

TABLE 8

DISTRIBUTION FACTORS FOR ONTARIO-NYISO CIRCUITS

Winter 2001-2002

| | | | % Pickup of Transfer | PA27-NIAGAR | BP76-PACKD2 | STLAWR-MOSES | STLAWR-MOSES | BECKB-NIAGAR |
|---|---|---|---|---|---|---|---|---|
| STLAWL34 230 | MOSES E 230 | 1 | | 1.2% | 1.2% | TRIP | 56.0% | 1.4% |
| STLAWL33 230 | MOSES E 230 | 1 | | 1.0% | 1.1% | 52.3% | TRIP | 1.2% |
| BECK B 345 | NIAG 345 345 | 1 | 32.2% | 33.7% | 30.8% | 9.5% | 8.8% | TRIP |
| BECK A 345 | NIAG 345 345 | 1 | 32.2% | 33.7% | 30.8% | 9.5% | 8.8% | 52.6% |
| PA27 REG 230 | NIAGAR2W 230 | 1 | 19.2% | TRIP | 31.3% | 5.7% | 5.3% | 23.2% |
| BP76 REG 230 | PACKARD2 230 | 1 | 16.5% | 26.0% | TRIP | 4.9% | 4.5% | 17.6% |
| | | | | --- | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 95.7% | 95.2% | 81.9% | 83.3% | 96.1% |
| ***IMO-MICH*** | | | | 4.0% | 4.5% | 16.7% | 15.4% | 3.7% |
| | | | --- | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 100.0% | 99.7% | 99.7% | 98.6% | 98.7% | 99.7% |

TABLE 9

DISTRIBUTION FACTORS FOR PJM-NYISO CIRCUITS

Winter 2001-2002

| | | | % 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 | 18.3% | TRIP | 21.6% | 7.4% | 4.7% | 2.4% | 0.1% | 0.8% | 1.5% | 1.3% | 1.1% |
| WARREN 115 | FALCONER 115 | 1 | 6.0% | 22.0% | 8.3% | 1.8% | 3.0% | 0.8% | 0.1% | 0.3% | 0.5% | 0.5% | 0.4% |
| HOMER CY 345 | STOLE345 345 | 1 | 11.5% | 15.5% | TRIP | 15.3% | 2.0% | 1.8% | 0.1% | 0.6% | 1.1% | 0.9% | 0.8% |
| HOMER CY 345 | WATRC345 345 | 1 | 23.2% | 6.5% | 18.7% | TRIP | 13.4% | 3.8% | 0.2% | 1.2% | 2.4% | 2.0% | 1.7% |
| E.TWANDA 230 | HILSD230 230 | 1 | 24.7% | 6.0% | 3.5% | 19.5% | TRIP | 3.6% | 0.3% | 1.4% | 2.3% | 2.4% | 2.0% |
| E.SAYRE 115 | N.WAV115 115 | 1 | 9.1% | 2.0% | 1.4% | 4.1% | 30.7% | 1.3% | 0.1% | 0.5% | 0.9% | 0.9% | 0.7% |
| LAUREL L 115 | GOUDY115 115 | 1 | 7.2% | 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 | | 6.5% | 6.7% | 11.8% | 7.6% | TRIP | 3.0% | 8.0% | 21.1% | 26.3% | 11.5% |
| HUDSON1 345 | FARRGUT1 345 | 1 | | 2.3% | 2.4% | 4.0% | 3.2% | 8.5% | 2.9% | TRIP | 18.4% | 25.3% | O/S |
| HUDSON2 345 | FARRGUT2 345 | 1 | | 2.3% | 2.4% | 4.0% | 3.2% | 8.5% | 2.8% | 29.4% | 18.8% | 25.8% | TRIP |
| LINDEN 230 | GOETHALS 230 | 1 | | 2.6% | 2.7% | 4.7% | 3.2% | 13.5% | 1.1% | 11.1% | TRIP | 10.4% | 16.1% |
| WALDWICK 345 | SMAHWAH1 345 | 1 | | 3.2% | 3.3% | 5.7% | 4.8% | 23.5% | 88.9% | 22.2% | 13.8% | O/S | 31.2% |
| WALDWICK 345 | SMAHWAH2 345 | 1 | | 3.0% | 3.1% | 5.2% | 4.4% | 23.3% | TRIP | 21.3% | 13.2% | TRIP | 29.9% |
| | | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***SUB-TOTALS*** | | | | 72.9% | 74.6% | 85.8% | 91.5% | 92.1% | 99.5% | 97.4% | 95.0% | 96.6% | 96.3% |
| ***IMO-MICH*** | | | | 25.2% | 23.5% | 13.1% | 7.8% | 7.0% | 0.4% | 2.2% | 4.5% | 3.5% | 3.3% |
| | | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***TOTALS*** | | | 100.0% | 98.1% | 98.1% | 98.8% | 99.3% | 99.1% | 99.9% | 99.6% | 99.5% | 100.1% | 99.5% |

TABLE 10A

GENERATION SHIFT FACTORS WITH ALL PAR'S HOLDING MW FLOW

Winter 2001-2002

| | WEST-CENTRAL | UTICA-ALBANY | MARCY-SOUTH | CENTRAL-EAST | BBURG-RAMAPO | IMO-NYISO | PJM-NYISO |
|---|---|---|---|---|---|---|---|
| ALBANY | 11.8% | 21.7% | -6.5% | 24.2% | 0.0% | 7.2% | 14.4% |
| BB-RAMAPO | 13.5% | 14.0% | 5.6% | 14.9% | -100.0% | 5.0% | -70.2% |
| BECK | -49.5% | -24.2% | -13.1% | -25.2% | 0.0% | -70.1% | 19.2% |
| BOWEN | -10.4% | -8.3% | -3.6% | -8.8% | 0.0% | -6.1% | -13.9% |
| BOWLINE | 7.7% | 4.8% | 3.8% | 5.1% | 0.0% | 4.7% | 9.7% |
| BRANDON | -14.2% | -13.3% | -5.5% | -14.1% | 0.0% | -6.1% | -26.5% |
| BRAYTON | 10.5% | 15.4% | -3.7% | 18.2% | 0.0% | 6.5% | 12.9% |
| CHAT | 16.3% | -41.7% | -28.0% | -43.7% | 0.0% | 9.8% | 17.9% |
| CONEMAUGH | -14.8% | -14.0% | -5.7% | -14.8% | 0.0% | -5.5% | -28.8% |
| DUNKIRK | -40.3% | -21.2% | -10.6% | -22.3% | 0.0% | 14.0% | 39.0% |
| EDDYSTONE | -13.6% | -13.9% | -5.6% | -14.8% | 0.0% | -5.1% | -29.4% |
| GILBOA | 11.6% | 8.6% | 2.8% | 8.5% | 0.0% | 7.2% | 15.3% |
| HATFIELD | -15.4% | -13.3% | -5.6% | -14.1% | 0.0% | -7.1% | -25.2% |
| HUDSON | -13.1% | -14.1% | -5.6% | -15.0% | 0.0% | -4.8% | -30.4% |
| HUNTLEY | -49.7% | -24.0% | -12.7% | -25.1% | 0.0% | 23.2% | 25.6% |
| INDIANPT2 | 7.4% | 4.8% | 3.4% | 5.1% | 0.0% | 4.6% | 9.4% |
| JEAMOS | -15.5% | -12.3% | -5.3% | -13.0% | 0.0% | -9.2% | -20.1% |
| LAMBTON | -30.4% | -17.5% | -8.7% | -18.4% | 0.0% | -35.4% | -3.4% |
| LUDINGTON | -19.7% | -13.6% | -6.3% | -14.3% | 0.0% | -16.8% | -14.7% |
| MONROE | -24.6% | -15.4% | -7.4% | -16.2% | 0.0% | -25.0% | -10.1% |
| MTSTORM | -14.8% | -12.9% | -5.4% | -13.6% | 0.0% | -7.1% | -24.1% |
| NANTICOKE | -41.2% | -21.3% | -11.2% | -22.2% | 0.0% | -55.0% | 9.4% |
| NEWTON | -14.3% | -10.9% | -4.8% | -11.5% | 0.0% | -9.6% | -16.1% |
| NIAGARA | -51.0% | -24.6% | -13.2% | -25.7% | 0.0% | 22.7% | 25.2% |
| NORWALK | 8.5% | 9.6% | 0.1% | 10.7% | 0.0% | 5.2% | 10.6% |
| OSWEGO | 19.3% | -37.0% | -23.4% | -38.0% | 0.0% | 11.5% | 19.6% |
| PORTLAND | -12.8% | -14.2% | -5.6% | -15.2% | 0.0% | -4.6% | -31.0% |
| ROSETON | 8.8% | 6.6% | 3.5% | 6.9% | 0.0% | 5.5% | 11.2% |
| SALEM | -13.7% | -13.9% | -5.6% | -14.8% | 0.0% | -5.2% | -29.2% |

TABLE 10B

GENERATION SHIFT FACTORS WITH PAR'S FREE FLOWING

Summer 2001

| | WEST-CENTRAL | UTICA-ALBANY | MARCY-SOUTH | CENTRAL-EAST | BBURG-RAMAPO | IMO-NYISO | PJM-NYISO |
|---|---|---|---|---|---|---|---|
| ALBANY | 8.6% | 19.9% | -7.4% | 25.5% | 3.1% | 9.4% | 22.3% |
| BB-RAMAPO | 5.8% | 5.8% | 4.2% | 6.8% | -100.0% | 4.8% | 24.3% |
| BECK | -39.4% | -20.6% | -12.8% | -23.7% | -3.8% | -69.3% | 7.1% |
| BOWEN | -4.8% | -4.5% | -2.1% | -5.2% | -6.3% | -5.5% | -31.2% |
| BOWLINE | 3.4% | 2.1% | 2.5% | 2.4% | 8.6% | 4.2% | 34.1% |
| BRANDON | -4.1% | -4.9% | -1.8% | -5.8% | -13.1% | -2.8% | -63.3% |
| BRAYTON | 7.0% | 12.6% | -4.8% | 19.7% | 3.5% | 8.3% | 22.2% |
| CHAT | 8.7% | -34.0% | -24.9% | -40.4% | 0.8% | 16.5% | 17.6% |
| CONEMAUGH | -4.9% | -5.9% | -2.3% | -6.8% | -12.6% | -2.4% | -64.3% |
| DUNKIRK | -32.0% | -16.4% | -9.3% | -18.9% | -5.7% | 15.6% | 21.8% |
| EDDYSTONE | -1.6% | -3.2% | -0.7% | -3.8% | -16.8% | -0.1% | -76.8% |
| GILBOA | 8.7% | 8.8% | 2.8% | 9.0% | 3.0% | 9.0% | 22.9% |
| HATFIELD | -6.4% | -6.5% | -2.8% | -7.6% | -10.7% | -5.0% | -55.2% |
| HUDSON | 2.0% | 0.7% | 1.2% | 0.9% | -1.3% | 2.9% | -106.0% |
| HUNTLEY | -41.1% | -19.9% | -12.0% | -22.9% | -4.1% | 24.4% | 12.7% |
| INDIANPT2 | 3.4% | 2.2% | 2.2% | 2.6% | 7.5% | 4.1% | 30.7% |
| JEAMOS | -7.5% | -6.8% | -3.3% | -7.9% | -8.8% | -8.3% | -44.3% |
| LAMBTON | -17.9% | -13.4% | -8.0% | -15.7% | -6.3% | -34.2% | -22.5% |
| LUDINGTON | -11.1% | -9.0% | -4.9% | -10.6% | -7.6% | -17.3% | -35.5% |
| MONROE | -14.5% | -11.3% | -6.5% | -13.2% | -7.0% | -25.6% | -29.5% |
| MTSTORM | -5.8% | -6.0% | -2.6% | -7.0% | -10.8% | -4.9% | -54.4% |
| NANTICOKE | -26.0% | -18.5% | -11.7% | -21.9% | -4.4% | -55.6% | -4.5% |
| NEWTON | -7.4% | -6.5% | -3.3% | -7.6% | -7.3% | -9.6% | -36.0% |
| NIAGARA | -42.8% | -20.5% | -12.5% | -23.5% | -3.8% | 24.0% | 13.0% |
| NORWALK | 4.9% | 7.0% | -0.6% | 9.6% | 4.0% | 5.8% | 21.4% |
| OSWEGO | 17.9% | -32.6% | -22.4% | -36.1% | 0.5% | 14.6% | 19.3% |
| PORTLAND | -0.2% | -2.6% | -0.2% | -3.0% | -11.6% | 1.2% | -88.7% |
| ROSETON | 5.4% | 4.9% | 3.0% | 5.5% | 5.1% | 6.0% | 25.2% |
| SALEM | -1.7% | -3.2% | -0.7% | -3.8% | -16.7% | -0.1% | -76.4% |

# APPENDIX F

# ANNOTATED TLTG OUTPUT

**This Section Is Available**
**On Computer Diskette If Requested**

# APPENDIX G

# TRANSFER LIMIT SENSITIVITY GRAPHS

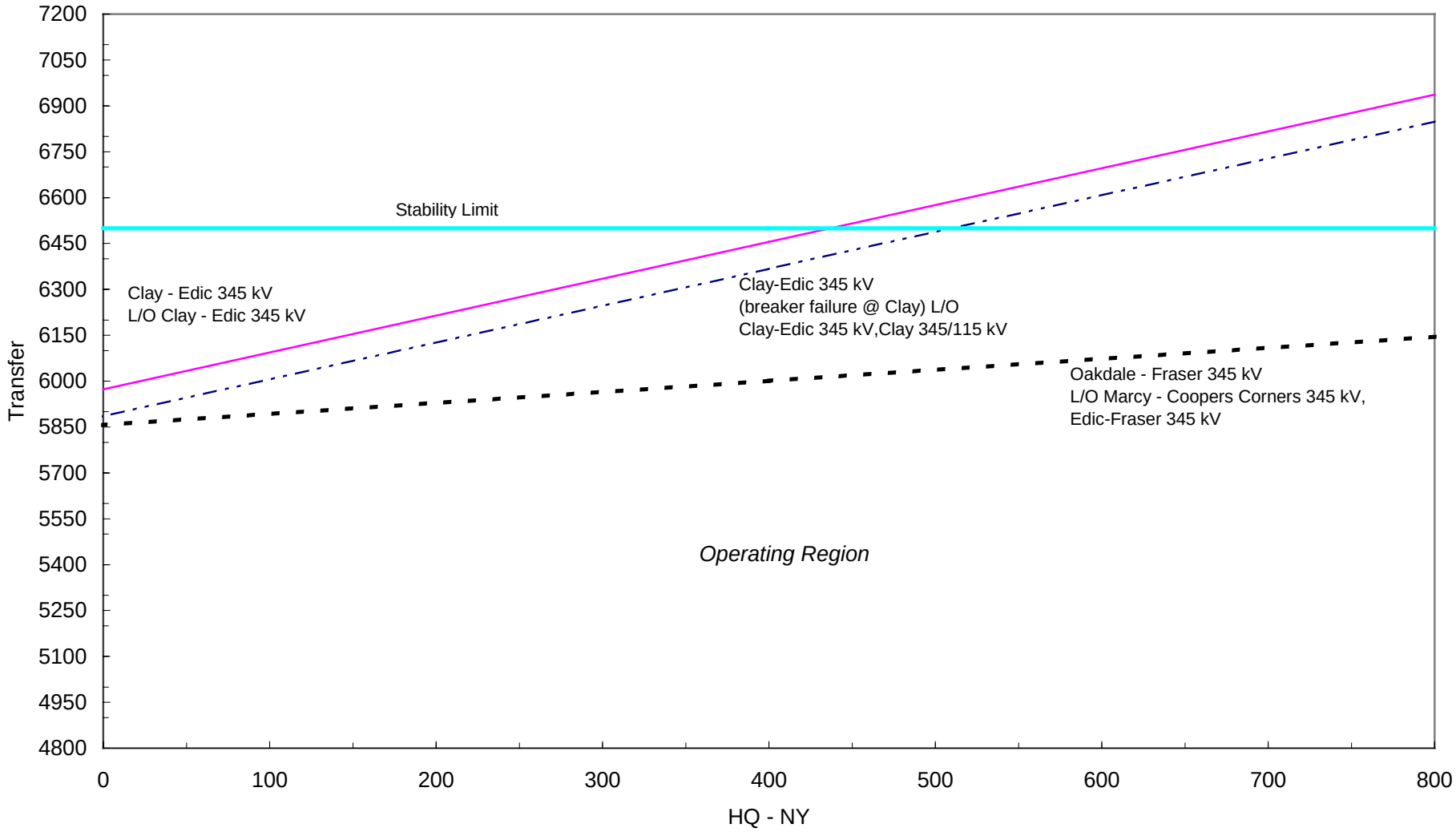
NYISO OPERATING STUDY
WINTER 2001-02

# INDEX

# Total East vs. HQ

## For Normal Transfer Criteria

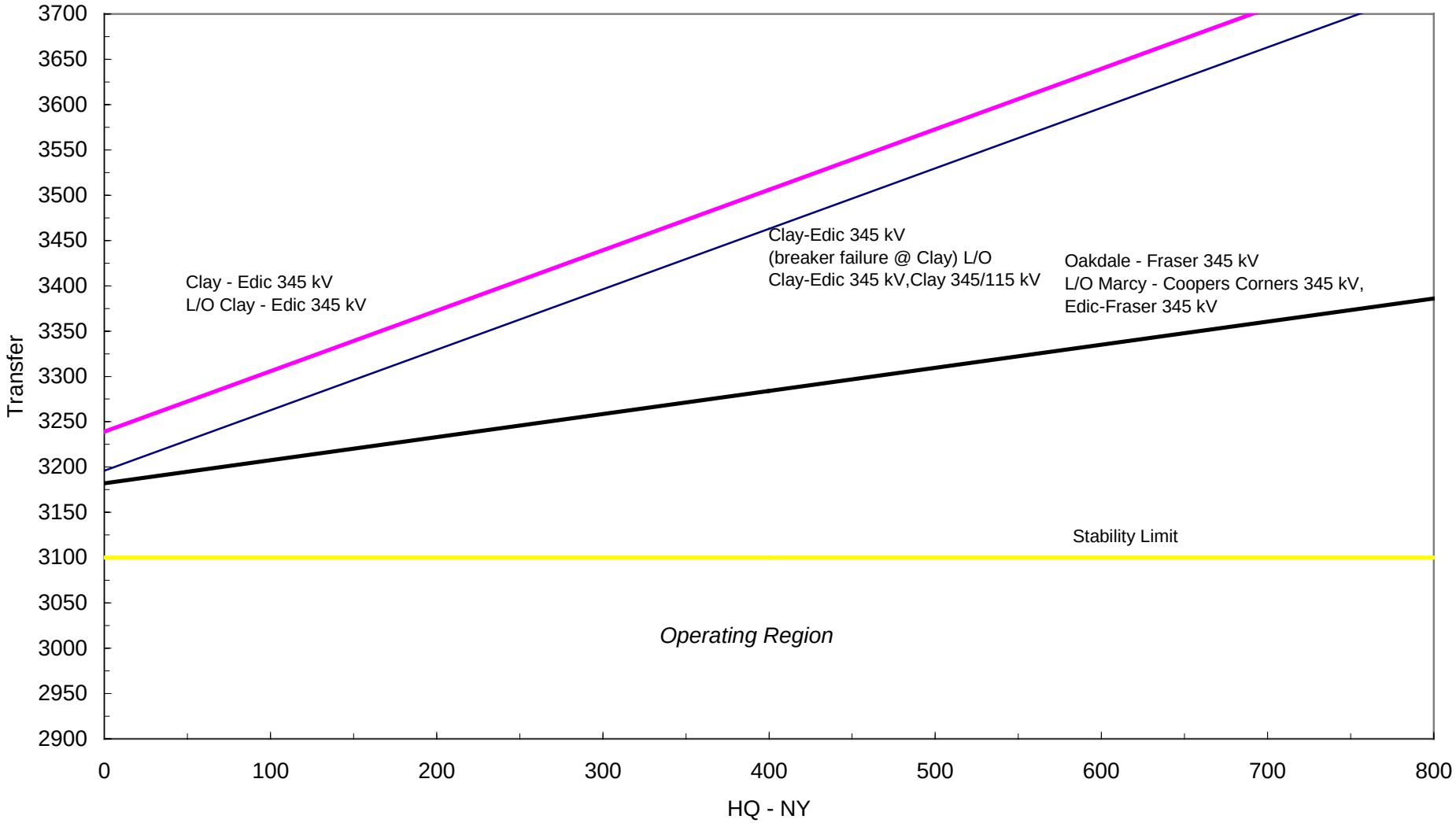
## Winterer 2001



# Central East vs. HQ

## For Normal Transfer Criteria

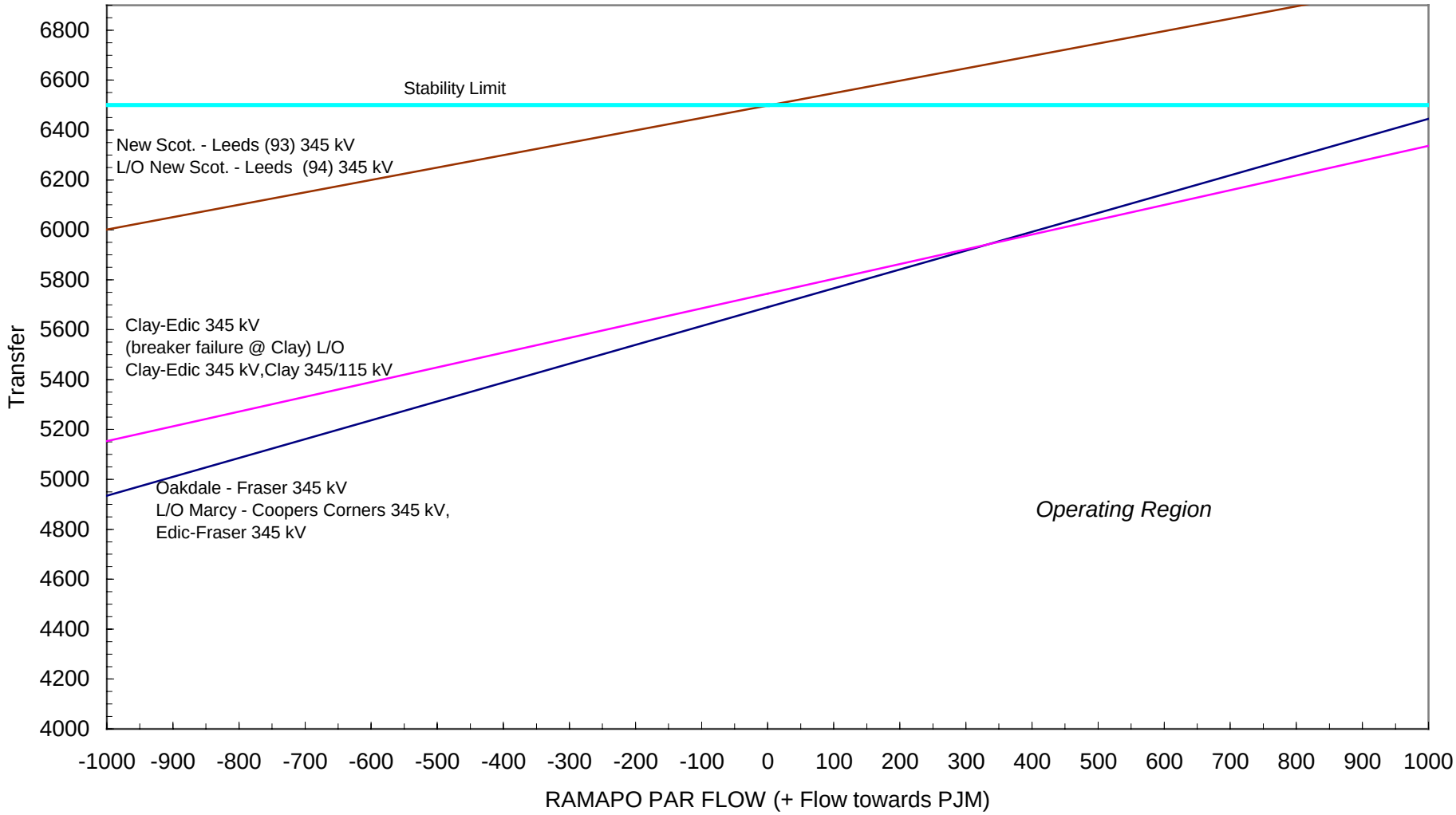
## Winter 2001



# Total East vs. RAMAPO PAR Flow

## For Normal Transfer Criteria

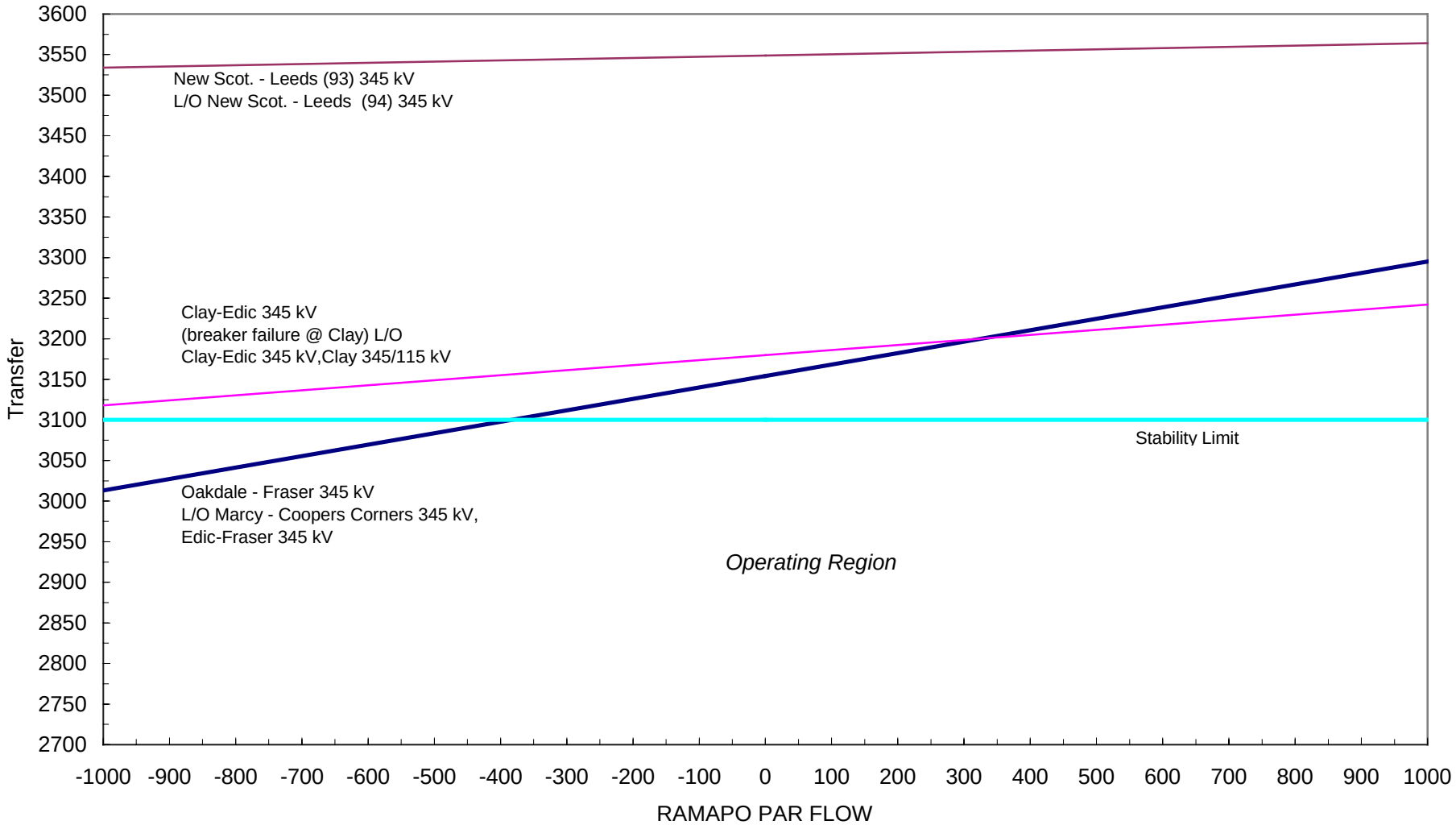
## Winter 2001



# Central East vs. RAMAPO PAR Flow

## For Normal Transfer Criteria

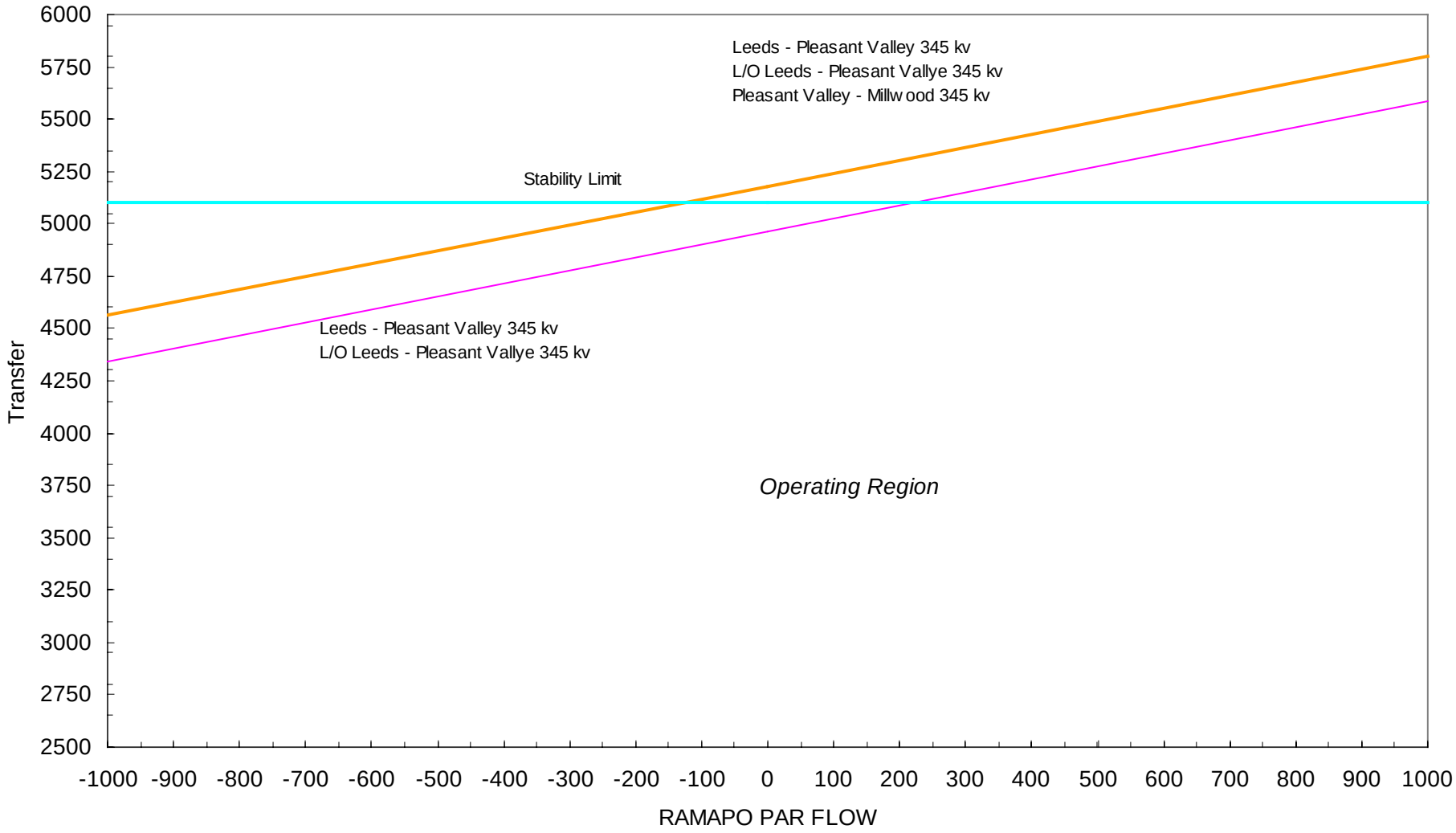
## Winter 2001



# UPNY CONED vs. RAMAPO PAR Flow

## For Normal Transfer Criteria

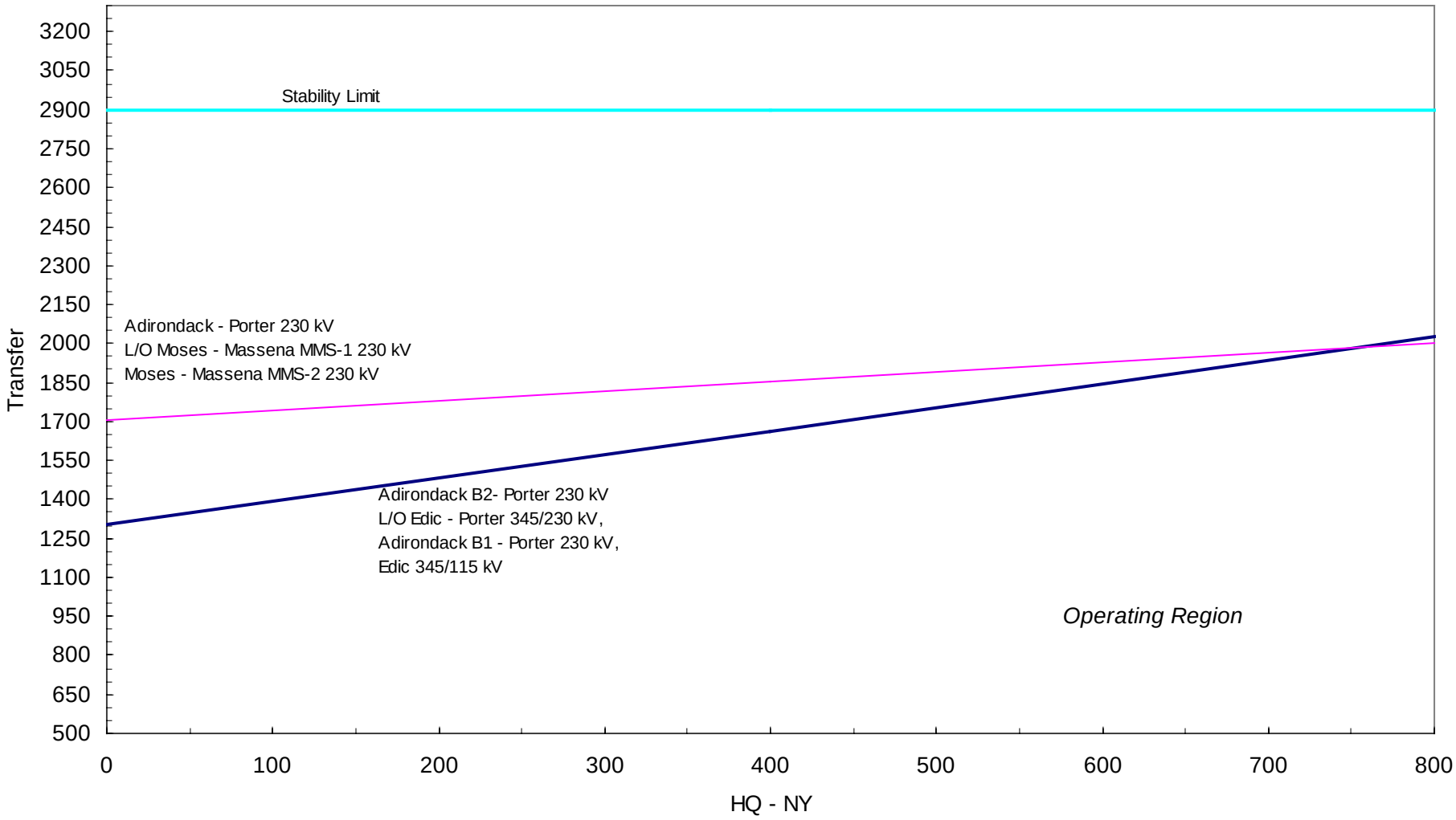
## Winter 2001



# Moses South vs. HQ Export to New York

## For Normal Transfer Criteria

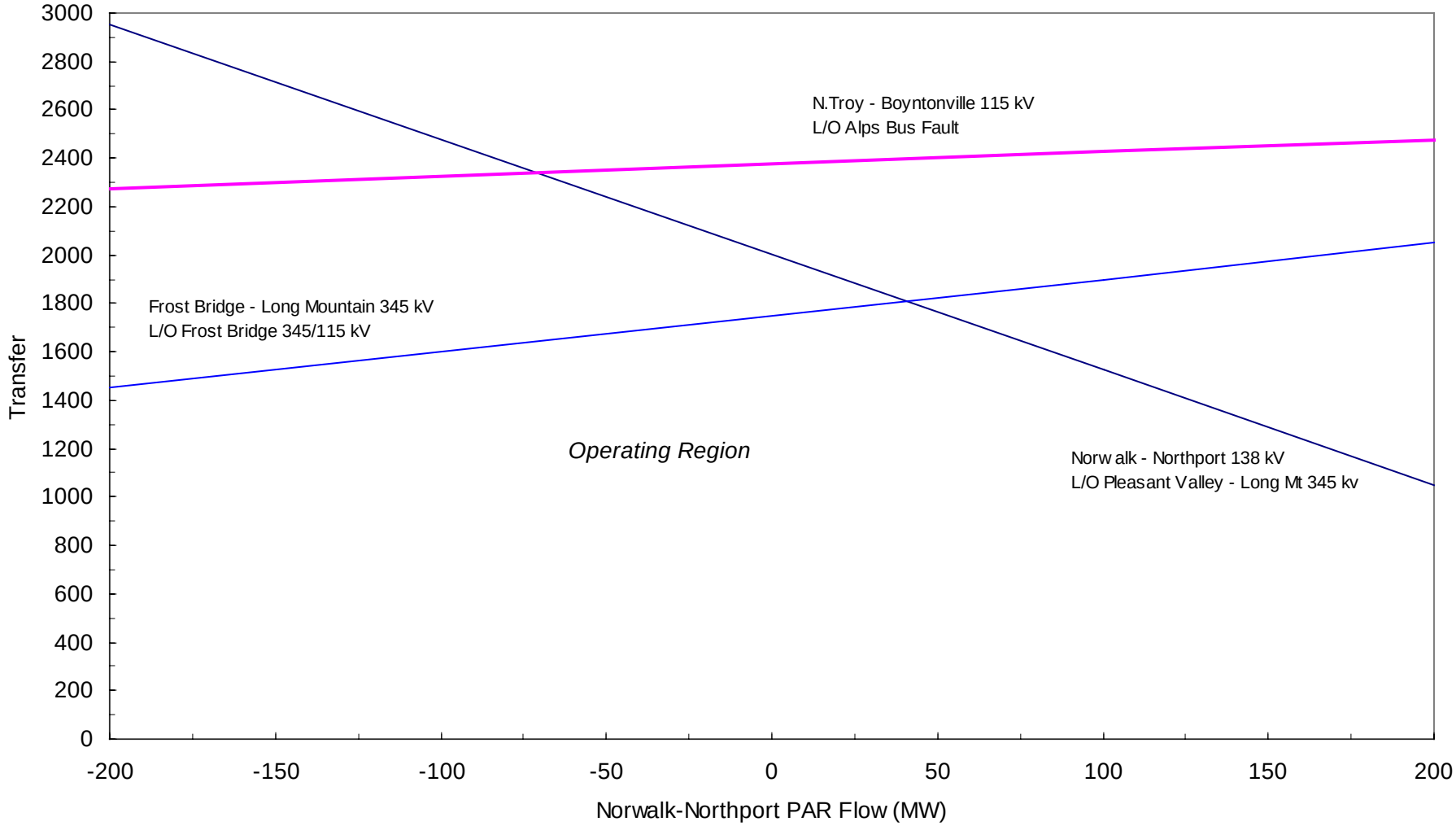
## Winter 2001



# NE-NY vs. NORWALK-NORTHPORT PAR Flow

## For Normal Transfer Criteria

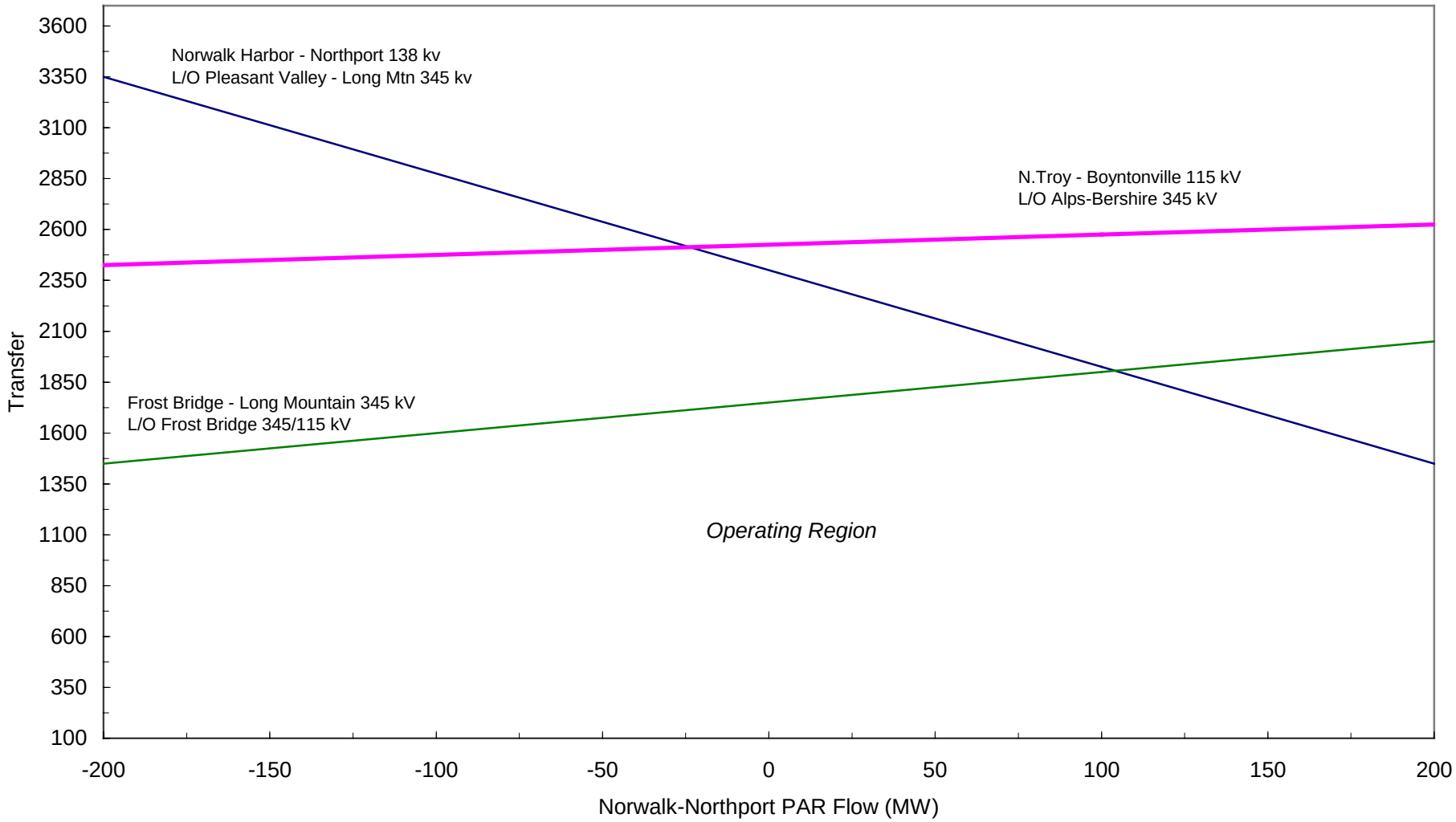
## Winter 2001



# NE-NY vs. NORWALK-NORTHPORT PAR Flow

## For Emergency Transfer Criteria

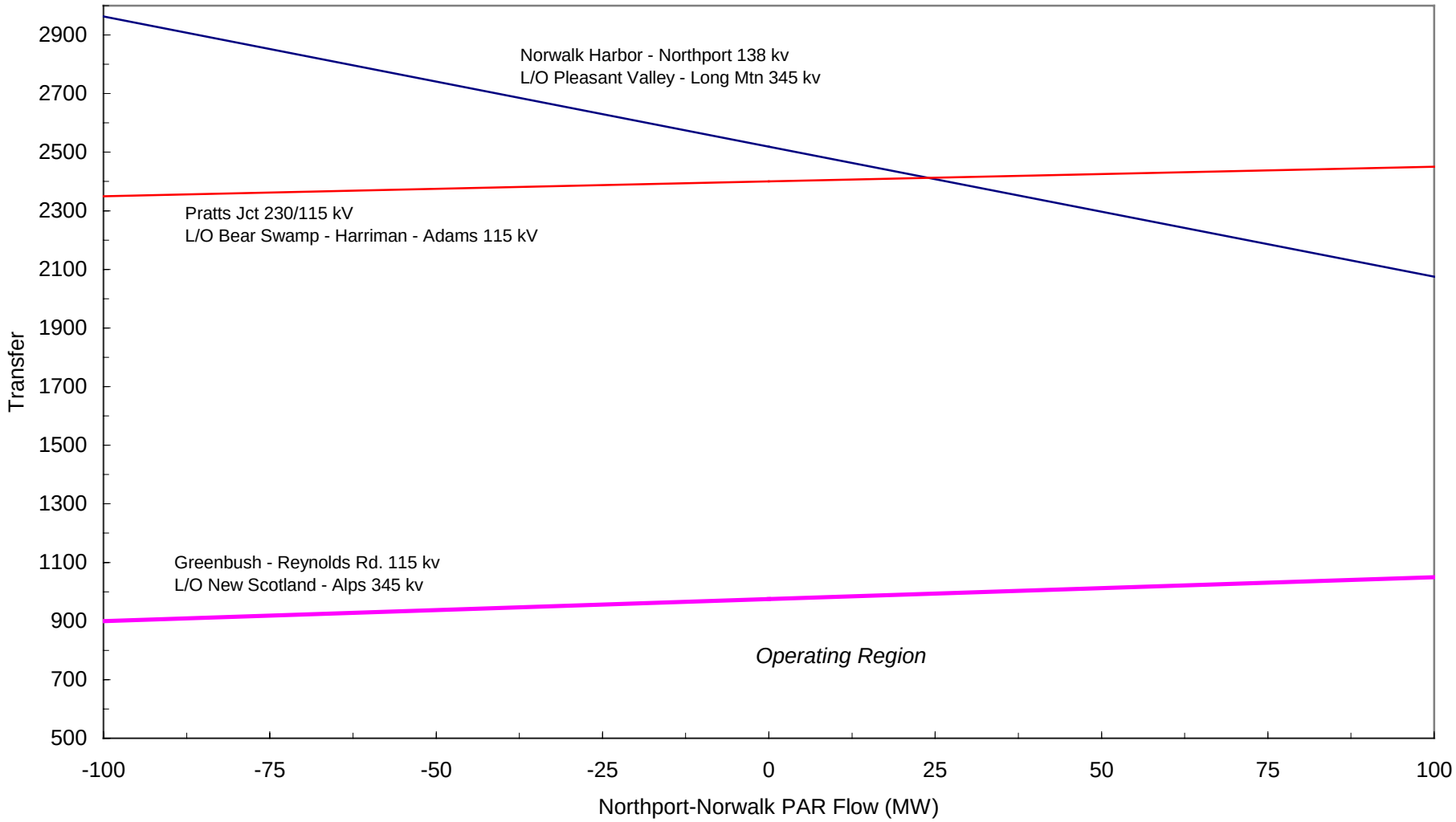
## Winter 2001



# NY-NE vs. NORTHPORT-NORWALK PAR Flow

## For Normal Transfer Criteria

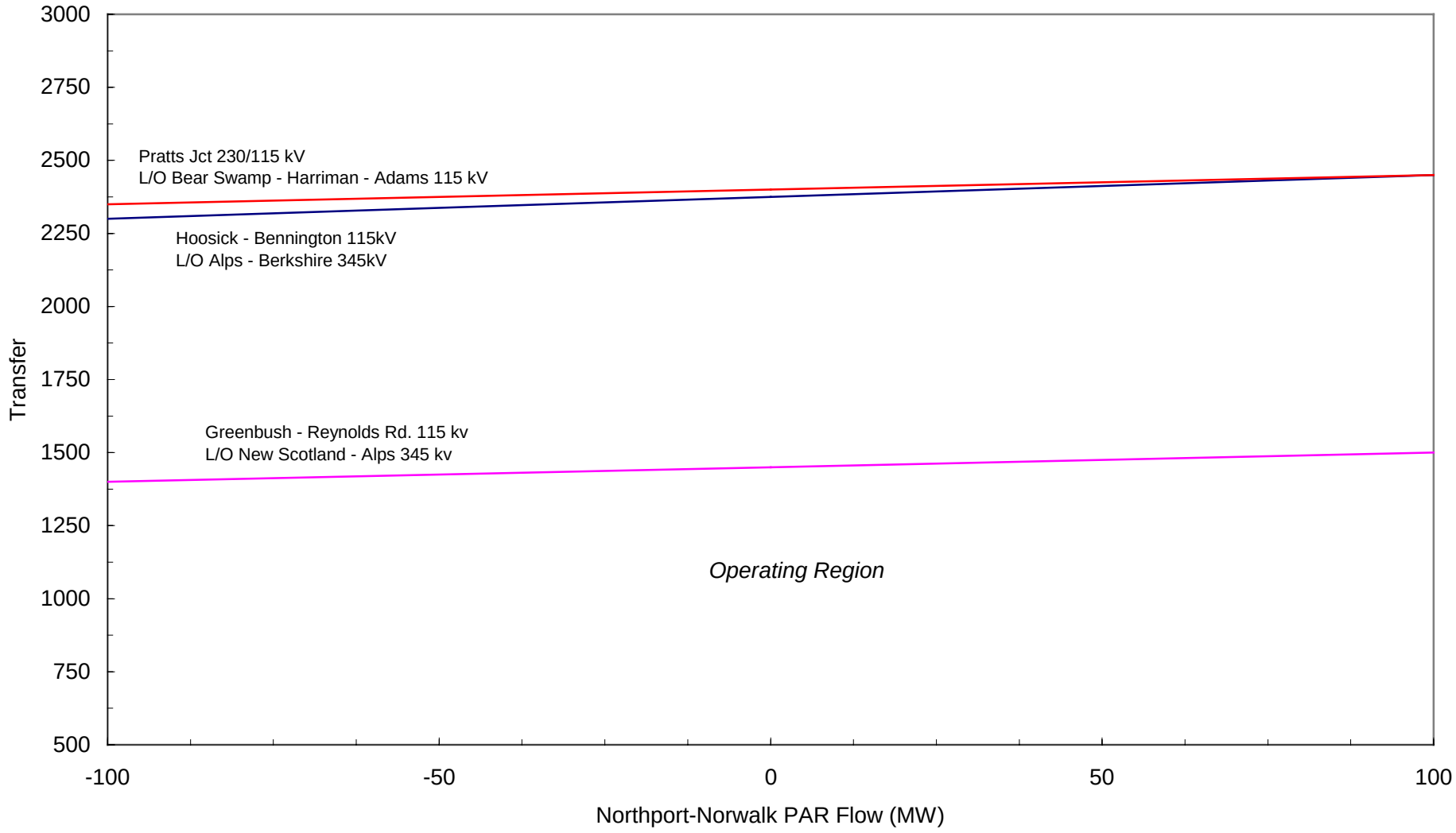
## Winter 2001



# NY-NE vs. NORTHPORT-NORWALK PAR Flow

## For Emergency Transfer Criteria

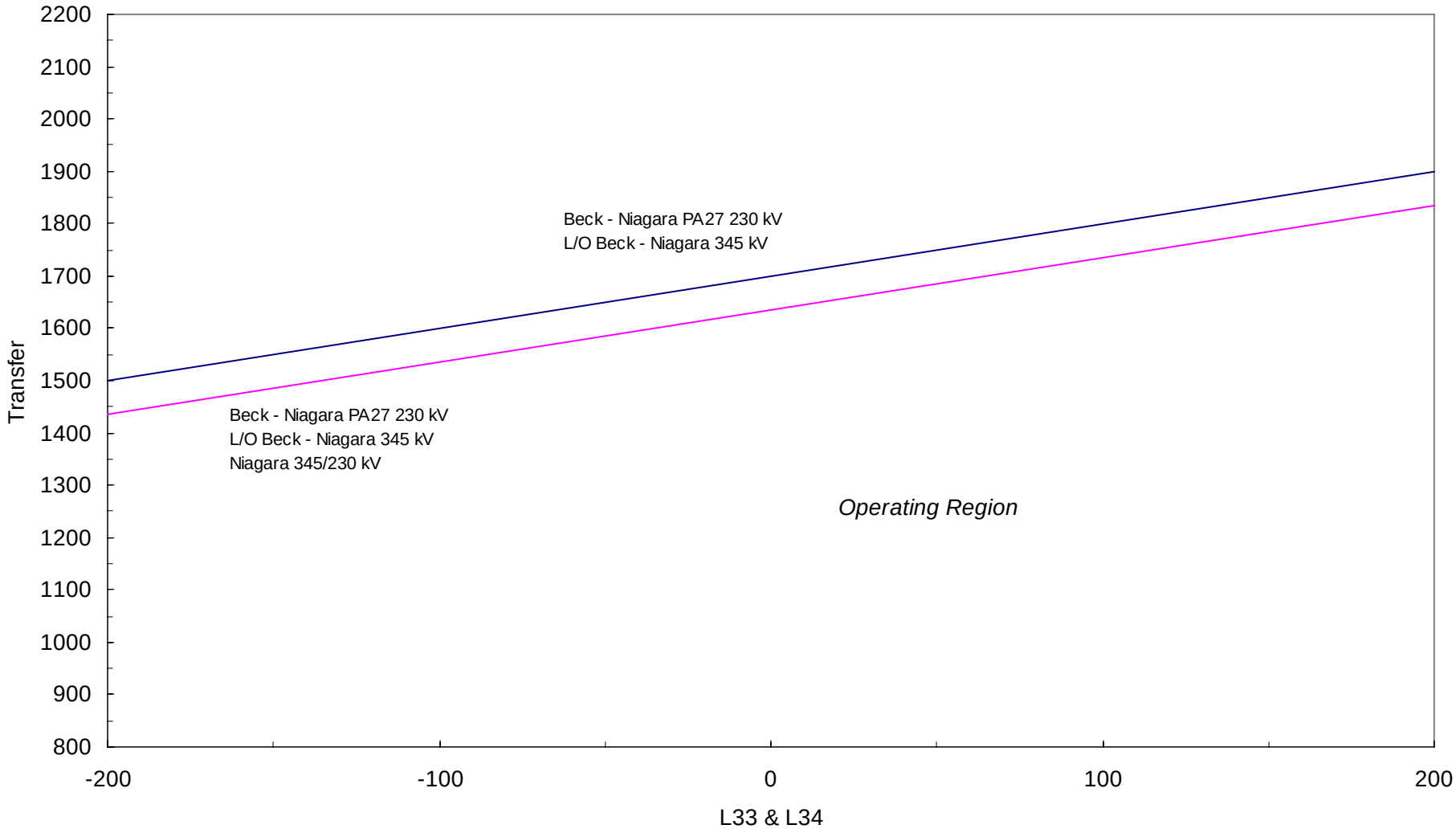
## Winter 2001



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

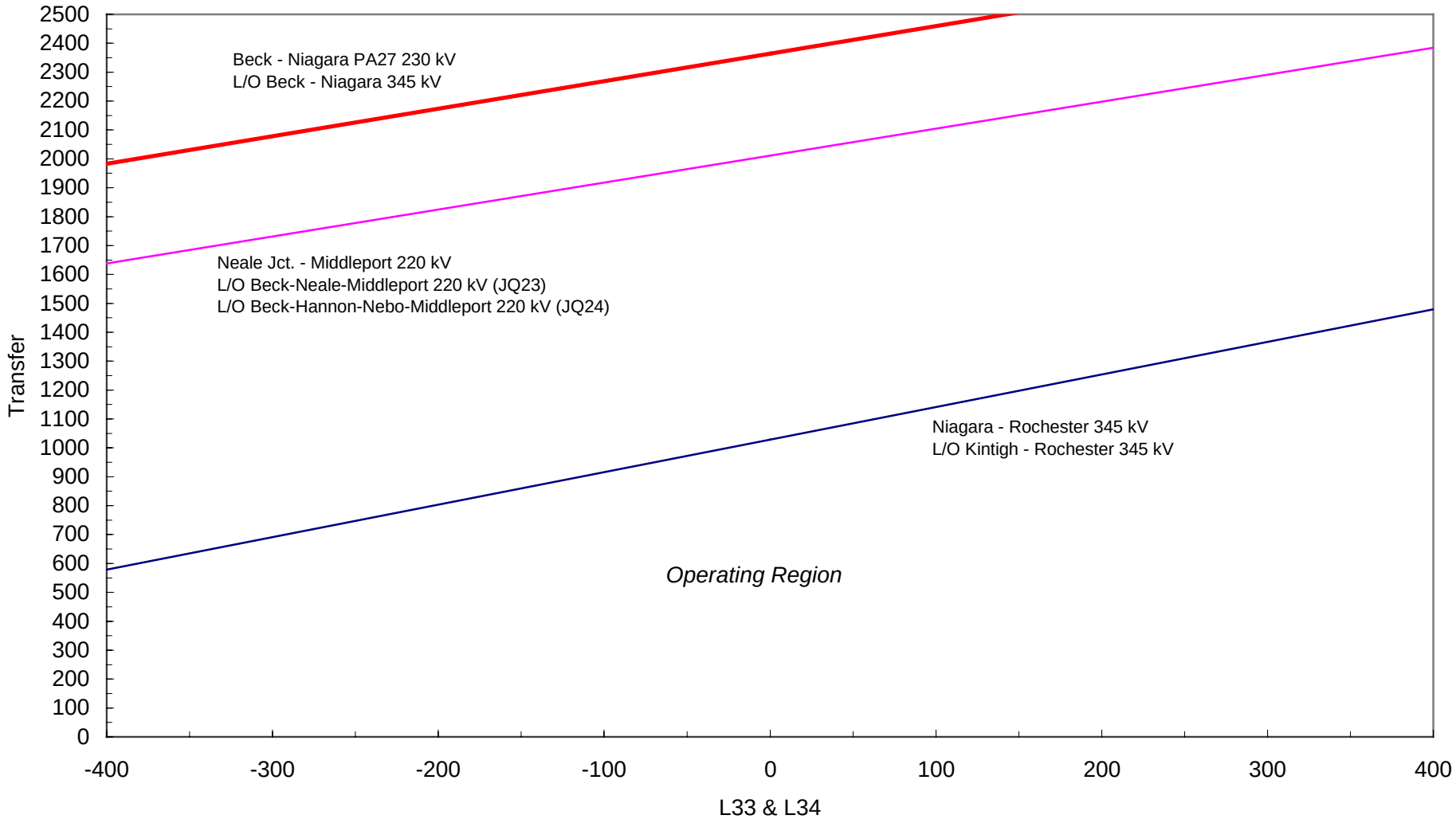
## For Normal Transfer Criteria

## Winter 2001



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

**For Normal Transfer Criteria**
**Winter 2001**



# APPENDIX H

# COMPARISON OF TRANSFER LIMITS WINTER 2001-02 vs. WINTER 2000-01

NYISO OPERATING STUDY
WINTER 2001-02

# WINTER 2001-02

**Comparison of Winter 2001-02 to Winter 2000-01 Thermal Limits**

| Interface | Rating | WINTER 2001-02 Limit (MW) | WINTER 2001-02 Contingency | WINTER 2000-01 Limit (MW) | WINTER 2000-01 Contingency | Delta |
|---|---|---|---|---|---|---|
| **Dysinger East** | Normal | 3375 | 1 | 3275 | 2 | 100 |
| | Emergency | 3650 | 3 | 3575 | 4 | 75 |
| **West Central** | Normal | 2550 | 5 | 2500 | 2 | 50 |
| | Emergency | 2600 | 6 | 2800 | 4 | -200 |
| **Upny - ConEd** | Normal | 5175 | 7 | 4625 | 20 | 550 |
| | Emergency | 5625 | 8 | 5300 | 8 | 325 |
| **Sprn/Dun-South** | Normal | 3300 | 9 | 3600 | 10 | -300 |
| | Emergency | 3925 | 11 | 3950 | 12 | -25 |
| **Con Ed - LIPA** | Normal | 675 | 13 | 975 | 14 | -300 |
| | Emergency | 925 | 13 | 1675 | 15 | -750 |
| **Central East** | | | | | | |
| HQ > NY 400 MW | Normal | 3275 | 16 | 3125 | 16 | 150 |
| | Emergency | 3575 | 6 | 3150 | 6 | 425 |
| HQ >NY 0 MW | Normal | 3175 | 16 | 2925 | 5 | 250 |
| | Emergency | 3575 | 6 | 2950 | 6 | 625 |
| **Total East** | | | | | | |
| HQ > NY 400 MW | Normal | 6000 | 16 | 5625 | 16 | 375 |
| | Emergency | 6450 | 6 | 5700 | 6 | 750 |
| HQ > NY 0 MW | Normal | 5850 | 16 | 5225 | 5 | 625 |
| | Emergency | 5950 | 6 | 5300 | 6 | 650 |
| **Moses - South** | | | | | | |
| HQ > NY 400 MW | Normal | 1650 | 17 | 1675 | 17 | 25 |
| | Emergency | 2250 | 18 | 2250 | 18 | 0 |
| HQ > NY 0 MW | Normal | 1300 | 17 | 1325 | 17 | -25 |
| | Emergency | 2125 | 19 | 2125 | 19 | 0 |

## NYISO WINTER 2001-02 CROSS-STATE THERMAL LIMIT CONTINGENCY LIST

| | Limiting Element | | | | Contingency |
|---|---|---|---|---|---|
| (1) | Niagara - Rochester (NR-2) 345kV | @LTE | 1591 MW | L/O | AES/Somerset - Rochester (SR-1) 345kV |
| (2) | Stolle Rd. – Meyer 230 kV | @LTE | 564 MW | L/O | Niagara-Rochester 345kV<br>Rochester – Pannell 345kV |
| (3) | Niagara - Rochester (NR-2) 345kV | @STE | 1744 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<br>Clay 345/115kV |
| (6) | Clay – Edic 345kV | @STE | 1434 MW | L/O | Clay – Edic 345kV |
| (7) | Leeds - Pleasant Valley (91) 345kV | @LTE | 1783 MW | L/O | Leeds - Pleasant Valley (92) 345kV |
| (8) | Leeds - Pleasant Valley (91) 345kV | @STE | 1912 MW | L/O | Leeds - Pleasant Valley (92) 345kV |
| (9) | Dunwoodie - Rainey 345 kV | @LTE | 871 MW | L/O | Dunwoodie – Rainey 345kV<br>Sprain Brook – Dunwoodie 345kV |
| (10) | Sprain Brook – W. 49$^{th}$ St. 345kV | @ LTE | 968 MW | L/O | Sprain Brook – Dunwoodie 345kV<br>Sprain Brook 345/138kV |
| (11) | Dunwoodie - Rainey 345 kV | @LTE | 1113 MW | L/O | Dunwoodie – Rainey 345kV |
| (12) | Sprain Brook – W. 49$^{th}$ 345 kV | @NOR | 736 MW | | Pre-Contingency Loading |
| (13) | Sprain Brook – E.G.C. 345 kV | @NOR | 693 MW | | Pre-Contingency Loading |
| (14) | Sprain Brook – E.G.C. 345 kV | @LTE | 940 MW | L/O | Dunwoodie – Shore Rd. 345kV<br>Dunwoodie – Pleasantville 345kV<br>Dunwoodie No. 345/138kV |
| (15) | Dunwoodie – Shore Rd. 345 kV | @NOR | 721 MW | | Pre-Contingency Loading |
| (16) | Oakdale - Fraser 345 kV | @LTE | 1380 MW | L/O | Marcy – Coopers Corners 345kV<br>Edic – Fraser 345kV |
| (17) | Adirondack -Porter 230kV | @LTE | 376 MW | L/O | Moses - Massena MMS-1 230kV<br>Moses - Massena MMS-2 230kV |

| | | | | | |
|---|---|---|---|---|---|
| (18) | Marcy 765/345kV | @STE | 1654 MW | L/O | Marcy 765/345kV |
| (18) | Adirondack -Porter 230kV | @STE | 449 MW | L/O | Adirondack – Porter 230 kV |
| (19) | Moses – Massena MMS-1 230kV | @STE | 1404 MW | L/O | Moses - Massena MMS-2 230kV |
| (20) | Hudson - Farragut 345 kV | @LTE | 737 MW | L/O | Buchanan So. – Ladentown 345 kV<br>Buchanan No. – Ramapo 345 kV<br>Buchanan 345/138 kV |

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# 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:*<br>Limit Oswego Complex to 3200 MW for 4 Units I/S & Sithe O/S<br>Limit Oswego Complex to 3500 MW for 5 Units I/S & Sithe O/S<br>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<br>(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<br>(MAX CHAT - MASSENA = 1870 MW) | 2600 | MS-7 | 3/15/94 |
| 2 CHAT 765/120 KV BANKS I/S & 1 HVDC POLE I/S<br>(MAX CHAT-MASSENA = 1650 MW) | 2350 | MS-5 | 1/14/94 |
| 3 CHAT 765/120 KV BANKS I/S & 1 HVDC POLE I/S<br>(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<br>(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<br>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<br>68 MEYER-HILLSIDE 230 KV O/S | 2650 | DE-1 | 7/27/92 |
| NR-2 NIAGARA - ROCHESTER 345 KV OR<br>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<br>OR BOTH<br>BECK-NIAGARA 345 KV CKTS O/S & PA27 CKT O/S OR<br>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 |

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| 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 |