SYSTEM IMPACT STUDY

MILFORD POWER 560 MW POWER PLANT

Milford Connecticut

Thermal and Fault Duty Analysis

April, 1999

Prepared By

Transmission Asset Management
Northeast Utilities Service Company

Principal Investigators

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Executive Summary

The Milford Power ("The Project") is a proposed 560 MW generating station located in Milford,Ct. This study assesses the impact of interconnecting the proposed generating station into the Connecticut Light And Power Company's (CL&P, an NU System Company) 115 kV bulk power transmission system. Presented are results of detailed analyses determining CL&P's capability to interconnect and provide transmission service to The Project. Included are preliminary non-binding cost estimates of any needed transmission construction and the identification of any potential restrictions in Devon and adjacent areas in Connecticut associated with increased generation in Devon.

The point of delivery is the NEPOOL PTF system.

Addition of the Milford Power generation slightly reduces the existing Devon Area Interface limit. However, the proposed transmission upgrades associated with this project increases the interface limit by approximately 300 Mw.

The following is a summary of the transmission construction required on the CL&P electrical network to reliably serve the proposed Milford Power. The planned construction is a result of simulations performed on load, generation and transmission configuration models that represent the year 2001. The summary exclude the cost and construction times associated with the interconnection tie lines that interconnect the generating station to the CL&P 115 kV transmission system.

CL&P System Additions

1. Upgrade the Stevenson to Trap Falls line terminal to full normal rating of 795 ACSR conductor by replacing the disconnect switches and line protection in Stevenson substation

2. Reconfigure Devon 7R to accommodate the new line position for the generator lead. Install new circuit breakers in the Devon substation to accommodate increased short circuit duty. Install 1% series reactor on the Devon bus tie to mitigate short circuit current.

Direct Assignment Facilities

1. Rearrange existing lines to bring in the generator lead into Devon substation.

Table of Contents

1.0 Introduction:

The Milford Power ("The Project") is a proposed 560 MW generating station located in Milford,Ct. This system impact study assesses the impact of interconnecting the proposed generating station into the Connecticut Light And Power Company's (CL&P, an NU System Company) 115 kV bulk power transmission system. Presented are results of detailed analyses determining CL&P's capability to interconnect and provide transmission service to The Project. Included are preliminary non-binding cost estimates of any needed transmission construction and the identification of any known potential restrictions in Devon and adjacent areas in Connecticut associated with increased generation in Devon.

2.0 System Impact Study Agreement:

The NU System Companies entered into a System Impact Study Agreement ("Agreement") to determine the impact of interconnecting a proposed 560 MW generating station into the CL&P 115 kV transmission system in Devon CT. The single point of delivery without specific customer identification is the NEPOOL PTF system at Devon substation.

The system impact of The Project is the primary focus of this study. Interconnection tie lines or direct assignment facilities are those facilities needed to physically connect a proposed generating station to the NU System Companies' transmission system. Transmission service with respect to this Agreement is the ability of the CL&P 115 kV integrated transmission system to reliably support such generation. Transmission service includes the ability of both existing and planned facilities.

3.0 Transmission Service Availability:

3.1 Determination Procedures:

Under both the NEPOOL and NU Tariff No. 9, transmission service shall be available whenever existing capability on the bulk transmission system is forecasted to be adequate to provide such service without (a) impairing or degrading the reliability of service provided by NU to their Native Load Customers or (b) interfering with the ability of NU or NEPOOL to meet their prior contractual commitments to others. Reliability of service under the Tariff shall include any requirements of Prudent Utility Practice and any requirements and criteria under the NEPOOL Agreement or of the Northeast Power Coordinating Council (NPCC). In determining whether reliability of service to Native Load Customers might be impaired or degraded, NU shall ensure that sufficient transmission capability exists to meet the following minimum requirements: (a) delivery of the output of their Entitlements to Native Load Customers, (b) back-up of their large generating units, (c) provision of adequate generation reserves and (d) satisfaction of their NEPOOL Capability Responsibility during a reasonable planning horizon.

NU will include the effects of existing Long-Term Firm Transmission contracts, Short-Term Firm Transmission contracts and other firm contractual arrangements in evaluating the impact of the request. NU will not include commitments for Non-Firm Transmission Service under NU Tariff or non-firm transmission service provided under the NEPOOL Tariff in this evaluation. The study will also include the effects of any other proposed generating units in New England which requested service from ISO-New England prior to the application for this project.

Analyses determining NU's capability to provide the requested transmission service performed in accordance with NU's planning guidelines on file with FERC (Form 715) and also included in Tariff No. 9. Transmission construction, needed to provide the service, is planned on a deterministic and comparable basis to that done by NU when it performs analyses and plans new transmission construction for its native load. The objective is to develop

transmission construction that is reliable, economic, industry acceptable and environmentally sound.

3.2 Implementation Methodology:

Load profiles, generating stations and transmission system models were obtained from the ISO (NEPLAN) full library case. The ISO (NEPLAN) seasonal model contains the best known representations of the system anticipated within the time period of providing transmission service to The Project. For consistency and reporting ease throughout the system impact study, the mid-term base case represents approximately the year 2001. The models enable exhaustive analyses to be performed in accordance with the NU planning guidelines. In addition, the results provide an approximate measure for the timing of transmission construction. Inherent with the simulations on the base load levels is the flexibility to determine appropriate timing of transmission construction covering the life of the transmission service request without extensive and burdensome intermediate load level testing to match precise generating station construction activities. The analyses do not specifically intend to identify differences between transmission construction unique to The Project's service request or advancement of facilities needed to support local area load growth.

The NU System Companies use the Power Technologies Inc. (PTI) Power System Simulator / Engineering (PSS/E) software package to perform both steady state and dynamic analysis. This software package is widely used throughout the industry to study the behavior of electrical networks. The comprehensive adequacy and security evaluation of the CL&P bulk transmission system utilizes the PTI IPLAN programming language. The interactive software allows for the automated manipulation of data sets, initiation of complex (AC) calculations and reporting summaries of predefined quantities. The automation provides the efficiencies needed to perform the extensive analyses in the time period permitted. In addition, the software is used to determine and perform efficient switching operations of either existing transmission facilities or proposed transmission construction.

Nine power flow base cases were used as starting point for the analysis. These cases were 100%, 75%, and 50% of peak load levels in the summer of 2001 with New England to New York transfers of +700Mw, 0Mw and -700Mw.

4.0 CL&P Transmission System:

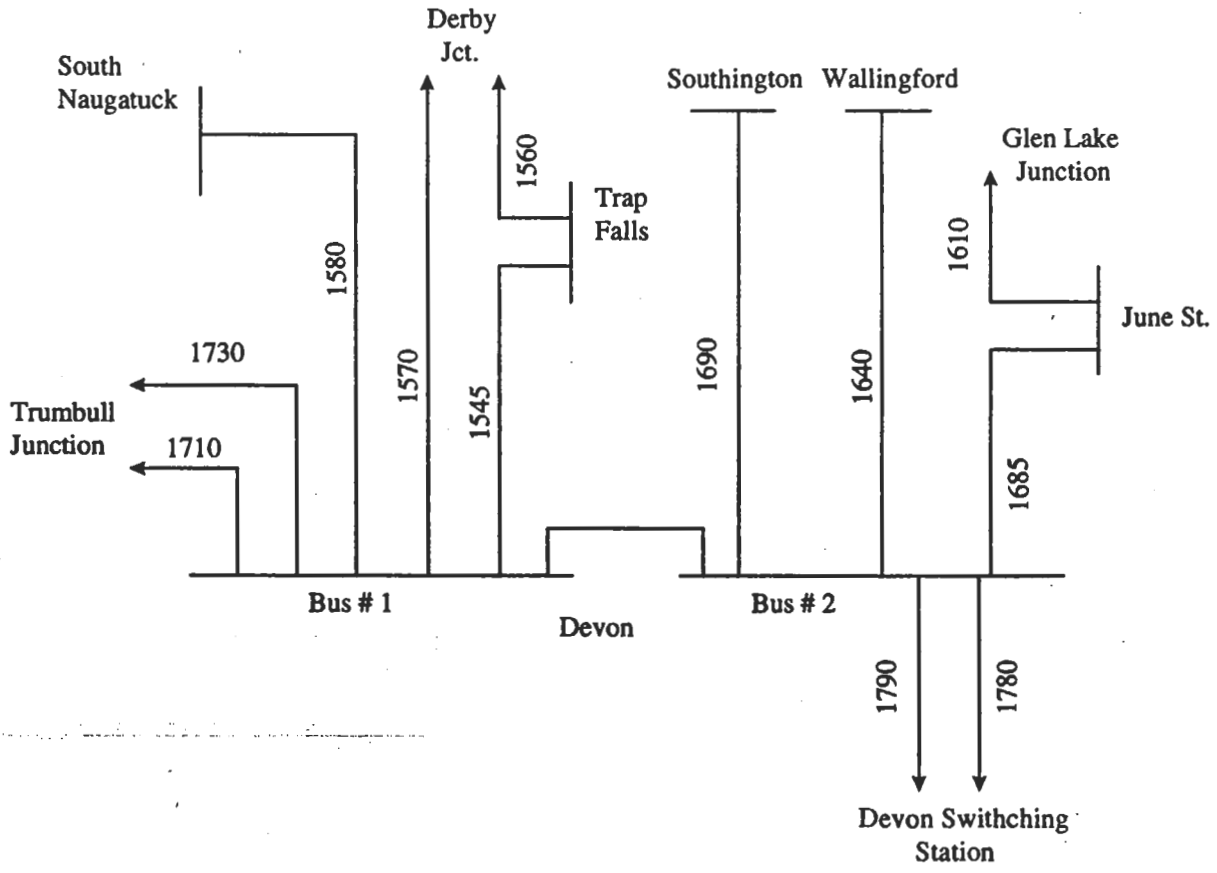
4.1 Description of Local Facilities:

The CL&P transmission system located in Devon, CT is operated at a 115 kV voltage level.

CL&P is a summer peaking system. Summer loading will limit system operations. A geographical map of the CL&P electrical system is contained in Appendix 1. Figure 1 below is a partial electrical one-line diagram showing the CL&P 115 kV transmission system in the vicinity of Devon.

Figure 1

Existing CL&P 115 kV Transmission System in the Vicinity of Devon 7R.



4.2 Thermal Rating

CL&P designs and operates its transmission system incorporating the flexibility provided with using variable (normal and emergency) thermal ratings. Transmission line components with variable thermal ratings allow the use of elevated currents over discrete time periods. The elevated current carrying capabilities are designed to maximize the capabilities of transmission line components by accepting minimal loss of life. The ratings are also used as a integral part of acceptance criteria when analyzing post-contingency conditions. The following sections in this report make frequent reference to thermal loadings in relationship to the emergency thermal ratings of transmission facilities under base case and contingency conditions.

The integrity of the 115 kV bulk transmission system is maintained after operating at elevated currents (12 hours, 4 hours, 15 minutes), by reducing thermal loadings to below emergency ratings by either system operator intervention or a change in the generation dispatch or load profiles. For operation above Long Time Emergency (LTE) and below Short Time Emergency (STE), the thermal loadings must be returned to below LTE within 15 minutes. This can be the result of dispatcher intervention or automatic operation of transmission or generation facilities. After a daily peak load and before the next daily load cycle for operation above normal and below LTE, the thermal loading must be returned to below its normal rating within 12 hours during the summer season and 4 hours during the winter season.

5.0 Results

Testing design criteria contingencies determines the impact of interconnecting the proposed generating station into the CL&P 115 kV transmission system. The objective is to investigate the thermal and voltage behavior of the transmission and distribution systems to these disturbances. The approach is threefold: 1) verify the adequacy and security of the existing system; 2) assess the impact of interconnecting the proposed generating station; and 3) if necessary, identify transmission construction to meet acceptance criteria that eliminate unacceptable operating conditions. The following sections reference tables containing summaries of thermal analyses. These tables are contained in Appendix 2.

The objective of this System Impact Study is to provide a reliable connection for the Milford Power generator and maintain reliability for the customers in Connecticut.

5.1 Thermal Analysis:

Except for radial lines, all single and several double element contingencies were simulated on the CL&P system. Appendix 3 list all the contingencies tested.

Table 2 in Appendix 2 shows the summary of the loading of the lines that were overloaded under contingencies and that affected the Devon Area Interface Limits. It shows the loading on these with and without the Milford Power generation. Table 3 shows all the lines that were overloaded under contingencies in this area with and without the Milford Power generation. The Milford Power was dispatched against the other generating units connected to Devon and Pequonnock substations. Specifically, approximately 350 Mw was dispatched against Devon gas turbines and Devon 7 & 8 and the remaining 210 Mw was dispatched against the Bridgeport Energy units.

Addition of the Milford Power slightly increases the flow on certain critical lines for some contingencies. Specifically, flow on the Derby Junction to Trapp Falls line (1560 line) increases by approximately 3Mw for the loss of the Derby Junction to Becon Falls line and the Devon to South Naugatuck line (loss of 1570 and 1580 lines) and for the Stuck Breaker (4T) in Southington. This in turn reduces the Devon Area Interface Limit by approximately 15 Mw without the transmission upgrades.

Voltage performance of the system had minimal change with the addition of the plant and the associated transmission upgrades.

5.1.1 Base Case Loadflow

The thermal analysis is based on a 2003 summer ISO (NEPLAN) full library case based on 1997 assumptions . The Northeast Utilities load was scaled to meet the projections in the NU Economic Load Forecast. The New England load was then scaled to match the 2001 summer load in the CELT report. Generation was added at Bridgeport Harbor and Millennium (near

Carpenter Hill). The dispatch was based on an economic dispatch modified to make sure that most of the generation in Southwest Connecticut was in service.

The areas outside New England and New York were reduced to provide a more manageable case.

5.2 Transmission Upgrades

The following list contains the transmission upgrades necessary on the CL&P system in order to interconnect the 560Mw Milford Power generating station at Devon without degrading the Devon Area Interface Limits.

CL&P System Additions

1. Upgrade the Stevenson to Trap Falls line terminal to full normal rating of 795 ACSR conductor by replacing the disconnect switches and line protection in Stevenson substation

2. Reconfigure Devon 7R to accommodate the new line position for the generator lead. Install new circuit breakers in the Devon substation to accommodate increased short circuit duty. Install 1% series reactor on the Devon bus tie to mitigate short circuit current.

Direct Assignment Facilities

1. Rearrange existing lines to bring in the generator lead into Devon substation.

5.3 Interface Limits

The proposed transmission upgrades associated with the Milford Power Project improves the export capability out of the Devon area by approximately 300 Mw. The Graph 1 in Appendix 4 depicts the improvement in the interface limits

The Devon Area Interface is defined as the transmission lines in southwest Connecticut as shown in Plot 1 in Appendix 4. This is a closed interface. There is approximately 2800Mw of installed generation (including Milford) within this interface and it has approximately 1800 Mw of peak load.

Graph 1 in Appendix 4 shows the Devon Area Interface limits at 75% load level as it exists today and the interface limit with the proposed transmission upgrade. The load flow plots used to derive these interface limits are in Appendix 5.

5.4 Stability Assessment

The stability assessment will be covered in Part 2 of the report.

5.5 Fault Duty Assessment

Short circuit duty has been calculated for Devon and the surrounding busses. The changes in fault duty are highest at Devon. Table 4 in Appendix 2 shows the existing and expected fault duties at Devon and the surrounding busses.

The fault duty assessment is based on two 17% @340 MVA generator step-up transformers (GSU).

Addition of the 1% reactor on the Devon bus tie substantially decreases the fault current at Devon, Devon Swithing Station, and Pequonock substations. Seven of the existing circuit breakers at Devon are presently being changed to 63Ka breakers as part of the Bridgeport Energy project. The remaining breakers at Devon will be changed to 63Ka breakers as part of this project.

Even though the fault current at Devon Tie 88 was approximately 60 Ka before the transmission upgrades, the maximum fault current any breaker was subjected to was approximately 50Ka due to the breaker configuration at Devon Swithing Station. However, addition of the 1% reactor at the bus tie in Devon substantially reduces the fault current at this location.

5.6 Summary

In summary, the following list contains the transmission construction necessary on the CL&P system resulting from interconnecting a 560Mw generating station at Devon.

CL&P System Additions

1. Upgrade the Stevenson to Trap Falls line terminal to full normal rating of 795 ACSR conductor by replacing the disconnect switches and line protection in Stevenson substation

2. Reconfigure Devon 7R to accommodate the new line position for the generator lead. Install new circuit breakers in the Devon substation to accommodate increased short circuit duty. Install 1% series reactor on the Devon bus tie to mitigate short circuit current.

Direct Assignment Facilities

1. Rearrange existing lines to bring in the generator lead into Devon substation.

Section 6.0 develops preliminary transmission construction costs for the facilities identified above.

6.0 Transmission Construction:

The transmission construction proposed in this feasibility study may or may not require local or state regulatory approval. NU cannot predict the success or time line under which approvals are obtained.

The construction costs included in this section are preliminary estimates based on 1998 dollars and do not obligate the NU System Companies to construct such facilities based on the estimates provided. The estimates contain a level of accuracy that gives The Project the magnitude of the costs associated with construction of new facilities. More detailed costs estimates would be compiled following additional commitments by The Project to proceed with additional facilities studies. The following sections describes in detail the characteristics of each planned transmission facility.

Table 1

Transmission Line Upgrade Data

Line #	Terminal Identification	Present ratings N/LTE/STE MVA	New ratings N/LTE/STE MVA
1560	Stevenson- Trap falls	144/165/193	221/221/221

Descriptions and cost estimate for transmission construction associated with the proposed Milford Power generating station are as follows:

A. System Upgrades

1. Upgrade the Stevenson to Trap Falls line terminal to full normal rating of 795 ACSR conductor by replacing the disconnect switches and line protection in Stevenson substation

The estimated cost for this upgrade is $240,000 in 1998 dollars without AFUDC

2. Reconfigure Devon 7R to accommodate the new line position for the generator lead. Install new circuit breakers in the Devon substation to accommodate increased short circuit duty. Install 1% series reactor on the Devon bus tie to mitigate short circuit current.

The estimated cost is $3,500,000 in 1998 dollars without AFUDC

Direct Assignment Facilities

1. Rearrange existing lines to bring in the generator lead into Devon substation.

The estimated cost is $500,000 in 1998 dollars without AFUDC

This system impact study report does not address the allocation of cost responsibilities for the proposed upgrades to the CL&P transmission system. This allocation will be determined in accordance with the NEPOOL allocation procedure in effect at the time 18.4 approval is requested. Identification of transmission construction costs are meant to support the magnitude of construction required to interconnect the proposed generating station.

7.0 Conclusion:

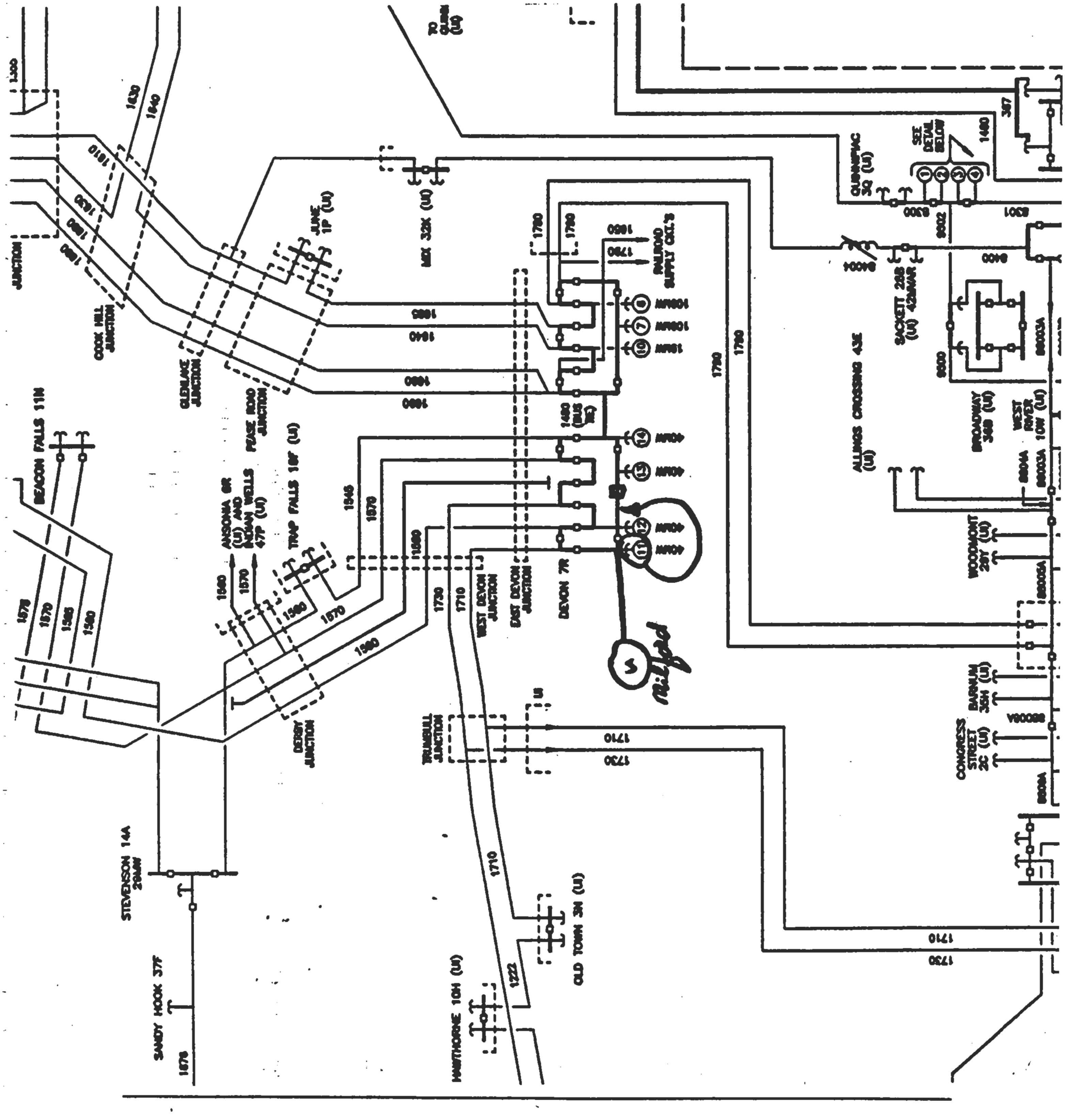
The transmission up-grades listed in the summary are adequate to meet the NEPOOL and NPCC reliability criteria and provide a system that can be reasonably operated. This conclusion is based on thermal and voltage analysis. Stability analysis is required to confirm this conclusion. The stability analysis will be included in part 2 of this report.

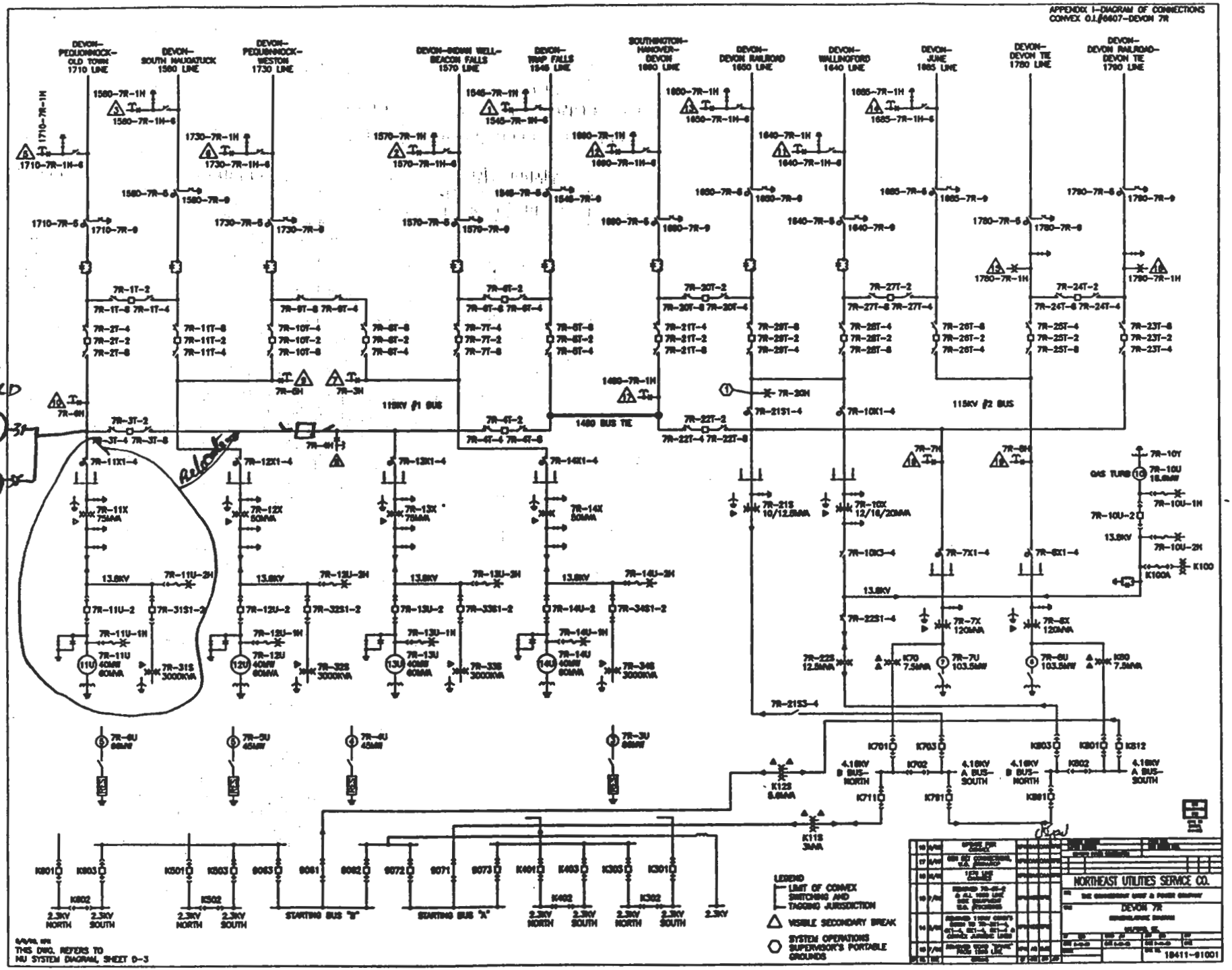
APPENDIX 1

DIAGRAM SHOWING GEOGRAPHIC ARRANGEMENT OF THE ELECTRIC POWER SYSTEM IN THE VICINITY OF DEVON 7R


Proposed Milford
Power project
MILFORD
Baldwin Crossing
Baldwin's Swamp
Black Swamp
Billberry Swamp
Fowlers Island
FAIRFIELD CO
NEW HAVEN CO
PARKWAY
INTERCHANGE
Putney
Pecks Mill Pond
Naugatuck Gardens
Naugatuck Junction
Milford Reservoir
Mohawk Swamp
CONNECTICUT
Washington Bridge
Devon
Pumpkin Delight Sch
Sewage Disposal
Great Cr
Myrtle Beach
Walnut Beach
Riverclift
Goose Island
HOUSATONIC
RIVER

Existing CL&P 115 kV Transmission System in the Vicinity of Devon 7R.




APPENDIX I–DIAGRAM OF CONNECTIONS
CONVEX D.I.#6607–DEVON 7R
DEVON–PEQUONNOCK–OLD TOWN 1710 LINE
DEVON–SOUTH NAUGATUCK 1560 LINE
DEVON–PEQUONNOCK–WESTON 1730 LINE
DEVON–BROWN WELL–BEACON FALLS 1570 LINE
DEVON–WMP FALLS 1545 LINE
SOUTHINGTON–HANOVER–DEVON 1660 LINE
DEVON–DEVON RAILROAD 1650 LINE
DEVON–WALLINGFORD 1640 LINE
DEVON–JUNE 1685 LINE
DEVON–DEVON TIE 1780 LINE
DEVON RAILROAD–DEVON TIE 1790 LINE
MILFORD
115KV #1 BUS
115KV #2 BUS
1480 BUS TIE
GAS TURB
13.8KV
4.16KV B BUS–NORTH
4.16KV A BUS–SOUTH
2.3KV NORTH
2.3KV SOUTH
STARTING BUS "B"
STARTING BUS "A"
LEGEND
LIMIT OF CONVEX SWITCHING AND TAGGING JURISDICTION
VISIBLE SECONDARY BREAK
SYSTEM OPERATIONS SUPERVISOR'S PORTABLE GROUNDS
THIS DWG. REFERS TO NU SYSTEM DIAGRAM, SHEET D-3
NORTHEAST UTILITIES SERVICE CO.
DEVON 7R
19411-81001

APPENDIX 2

TABLE SHOWING LOADING ON CRITICAL CIRCUITS IMPACTED BY MILFORD POWER

SHORT CIRCUIT DUTIES IMPACTED BY MILFORD POWER

TABLE 2
LOADING ON CRITICAL CIRCUITS

Milford replaces Devon & Bridgeport generation

Line Overloaded	Contingency		NY-NE 700MW					NY-NE 0MW					NY-NE -700MW					
		100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%
Normal / LTE / STE		MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 56	MD 0	MD 560
Derby Jct. - Trap Falls (1560 line) 144/165/193	Devon-SouthNaugatuck(1580)																		
221/221/221	Devon-Derby Jct-Beacon Falls(1570)			-167	-169	-198	-201			-183	-186	-217	-220	-159	-162	-207	-210	-230	-233
	Southington STUCK BREAKER(4T)			-150	-153	-180	-182	-146	-148	-178	-181	-212	-213	-175	-177	-218	-221	-234	-237
	DerbyB-BeconFl&Devn-S.Naug(1570&1580)			-184	-187	-216	-220	-156	-160	-200	-204	-237	-239	-173	-176	-225	-228	-248	-250
Stevenson - Derby Jct. (1570 line)																			
	Southington STUCK BREAKER(4T)			-163	-167	-213	-216	-151	-153	-201	-204	-257	-258	-189	-192	-254	-257	-287	-290
114/165/193	Southington-Frost Bridge(329)			-157	-160	-207	-210	-144	-146	-194	-198	-253	-255	-180	-183	-247	-250	-282	-285
221/221/221	Frost Bridge-Long Mountain(352)			-140	-142	-199	-201	-109	-111	-173	-175	-229	-231	-143	-145	-209	-211	-250	-253
Norwalk Hr - Northport 270/345/450	Long Mtn-Pleasent VALLEY(398)															363	360	471	468
	Long Mtn STUCK BREAKER(6T OR 8T)															342	340	455	452

TABLE 3
LINES OVERLOADED UNDER CONTINGENCY
Milford replaces Devon & Bridgeport generation

Line Overloaded	Contingency		NY-NE 700MW					NY-NE 0MW						NY-NE -700MW					
		100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%
Normal / LTE / STE		MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560
Derby Jct. - Trap Falls	NONE																		
144/165/193	Devon-SouthNaugatuck(1580)																		
221 / 221/221	Devon-Derby Jct-Beacon Falls(1570)			-167	-169	-198	-201			-183	-186	-217	-220	-159	-162	-207	-210	-230	-233
	Southington-Hanover-Devon(1690)																		
	Norwalk-Peaceable(1470)																		
	Peaceable-Ridgefield-Plumtree(1565)																		
	Devon Bus Tie Open - Milford on bus #1																		
	Long Mtn-Southington(329/352)&FB XF																		
	Haddam Neck-Southington(362)																		
	Scovill R-E.Shore(387)&E.Shore XF																		
	Southington STUCK BREAKER(4T)			-150	-153	-180	-182	-146	-148	-178	-181	-212	-213	-175	-177	-218	-221	-234	-237
	Southington-Frost Bridge(329)																		
	Frost Bridge-Long Mountain(352)																		
	MS-Southngtn&ScovillR-E.Shore(348&387)																		
	Norwalk-Peaceable&Hawthorn(1470&1720)																		
	Norwalk-Peaceable&Weston(1470&1637)																		
	Peaceable-RDGFLD-Norwalk(1470&1565)																		
	DerbyB-BeconFl&Devn-S.Naug(1570&1580)			-184	-187	-216	-220	-156	-160	-200	-204	-237	-239	-173	-176	-225	-228	-248	-250
	Devon-S.NAUG&PEQ-TRMBLJ(1580&1730)																		
	2-Devon-Trumbull JCT(1710&1730)																		
	2-Devon-Trumbull JCT(1710&1730) BP-200																		
Devon - S. Naugatuck	NONE																		
100 / 112 / 112	Devon-Derby Jct-Beacon Falls(1570)																		
	Southington-Hanover-Devon(1690)																		
	Becon Falls-Baldwin-Bunker H(1575)																		
	Trap Fall-Stevenson-Asonia(1560)																		
	Norwalk-Peaceable(1470)																		
	Devon Bus Tie Open - Milford on #2 Bus																		
	Devon Bus Tie Open - Milford on bus #1																		
	Millstone-Southington(348)&1Southngtn XF																		
	Haddam Neck-Southington(362)																		
	Scovill R-E.Shore(387)&E.Shore XF																		
	Mnchestr-Ludlow-NB(395)&N.BloomfieldXF																		
	Southington STUCK BREAKER(4T)																		
	Southington-Frost Bridge(329)																		
	HaddmNeck-Southngtn&ScovillR(362&376)																		
	MS-Southngtn&ScovillR-E.Shore(348&387)																		
	ShawsH-BunkerH&FB-Freight(1271&1721)																		

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LINES OVERLOADED UNDER CONTINGENCY
Milford replaces Devon & Bridgeport generation

Line Overloaded	Contingency	NY-NE 700MW						NY-NE 0MW						NY-NE -700MW					
		100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%
Normal / LTE / STE		MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560
	FrostB-ShawsH&FrostB-Freight(1445&1721)	112	112					112	112					113	113				
	Norwalk-Peaceable&Hawthorn(1470&1720)																		
	Norwalk-Peaceable&Weston(1470&1637)																		
	Devon-DerbyJB&Trap Falls(1545&1570)					105	105					112	112			106	106	115	115
	Trap Falls-DerbyJ&Devon(1560&1570)																		
	BeaconFalls-DerbyB&BaldwinB(1570&1575)																		
	2-Devon-Trumbull JCT(1710&1730)																		
Beacon Falls - Derby	NONE																		
100 / 112 / 112	Devon-SouthNaugatuck(1580)																		
118 / 143 / 145	Southington-Hanover-Devon(1690)																		
	S.Naugatuck-Bunker Hill(1585)																		
	Trap Fall-Stevenson-Asonia(1560)																		
	Stevenson-Frost Brdg-Baldwin(1990)																		
	Devon Bus Tie Open - Milford on bus #1																		
	Long Mtn-Plumtree(321)&2Plumtree XF																		
	Scovill R-E.Shore(387)&E.Shore XF																		
	Southington STUCK BREAKER(4T)																		
	Southington-Frost Bridge(329)																		
	MS-Southngtn&ScovillR-E.Shore(348&387)																		
	ShawsH-BunkerH&FB-Freight(1271&1721)	-105	-105					-104	-105					-105	-105				
	FrostB-ShawsH&FrostB-Freight(1445&1721)	-123	-124					-123	-123					-123	-124				
	Norwalk-Peaceable&Weston(1470&1637)																		
	Trap Falls-DerbyJ&Devon(1560&1570)																		
	Devon-S.NAUG&PEQ-TRMBLJ(1580&1730)																		
	S.NAUG-Devon&Bunker Hill(1580&1585)																		
	Plumtree-StonyHill&Long Mtn(1770&321)																		
	WBfld-Stny-Shpaug&LMtn-PlumT(1887&321)																		
Stevenson - Derby Jct.	NONE																		
114/165/193	Devon-SouthNaugatuck(1580)																		
221/284/306	Southington-Hanover-Devon(1690)																		
	Becon Falls-Baldwin-Bunker H(1575)																		
	Ash Creek-SASCO Creek(1430)																		
	Norwalk-Peaceable(1470)																		
	Peaceable-Ridgefield-Plumtree(1565)																		
	Devon Bus Tie Open - Milford on #2 Bus																		
	Devon Bus Tie Open - Milford on bus #1																		
	Haddam Neck-Southington(362)																		
	Scovill R-E.Shore(387)&E.Shore XF																		

TABLE 3
LINES OVERLOADED UNDER CONTINGENCY
Milford replaces Devon & Bridgeport generation

Line Overloaded	Contingency	NY-NE 700MW						NY-NE 0MW						NY-NE -700MW					
		100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%
Normal / LTE / STE		MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560
	Southington STUCK BREAKER(4T)			-163	-167	-213	-216	-151	-153	-201	-204	-257	-258	-189	-192	-254	-257	-287	-290
	Southington-Frost Bridge(329)			-157	-160	-207	-210	-144	-146	-194	-198	-253	-255	-180	-183	-247	-250	-282	-285
	Frost Bridge-Long Mountain(352)			-140	-142	-199	-201	-109	-111	-173	-175	-229	-231	-143	-145	-209	-211	-250	-253
	MS-Southngtn&ScovillR-E.Shore(348&387)																		
	OldT-Hawthorn&Trumbll-Westn(1222&1730)																		
	ShawsH-BunkerH&FB-Freight(1271&1721)																		
	Norwalk-Peaceable&Hawthorn(1470&1720)																		
	Norwalk-Peaceable&Weston(1470&1637)																		
	Peaceable-RDGFLD-Norwalk(1470&1565)																		
	BeaconFalls-DerbyB&BaldwinB(1570&1575)																		
	Baldwin-Beconfl&BunkrH-S.NG(1575&1585)																		
	2-Devon-Trumbull JCT(1710&1730)																		
	2-Devon-Trumbull JCT(1710&1730) BP-200																		
Norwalk Hr 138/115	Long Mtn-Southington(329/352)&FB XF																		
372 / 372 / 450	Long Mtn-Pleasent VALLEY(398)															365	362	473	470
	Long Mtn STUCK BREAKER(6T OR 8T)															343	341	452	450
	Frost Bridge-Long Mountain(352)																		
	Peaceable-RDGFLD-Norwalk(1470&1565)																		
Norwalk Hr - Northport	NONE																		
286 / 315 / 428	Long Mtn-Southington(329/352)&FB XF																		
	Mnchestr-Ludlow-NB(395)&N.BloomfieldXF																		
	Long Mtn-Pleasent VALLEY(398)															363	360	471	468
	Long Mtn STUCK BREAKER(6T OR 8T)															342	340	455	452
	Frost Bridge-Long Mountain(352)																		
	Peaceable-RDGFLD-Norwalk(1470&1565)																		
Norwalk Hr - Ely ave	NONE																		
201 / 262 / 376	Long Mtn-Southington(329/352)&FB XF																		
	Long Mtn-Pleasent VALLEY(398)																	-238	-237
	Long Mtn STUCK BREAKER(6T OR 8T)																	-244	-245
	Frost Bridge-Long Mountain(352)																		
	OldT-Hawthorn&Trumbll-Westn(1222&1730)																		
	Norwalk-Weston&Hawthorn(1637&1720)																		
	Norwalk-Weston&HawthornE(1637&1720)																		
	2-Devon-Trumbull JCT(1710&1730)																		
	2-Devon-Trumbull JCT(1710&1730) BP-200																		
	Hawthrn-Norwalk&Trmbl-Westn(1720&1730)																		

TABLE 3
LINES OVERLOADED UNDER CONTINGENCY
Milford replaces Devon & Bridgeport generation

Line Overloaded	Contingency	NY-NE 700MW						NY-NE 0MW						NY-NE -700MW					
		100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%	100%	100%	75%	75%	50%	50%
Normal / LTE / STE		MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560	MD 0	MD 560
	Rowayton-FlaxHill&Norwalk(1867&1880)																		
Southington - Milstone	Millstone-Card&MLST-Montville(383&371)													-1352	-1352				
1255 / 1446 / 1601	HaddmNeck-Southngtn&ScovillR(362&376)																		
	Haddam Neck-Southington(362)																		
Millstone - Manchester	Millstone-Card&MLST-Montville(383&371)	1345	1344.8							1393.3	1392.1	1466.1	1465.2			1330	1330	1401	1402
1255 / 1446 / 1793																			
Long Mtn - CT/NY	NONE																		
1135 / 1317 / 1601	Northfield Mtn.-Ludlow(354)																		
	Mnchestr-Ludlow-NB(395)&N.BloomfieldXF																	1320	1320.1
	Card STUCK BREAKER(ANY 1 OF 3)																		
	Manchester STUCK BREAKER(21T)																		
	Ludlow FAILED BREAKER(3T)																		
	Mnchr-Meekville&BloomfieldJ(395&1751)																		
	Meekville-Mnchr&Blmf-S.meadw(395&1779)																		
CT/NY - Pleasent Vly	NONE																		
1135 / 1317 / 1601	Northfield Mtn.-Ludlow(354)																		
	Mnchestr-Ludlow-NB(395)&N.BloomfieldXF																	1319	1319.4
	Card STUCK BREAKER(ANY 1 OF 3)																		
	Manchester STUCK BREAKER(21T)																		
	Ludlow FAILED BREAKER(3T)																		
	Mnchr-Meekville&BloomfieldJ(395&1751)																		
	Meekville-Mnchr&Blmf-S.meadw(395&1779)																		
Pratts Jct-BearSwamp	NONE																		
300 / 351 / 369	Ludlow-MILLBRY(301/302)&Ludlow XF	-338	-338																
390?	Northfield Mtn-VERMONT YANKE(381)	-346	-346																
	Mnchestr-Ludlow-NB(395)&N.BloomfieldXF	-334	-334																
	Northfield-ALPS(312/393)&BERKSHIRE Xf																		
	Long Mtn-Pleasent VALLEY(398)																		
	Long Mtn STUCK BREAKER(6T OR 8T)																		
	Card STUCK BREAKER(ANY 1 OF 3)																		
	Ludlow FAILED BREAKER(3T)	-337	-337																
	Northfield MNTN STUCK BREAKR(3T)	-340	-340																
Montville - Haddam Neck	Millstone-MC&MLS-Southington(310&348)							1372.2	1373					1469	1469.4	1302	1301.9		
1255 / 1446 / 1601																			

TABLE 4

Milford Power Fault Duty Analysis
Fault Duties in Kiloamperes

Substation	Voltage	Breaker Rating	Existing Fault Current		New Fault Current	
			3LG	1LG	3LG	1LG
Ashcreek	115 kV	40	24	18.5	24.5	18.9
Baird	115 kV	40	35.6	29.3	34.6	28.5
Beacon Falls	115 kV	25	8.9	6	9.1	6.1
Devon Ring #1	115 kV	63	60.1	62.5	51.8	55
Devon Ring #2	115 kV	63	60.1	62.5	52.8	52.3
Devon Tie 88	115 kV	50	59.2	59.8	48.9	48.1
Pequonock	115 kV	63	52.8	60.6	55.3	61.5
Resco	115 kV	40	31	26.8	31.5	27.3
Stevenson	115 kV	25	22.1	17.1	18	14.1

APPENDIX 3

LIST OF CONTINGENCIES

MILFORD POWER
115 kV Contingency List

Case#		Terminal Busses					Line No.
1	L/O	Devon	Pequonnock	Old Town	-		1710
2	L/O	Devon	Pequonnock	Weston	-		1730
3	L/O	Devon	S Naugatuck	-	-		1580
4	L/O	Devon	Beacon Falls	Indian Wells	-		1570
5	L/O	Devon	Trap Falls	-	-		1545
6	L/O	Devon	Southington	Hanover	-		1690
7	L/O	Devon	Wallingford	-	-		1640
8	L/O	Devon	June St	-	-		1686
9	L/O	Devon	Devon Swtch	-	-		1780
10	L/O	Pequonnock	East Main	Congress	Baird		8809A
11	L/O	Pequonnock	Compo	-	-		1130
12	L/O	Pequonnock	Ash Creek	CRRA	CRRA Tap		91001
13	L/O	S Naugatuck	Bunker Hill	-	-		1585
14	L/O	Beacon Falls	Bunker Hill	Baldwin	-		1575
15	L/O	Trap Falls	Stevenson	Ansonia	-		1560
16	L/O	Southington	Canal	Noera	Frost Bridge		1950/1550
17	L/O	Southington	Todd	Noera	Frost Bridge		1910/1163
18	L/O	Wallingford	Southington	North Haven	-		1630
19	L/O	June St	Southington	Mix Ave	-		1610
20	L/O	Devon Swtch	Barnum	Baird	Congress		88006A
21	L/O	Devon	Barnum	Baird	Congress		89006B
22	L/O	Devon	Milvon	Woodmont	Allings Xing		88005A
23	L/O	Devon Swtch	Milvon	Woodmont	Allings Xing		89005B
24	L/O	Ash Creek	Sasco Creek	-	-		1430
25	L/O	Compo	Darien	-	-		1416
26	L/O	Oldtown	Hawthorne	-	-		1222
27	L/O	Weston	Norwalk	-	-		1637
28	L/O	Stevenson	Sandy Hook	Newtown	Plumtree		1876/1760
29	L/O	Stevenson	Frost Bridge	Baldwin	-		1990
30	L/O	Bunker Hill	Shaws Hill	-	-		1272
31	L/O	Bunker Hill	Freight	-	-		1668
32	L/O	Frost Bridge	Shaws Hill	-	-		1445
33	L/O	Frost Bridge	Freight	-	-		1721
34	L/O	Frost Bridge	Carmel Hill	Rocky River	-		1238/1813
35	L/O	Sasco Creek	Norwalk Hbr	Glenbrook	-		1890
36	L/O	Darien	South End	-	-		1977
37	L/O	Norwalk	Hawthorne	-	-		1720

MILFORD POWER
115 kV Contingency List

		Terminal Busses				Line No.
38	L/O	Norwalk	Flax Hill	-	-	1389
39	L/O	Norwalk	Norwalk Hbr	Glenbrook	-	1880
40	L/O	Flax Hill	Norwalk Hbr	Glenbrook	-	1867
41	L/O	Glenbrook	Waterside	-	-	1440
42	L/O	Glenbrook	South End	-	-	1450
43	L/O	South End	Tomac	Cos Cob	-	1750
44	L/O	Waterside	Cos Cob	-	-	1740
45	L/O	Norwalk	Peaceable	Ridgefield	-	1470
46	L/O	Peaceable	Ridgefield	Plumtree	-	1565
47	L/O	Plumtree	Stony Hill	Bates Rock	-	1770
48	L/O	Stony Hill	W Brookfield	Shepaug	Bates Rock	1887/1622
49	L/O	W Brookfield	Rocky River	-	-	1618
50	L/O	Woodmont	Allings Xing	Elmwest	-	8804A
51	L/O	Allings Xing	Elmwest	West River	Grand Ave	8803A
52	L/O	West River	Water Street	-	-	8700
53	L/O	Water Street	Broadway	-	-	9500
54	L/O	Water Street	Grand Ave	-	-	8500
55	L/O	Grand Ave	East Shore	-	-	8100
56	L/O	Grand Ave	Mill River	-	-	8301
57	L/O	Grand Ave	Sackett	-	-	8400
58	L/O	Broadway	Mill River	-	-	9502
59	L/O	Mill River	Quinnipiac	-	-	8300
60	L/O	Sackett	Mix Avenue	-	-	8404
61	L/O	Quinnipiac	North Haven	-	-	8600
62	L/O	East Shore	Branford	-	-	1460
63	L/O	Branford	North Haven	-	-	1655
64	L/O	Branford	Green Hill	-	-	1508
65	L/O	Montville	Dudley Tap	Montville	Stockhouse	1000/1090
66	L/O	Montville	Wawecusj	Montville	Buddington	1080/1280
67	L/O	Montville	Wawecusj	Montville	Stockhouse	1080/1090
68	L/O	Wawecusj	Card	Card	Stockhouse	1080/1490
69	L/O	Wawecusj	Tunnel	Bean Hill	Tunnel	1080/1675
70	L/O	Barber Hill	Enfield	Barber Hill	Windsor Locks	1100/1200
71	L/O	Barber Hill	Enfield	Enfield	Windsor Locks	1100/1300
72	L/O	Frost Bridge	Norea	Todd	FB-Norea-Canal	1163/1550
73	L/O	Oldtown	Hawthorne	Trumbull Jct.	Weston	1222/1730
73	L/O	Bokum	Haddam	Bokum	Middletown	1261/1620

MILFORD POWER
115 kV Contingency List

75	L/O	Shaws Hill	Bunker Hill	Frost Bridge	Freight	1271/1721
76	L/O	Whipple Jct	Mystic	Mystic	Ct/Ri	1280/1870
77	L/O	Barber Hill	South Windsor	Manchester	-	1310/1763
78	L/O	Norwalk	Flax Hill	Norwalk	Rowayton Jct.	1389/1880
79	L/O	Franconia	Sctico	Sctico	Ludlow	1394/1515
80	L/O	Southington	Lucchini	Southington	Glen Lake Jct.	1355/1610
81	L/O	Frost Bridge	Shaws Hill	Frost Bridge	Freight	1445/1721
82	L/O	Peaceable	Norwalk	Hawthorne	Norwalk	1470/1720
83	L/O	Peaceable	Norwalk	Weston	Norwalk	1470/1637
84	L/O	Weston	Norwalk	Hawthorne	Norwalk	1637/1720
85	L/O	Tunnel	Frybrook	Plainfield Jct	-	1505/1607
86	L/O	Devon	Derby Jct.	Devon	Trap Falls	1545/1570
87	L/O	Norea	Canal	Southington	Todd	1550/1910
88	L/O	Trap Falls	Derby Jct.	Trap Falls	Devon	1560/1570
89	L/O	Peaceable	Ridgefield	Norwalk	-	1470/1565
90	L/O	Derby Jct.	Beacon Falls	Devon	South Naugatuck	1570/1580
91	L/O	Derby Jct.	Beacon Falls	Baldwin JctB	Beacon Falls	1570/1575
92	L/O	Devon	South Naugatuck	Pequonnock	Trumble Jct.	1580/1730
93	L/O	Devon	Southington	Naug-Bunker Hill	South Naugatuck	1580/1585
94	L/O	Baldwin Jct.	Beacon Falls	Bunker Hill	South Naugatuck	1575/1585
95	L/O	Rock River	West Brookfield	Long Mountain	Plumtree	1618/321
96	L/O	Middle Town	Bokum	East Meriden	Haddam	1620/1975
97	L/O	Southington	Wallingford Jct.	Devon	Wallingford	1630/1640
98	L/O	Weston	Norwalk	Hawthorne	Norwalk	1637/1720
99	L/O	Bunker Hill	Freight	Frost Bridge	Freight	1668/1721
100	L/O	Southington	Reservoir Road	Black Rk-Southington	Berlin	1670/1771
101	L/O	Southington	Berlin	Southington	Black Rock	1771/1830
102	L/O	Southington	Reservoir Road	Black Rk-Southington	Black Rock	1670/1830
103	L/O	Devon	Wallingford	Southington	Wallingford Jct.	1640/1690
104	L/O	Devon	Trumbel Jct.	-	-	1710/1730
105	L/O	Hawthorne	Norwalk	Trumbull Jct.	Weston	1720/1730
106	L/O	Southington	Ui Tap	Frstville&Southington	CHIPTP-Bristol	1800/1810
107	L/O	Southington	ChipTap	Bristol&Forestville	Bristol	1810/1825
108	L/O	Plumtree	Stony Hill	Long Mountain	Plumtree	1770/321
109	L/O	Southington	Ui Tap	Forestville	Forestville-Bristol	1800/1825
110	L/O	Rowayton Jct	Flax Hill	Rowayton Jct	Norwalk	1867/1880
111	L/O	Rowayton Jct	Glenbrook	-	-	1880/1890

MILFORD POWER
115 kV Contingency List

112	L/O	Norwalk	Flax Hill	Norwalk	Rowayton Jct.	1389/1880
113	L/O	West Brookfield	Stony Hill	Shepaug&Long Mt.	Plumtree	1887/321
113	L/O	West Brookfield	Stony Hill	Shepaug&Plumtree	Stony Hill-Bates Rk.	1887/1770
114	L/O	Rowayton Jct	Glenbrook	South End	Darien	1867/1977
115	L/O	Southington	Millstone	East Meriden	Haddam	362/1975
116	L/O	Manchester	East Hartford	Manchester	1775 Tap	1207/1775
117	L/O	Franklin Drive	Weingart Jct	Franklin Drive	Torrington Terminal	1732/1788
118	L/O	Meekville	Manchester	Manchester	Bloomfield Jct	395/1751
119	L/O	Bloomfield Jct	North Bloomfield	Bloomfield	Bloomfield	1751/1777
120	L/O	North Bloomfield	Bloomfield	Bloomfield	South Meadow	1777/1779
121	L/O	Meekville	Manchester	South Meadow	-	395/1779

MILFORD POWER
345 kV Contingency List

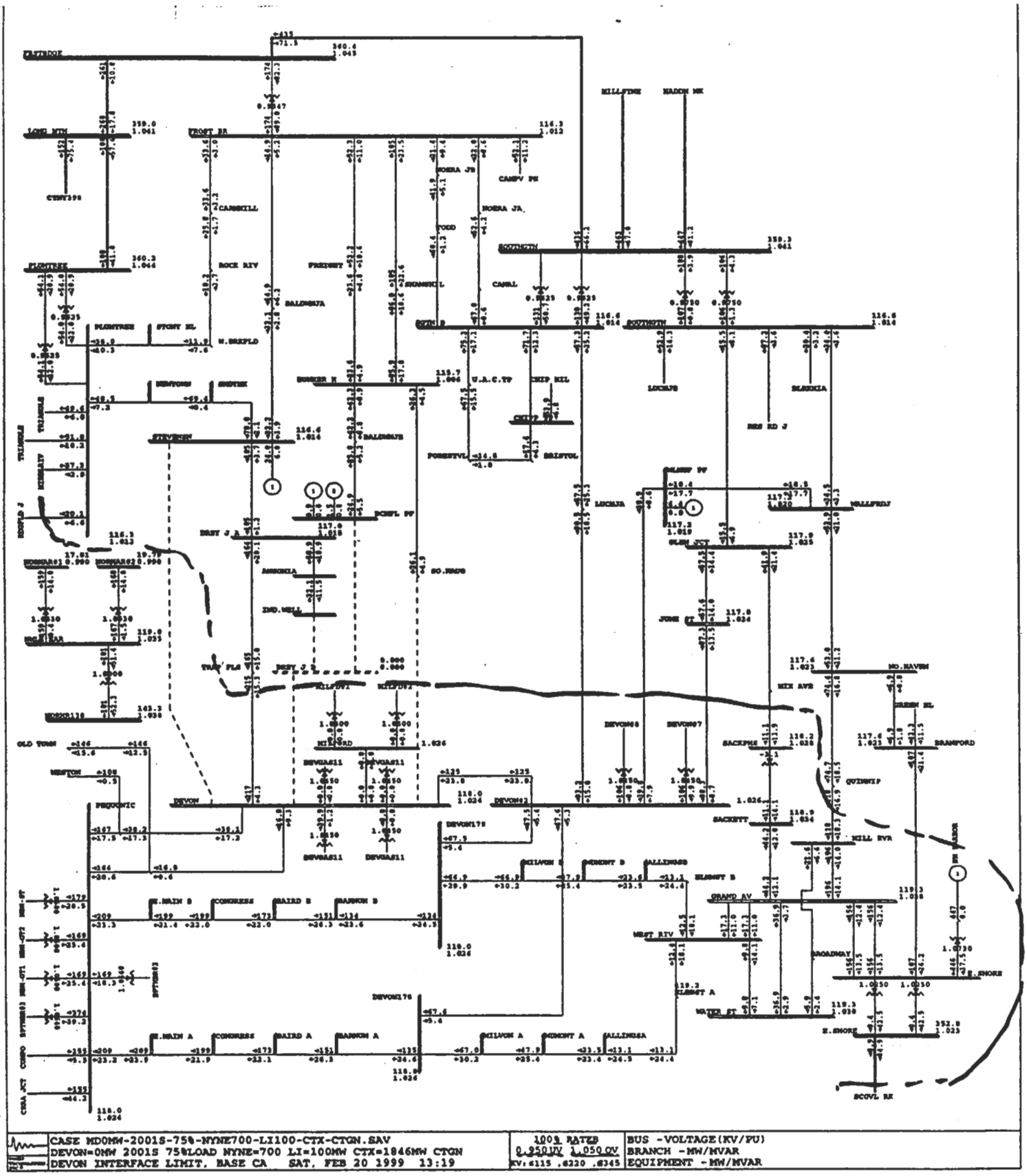
Case#		Terminal Busses				Line No.
1	L/O	Ludlow	Carpenter Hill	Millbury	One Ludlow Auto	301/302
2	L/O	Millstone	Manchester	-	-	310
3	L/O	Northfield	Berkshire	Alps	Berkshire Auto	312/393
4	L/O	Long Mountain	Plumtree	-	2 Plumtree Autos	321
5	L/O	Card	Sherman	-	-	347
6	L/O	Millstone	Southington	-	1 Southington Auto	348
7	L/O	Long Mountain	Frost Bridge	Southington	FB Auto FB Stuck Brkr	329/352
8	L/O	Manchester	Portland Jct.	Scovil Rock	1 Manchester Auto	353
9	L/O	Northfield Mt.	Ludlow	-	-	354
10	L/O	Haddam Neck	Southington	-	-	362
11	L/O	Haddam Neck	Montville	-	1 Montville Auto	364
12	L/O	Card	Manchester	-	-	368
13	L/O	Millstone	Montville	-	1 Montville Auto	371
14	L/O	Haddam Neck	Scovill Rock	-	-	376
15	L/O	Northfield Mt.	Vermont Yankee	-	-	381
16	L/O	Millstone	Card	-	-	383
17	L/O	Scovill Rock	East Shore	-	East Shore Autos	387
18	L/O	Manchester	Ludlow	North Bloomfield	North Bloomfield Auto	395
19	L/O	Long Mountain	Pleasant Valley	-	-	398
20	L/O	Southington	Frost Bridge	-	-	329
21	L/O	Frost Bridge	Long Mt.	-	-	352
22	L/O	Millstone	Card	Millstone	Montville	383/371
23	L/O	Millstone	Manchester	Millstone	Southington	310/348
24	L/O	Haddam Neck	Southington	Haddam Neck	Scovill Rock	362/376
25	L/O	Millstone	Southington	Scovil Rock	East Shore	348/387
26	L/O	Millstone	Manchester	Card	Manchester	310/368
27		Long Mt.Stuck Brkr	6T or 8T	-	-	-
28		Card Stuck Brkr	Any One of Three	-	-	-
29		South Stuck Brkr	4T	-	-	-
30		South Stuck Brkr	7T	-	-	-
31		Montville Stuck Brkr	-	-	-	-
32		Manch Stuck Brkr	21T	-	-	-
33		Ludlow Failed Brkr	3T	-	-	-
34		Northfd Stuck Brkr	3T	-	-	-

APPENDIX 4

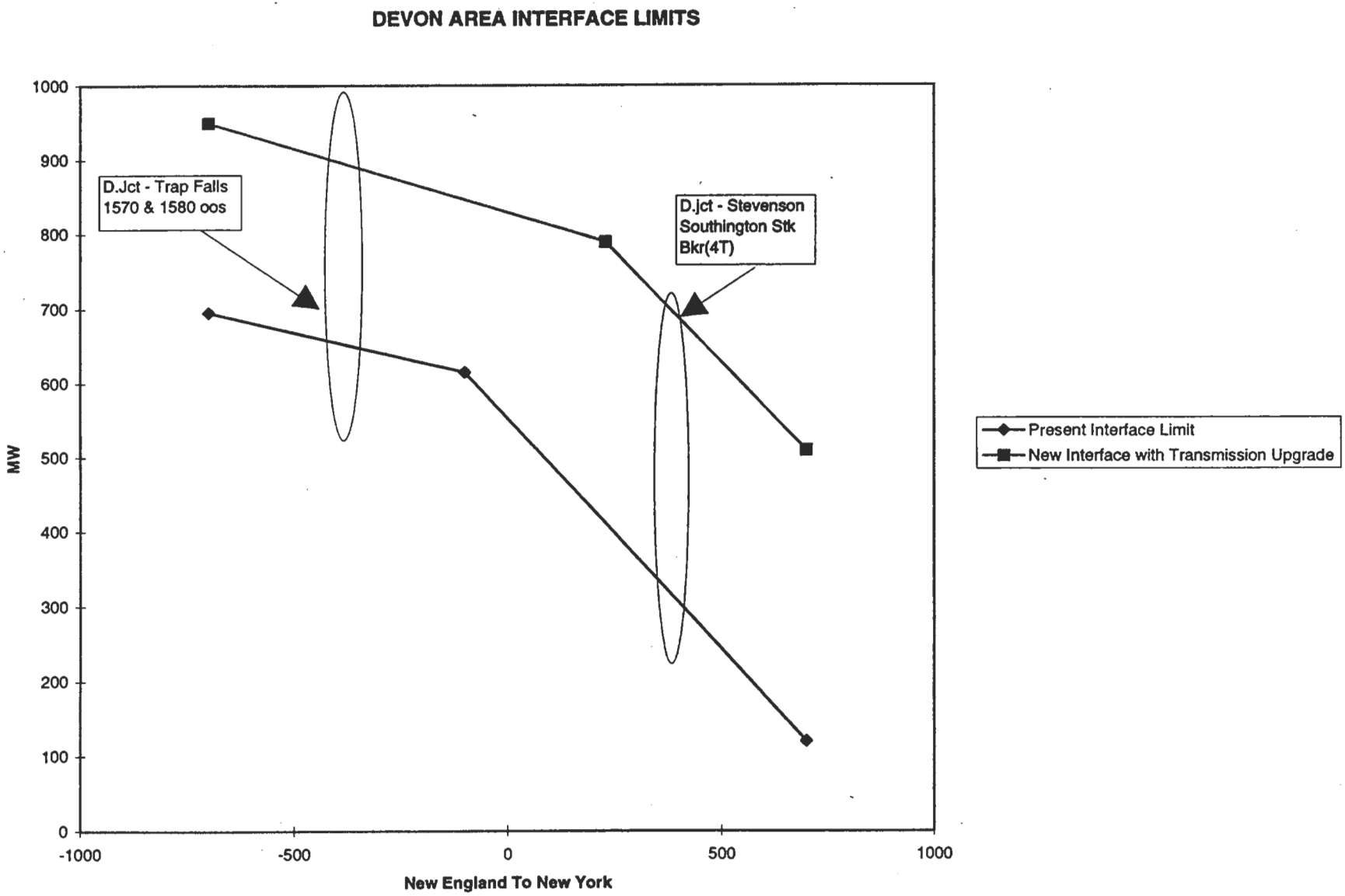
INTERFACE LIMITS

PLOT 1

DEVON AREA INTERFACE



GRAPH 1



Note: Limits Are Calculated At 75% Load Level

APPENDIX 5

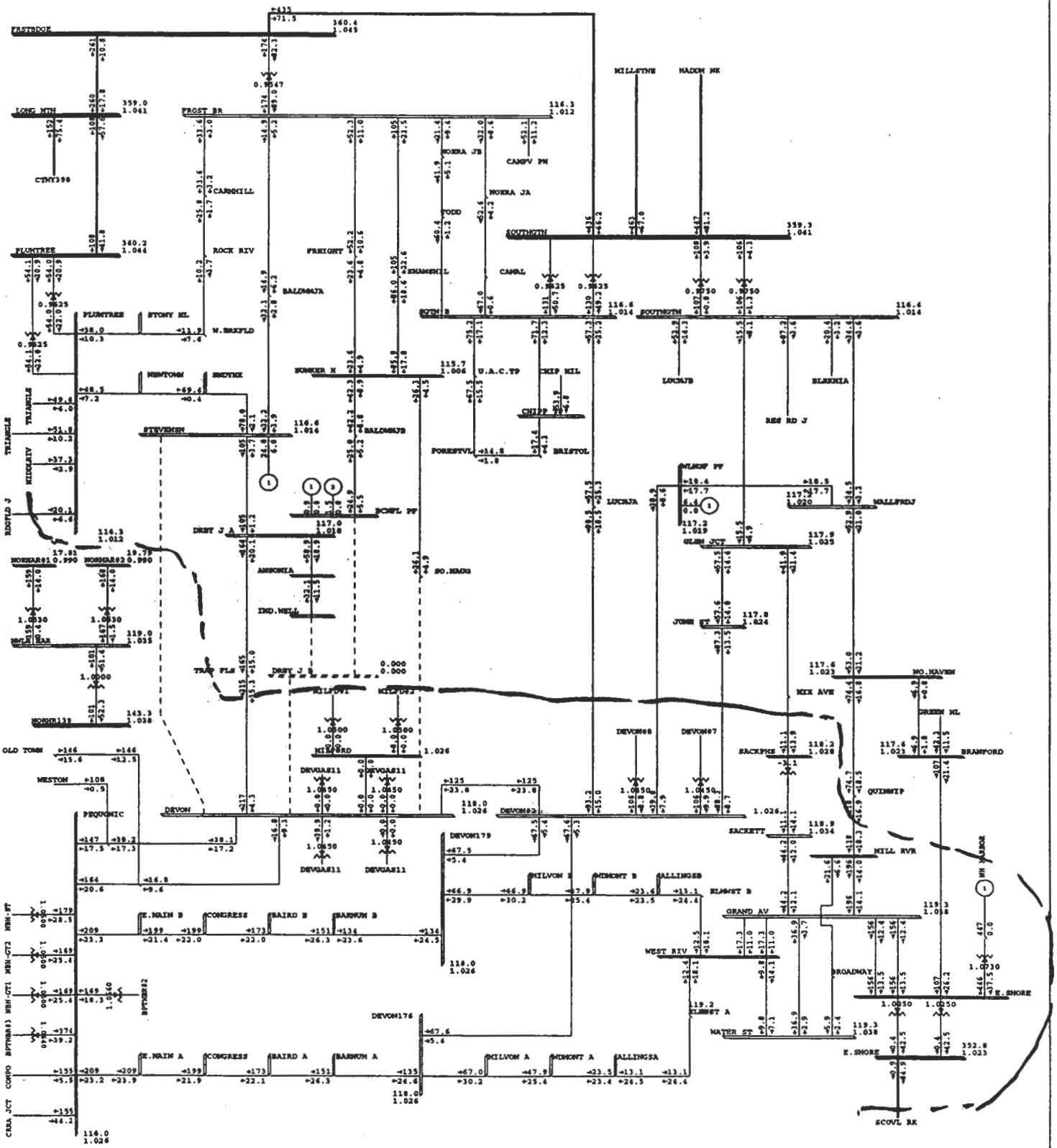
PLOTS OF CASES USED TO DEVELOP GRAPH 1

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≤ 695 mw

Generation ≤ 2095 mw



CASE MD0MW-2001S-75%-NYNE700-LI100-CTX-CTGN.SAV DEVON=0MW 2001S 75%LOAD NYNE=700 LI=100MW CTX=1846MW CTGN DEVON INTERFACE LIMIT, BASE CA SAT, FEB 20 1999 13:19	100% RATED 0.950 UV 1.050 OV XV: ≤115 ,≤220 ,≤345	BUS -VOLTAGE(KV/PU) BRANCH -MW/MVAR EQUIPMENT -MW/MVAR

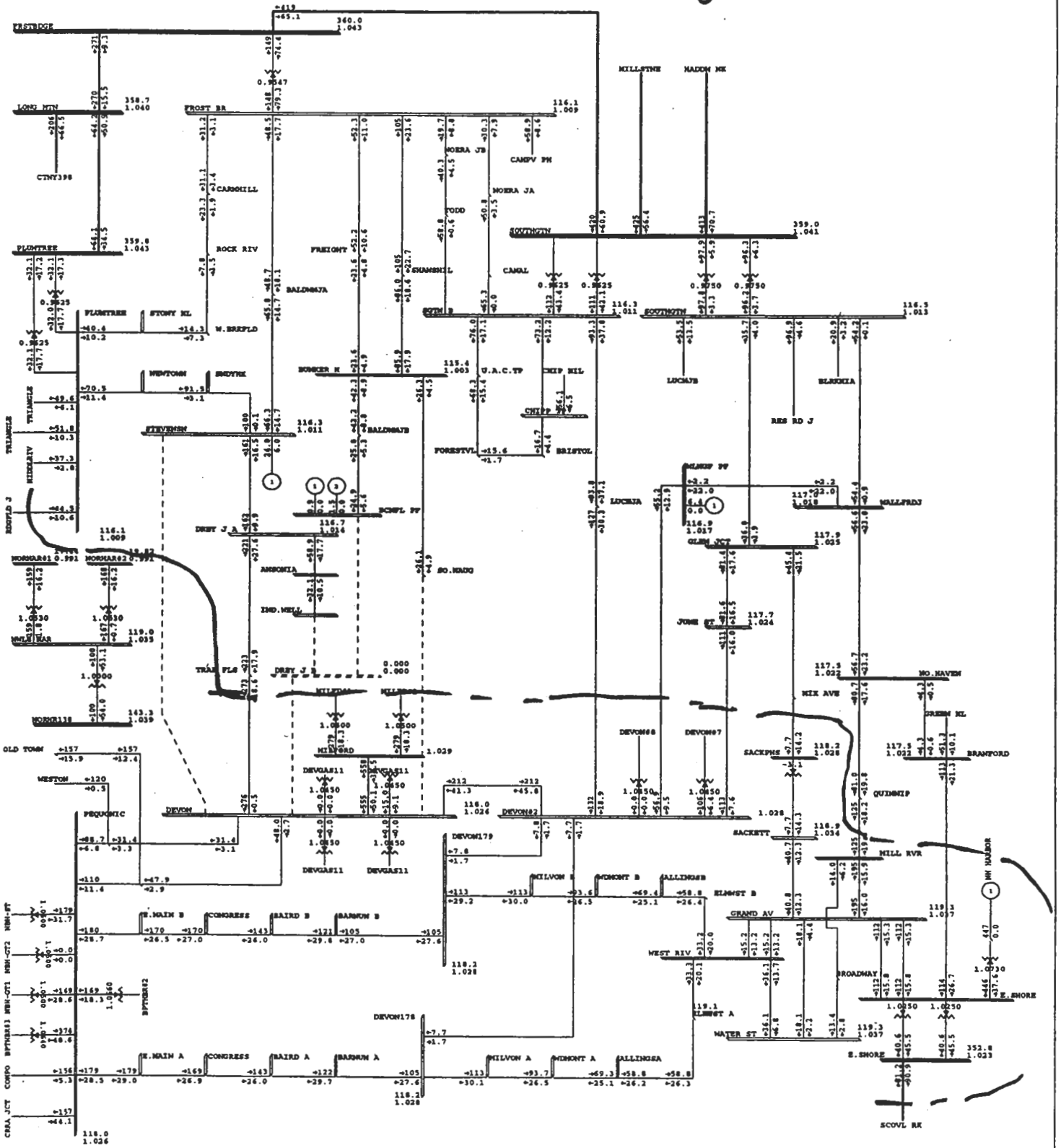
A2

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≈ 950 MW

Generation ≈ 2350 MW



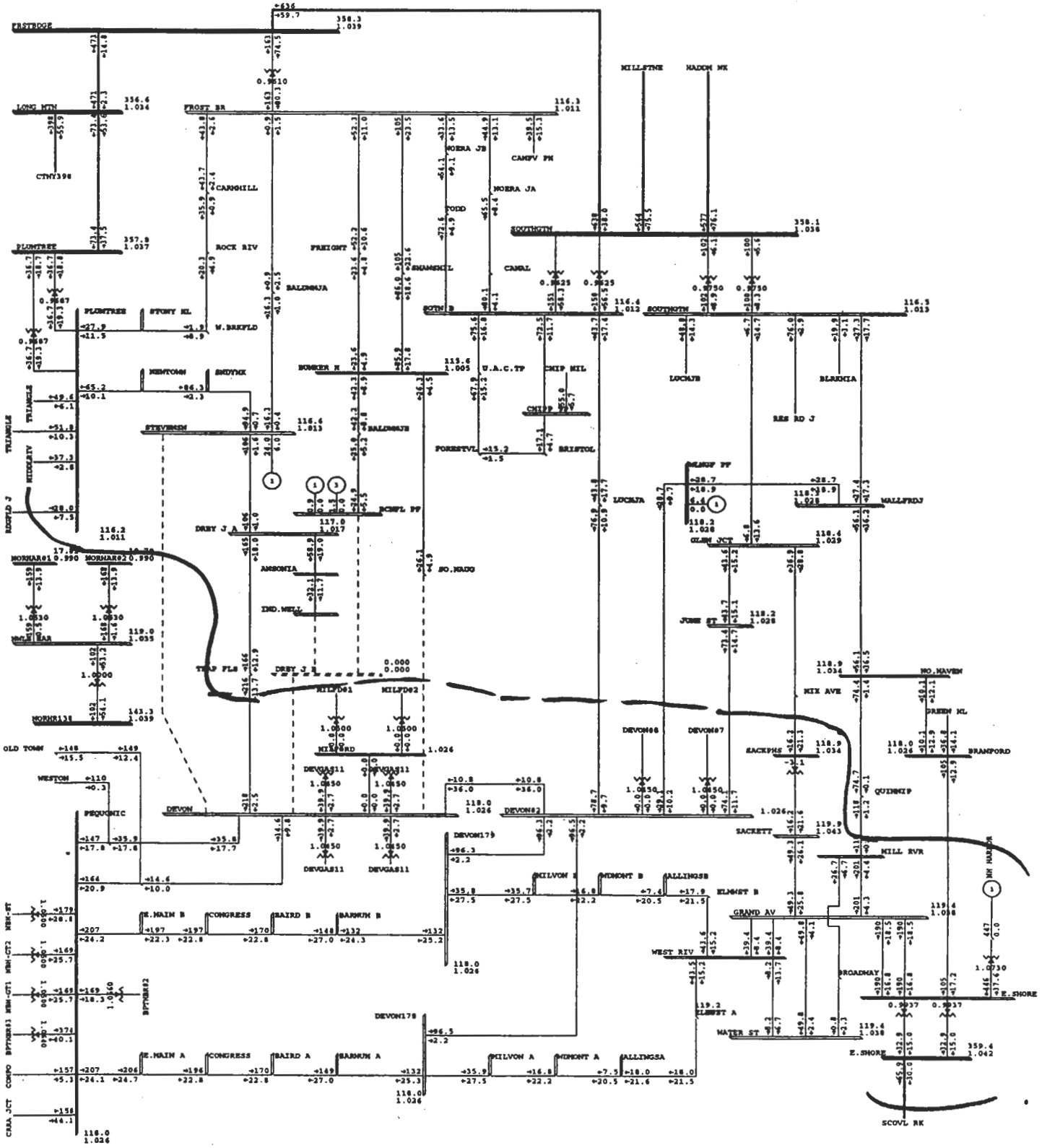
CASE MD0MW-2001S-75%-NYNE700-LI100-CTX-CTGN.SAV DEVON=0MW 2001S 75%LOAD NYNE=700 LI=100MW CTX=1846MW CTGN DEVON INTERF LIMIT,MILFORD ON SAT, FEB 20 1999 13:31	100% RATED 0.950 UV 1.050 OV KV: #115 ,@220 ,@345	BUS -VOLTAGE(KV/PU) BRANCH -MW/MVAR EQUIPMENT -MW/MVAR

A3

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≤ 600 mw
Generation ≤ 2000 mw



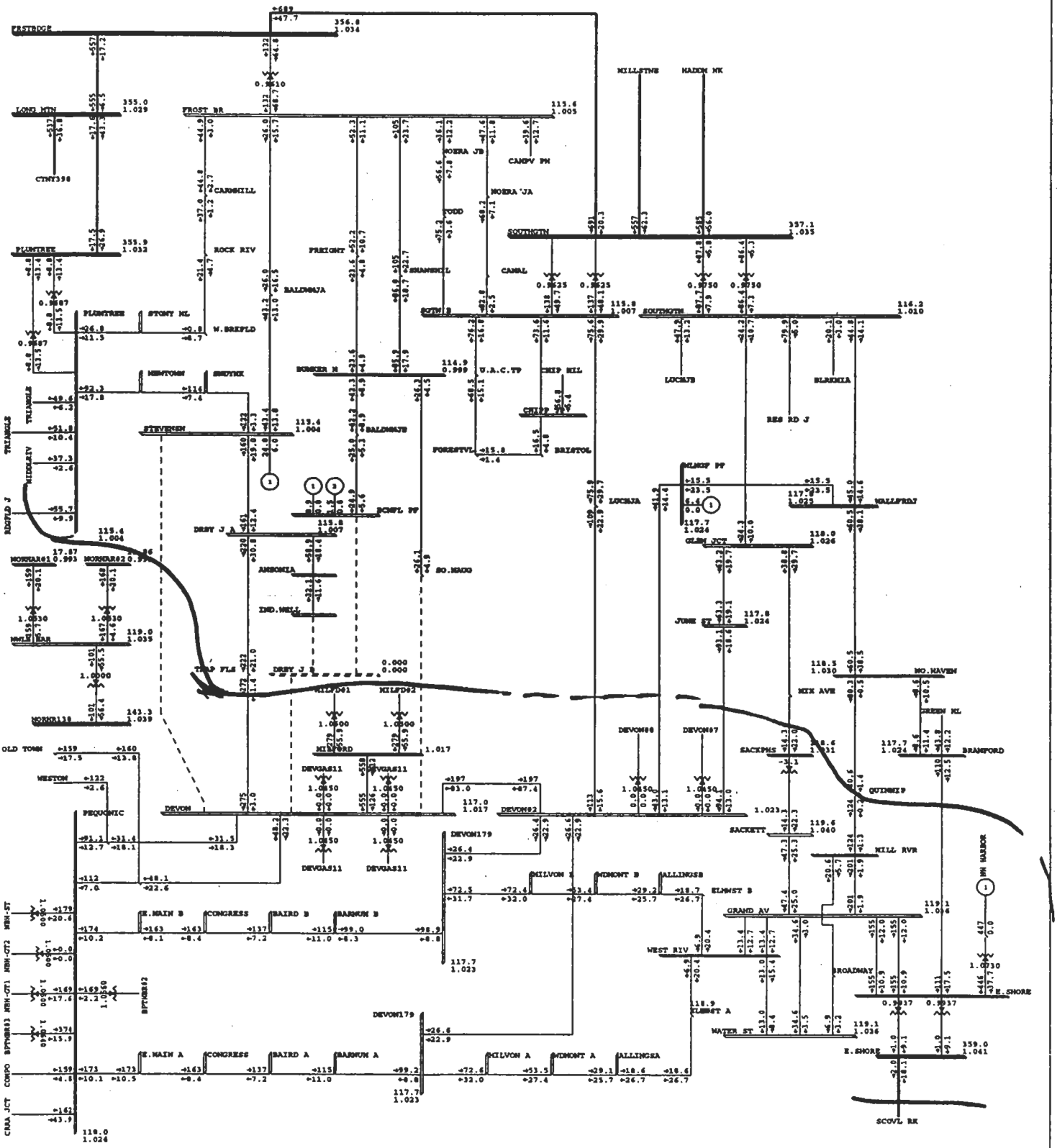
CASE MD0MW-2001S-75%-NYNE0-LI100-CTX-CTGN.SAV DEVON=0MW 2001S 75%LOAD NYNE=0 LI=100MW CTX=1840MW CTGN DEVON INTERFACE LIMIT, BASE CA SAT, FEB 20 1999 13:13	100% RATED 0.950 UV 1.050 OV KV: ≤115 , ≤220 , ≤345	BUS -VOLTAGE(KV/PU) BRANCH -MW/MVAR EQUIPMENT -MW/MVAR

A4

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≈ 830 mw
Generation ≈ 2230 mw



CASE MD0MW-2001S-75%-NYNE0-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 75%LOAD NYNE=0 LI=100MW CTX=1840MW CTGN
DEVON INTERF LIMIT,MILFORD ON SAT, FEB 20 1999 13:14

100% RATED
0.950 UV 1.050 OV
KV: ≤115 , ≤220 , ≤345

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

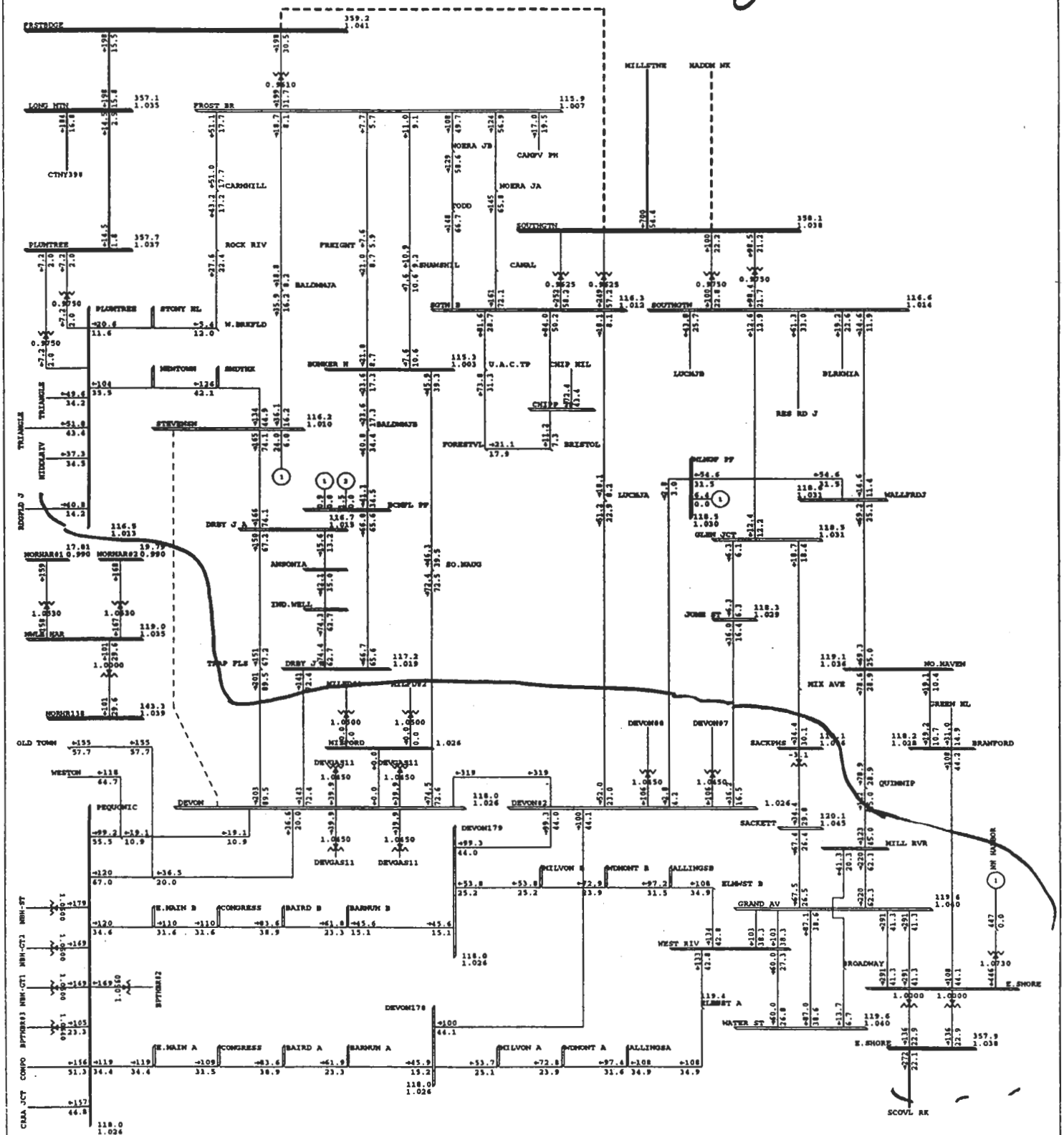
A5

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≈ 550

Generation ≈ 1950

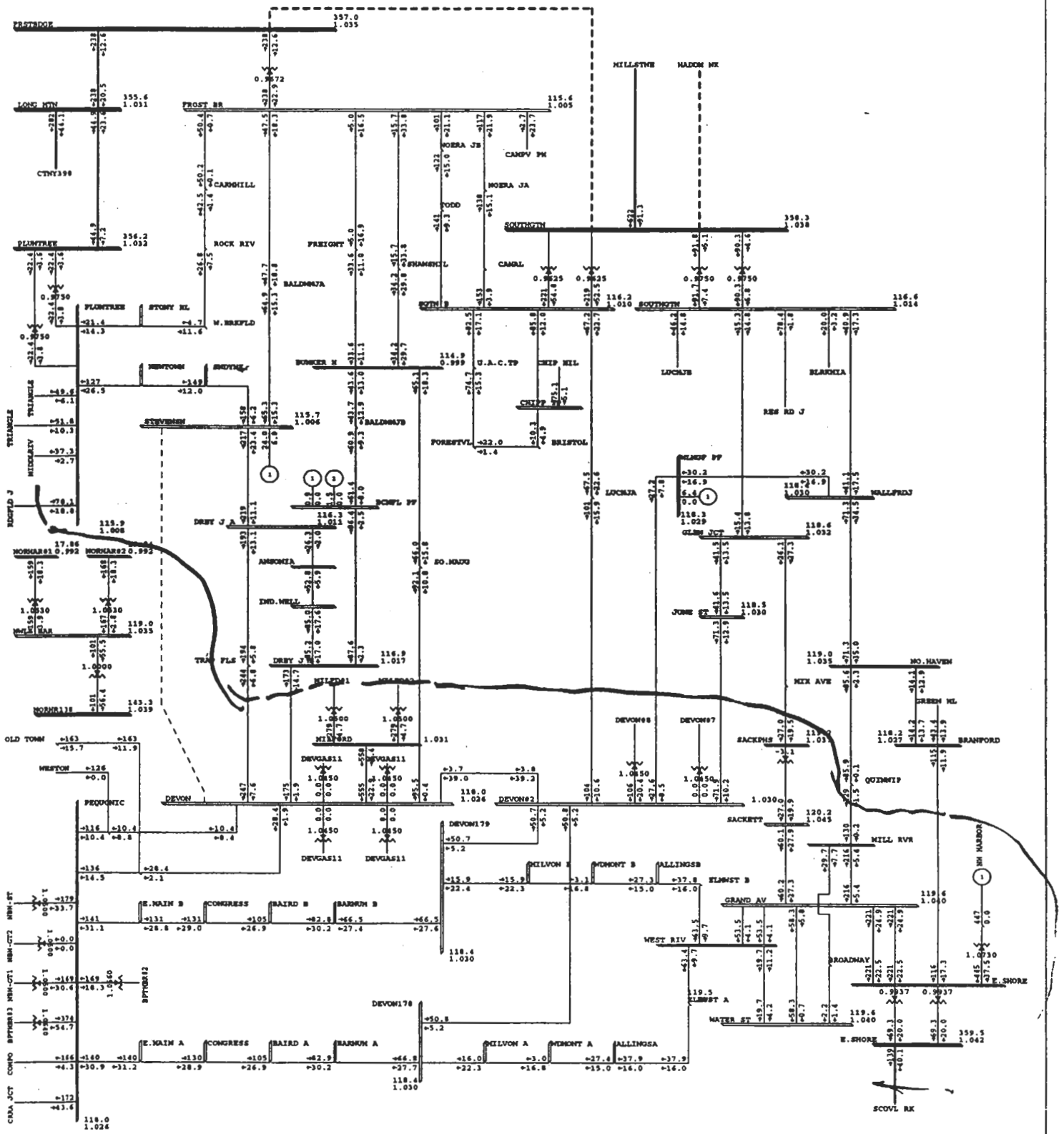


CASE MD0MW-2001S-75%-NYNE0-LI100-CTX-CTGN.SAV DEVON=0MW 2001S 75%LOAD NYNE=0 LI=100MW CTX=1840MW CTGN DEVON INTERF LIMIT, BASE CASE SUN, FEB 21 1999 16:42	100% RATEA 0.950 UV 1.050 OV KV: ≤115 , ≤220 , ≤345	BUS -VOLTAGE(KV/PU) BRANCH -MW/% OF RATEA EQUIPMENT -MW/MVAR

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≤ 930
Generation ≤ 2330



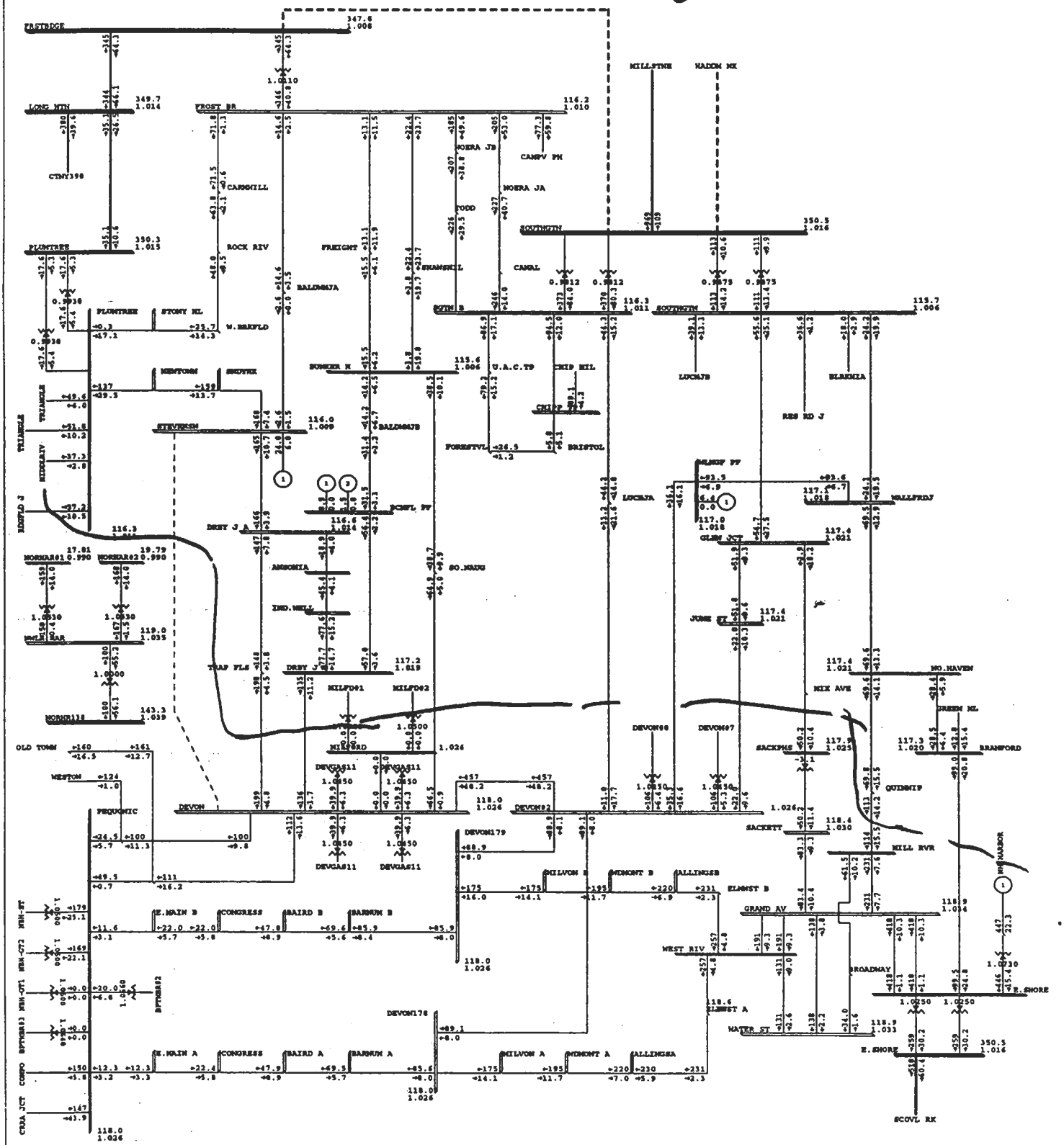
CASE MD0MW-2001S-75%-NYNE0-LI100-CTX-CTGN.SAV	100% RATED	BUS - VOLTAGE(KV/PU)
DEVON=0MW 2001S 75%LOAD NYNE=0 LI=100MW CTX=1840MW CTGN	0.950 UV 1.050 OV	BRANCH - MW/MVAR
DEVON INTERF LIMIT, MILFORD ON SUN, FEB 21 1999 16:46	KV: ≤115 , ≤220 , ≤345	EQUIPMENT - MW/MVAR

SOUTH CONNECTICUT 115 KV

DEVON AREA

Interface Limit ≈ 120

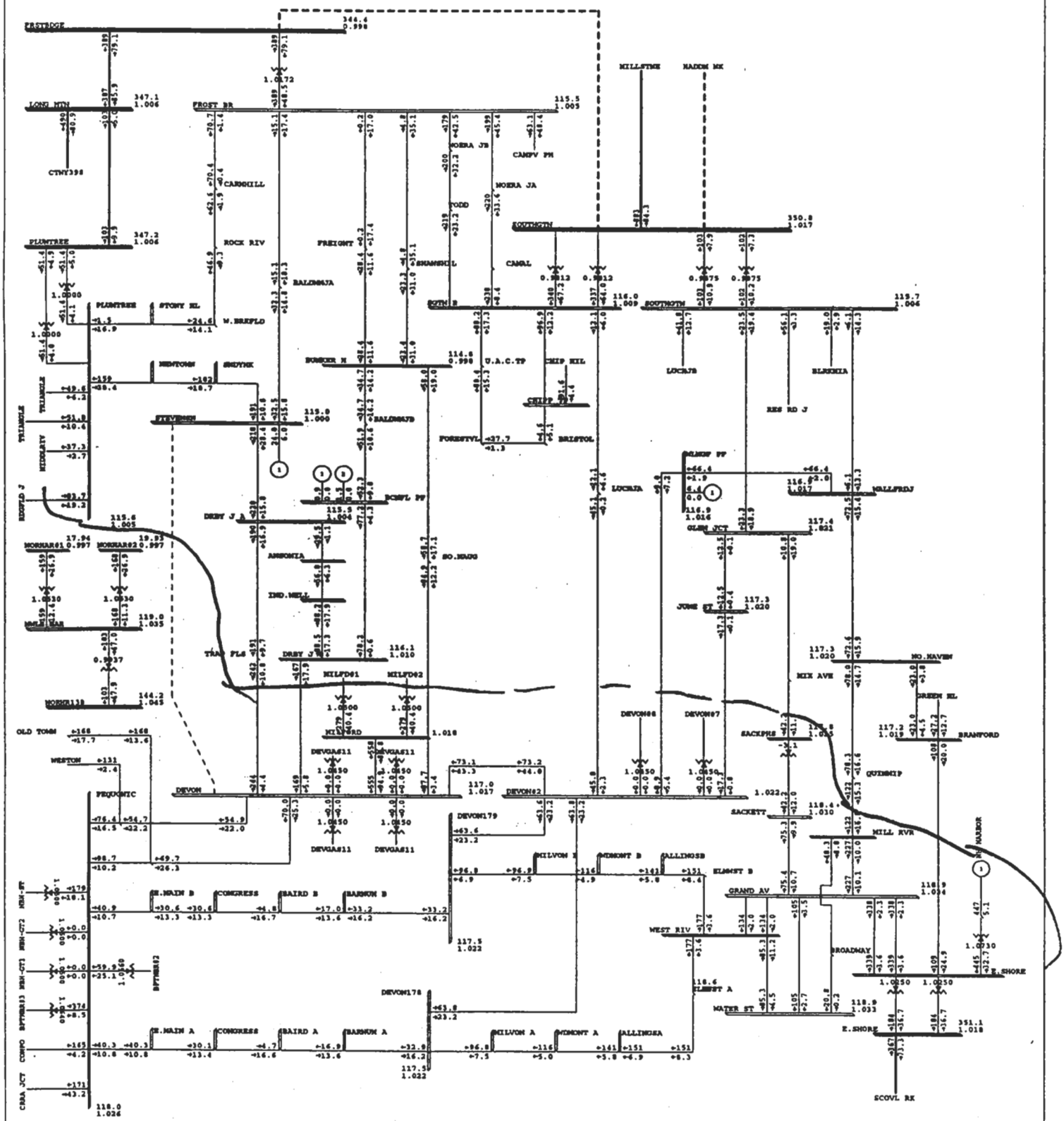
Generation ≈ 1520



CASE MD0MW-2001S-75%-NYNE-700-LI100-CTX-CTGN.SAV DEVON=0MW 2001S 75%LOAD NYNE=-700 LI=100MW CTX=1977MW CTGN DEVON INTERF LIMIT, BASE CASE SUN, FEB 21 1999 16:29	100% RATES 0.950 UV 1.050 OV KV: ≤115 , ≤220 , ≤345	BUS -VOLTAGE(KV/PU) BRANCH -MW/MVAR EQUIPMENT -MW/MVAR

SOUTH CONNECTICUT 115 KV
DEVON AREA

Interface Limit = 510
Generation = 1910



CASE MD0MW-2001S-75%-NYNE-700-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 75%LOAD NYNE=-700 LI=100MW CTX=1977MW CTGN
DEVON INTERF LIMIT, MILFORD ON SUN, FEB 21 1999 16:36

100% RATED
0.950 UV 1.050 OV
KV: #115 ,#220 ,#345

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

APPENDIX 6

CASE SUMMARY

CASE MD0MW-2001S-100%-NYNE-700-LI100-CTX-CTGN
DEVON=0MW 2001S 100%LOAD NYNE=-700MW LI=100MW CTX=488MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.989	654	61	3562	MILL#2	0.989	857	78	3563	MILL#3	0.989	1137	105
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.027	117	54	3556	MIDDTN#3	0.993	230	53*
3557	MIDDTN#4	1.012	380	129	3558	MONTV#5	1.007	70	27*	3559	MONTV#6	0.995	402	57
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.998	159	30
3552	NORHAR#2	0.998	168	30	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.985	170	26
3648	BPTHBR#3	0.969	375	26	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.975	447	49
3570	DEVGAS11	1.005	40	14	3571	DEVGAS11	1.005	40	14	3572	DEVGAS11	1.005	40	14
3573	DEVGAS11	1.005	40	14	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	1.010	106	29	3554	DEVON#8	1.008	106	29	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	1.027	240	103*	2375	BP #2 GN	1.027	240	103*	2370	BP #3 GN	1.017	585	45
2371	BP #4 GN	1.017	421	30	2661	MANCH09A	1.012	100	35*	2662	MANCH10A	1.012	100	35*
2663	MANCH11A	1.012	100	35*	2666	FRSQ SC1	1.000	42	-10	2667	FRSQ SC2	1.004	42	-10
2668	FRSQ SC3	1.003	41	-10	1522	SOM G6	0.950	106	0	1531	OSP1 PF	1.020	77	10
1532	OSP2 PF	1.020	77	10	1533	OSP3 PF	1.020	108	14	1534	OSP4 PF	1.020	77	10
1535	OSP5 PF	1.020	77	10	1536	OSP6 PF	1.020	108	14	1084	NEA GTPF	1.047	111	40*
1085	NEA GTPF	1.047	110	40*	1086	NEA STPF	1.062	115	55*	1251	CANAL G1	1.027	566	178
1252	CANAL G2	1.020	566	120*	1094	PLGRM G1	0.971	665	81	1060	MYST G4	1.027	133	47
1061	MYST 5G	1.037	129	47	1062	MYST G6	1.037	138	47	1063	MYST G7	1.028	565	159
1073	N.BOST 1	1.005	380	75	1074	N.BOST 2	0.996	380	75	1946	SALEM G1	1.021	79	8
1947	SALEM G2	1.021	78	8	1948	SALEM G3	1.017	143	16	1949	SALEM G4	1.018	400	48
2869	SBRK G1	0.997	1150	124	2868	NWNGT G1	0.992	422	50	2870	SCHILLER	1.026	48	25*
2871	SCHILLER	1.025	50	25*	2872	SCHILLER	1.025	48	25*	2866	MERMK G1	1.022	113	9
2867	MERMK G2	1.023	320	24	369	MAINE YA	0.000	0	0	365	WF WY #1	1.011	54	6
366	WF WY #2	1.011	54	6	367	WF WY #3	1.012	123	12	368	WF WY #4	1.057	630	214
705	VTYAK G	1.020	496	125	3083	NRTHFD12	1.002	400	49	3084	NRTHFD34	1.003	317	49
2512	BRSWP G1	0.979	280	34	2513	BRSWP G2	0.979	280	34	1381	DIGTN U6	1.030	185	22
3085	MT.TOM	0.996	146	30*	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.978	170	9
3641	NBH-GT2	0.978	170	9	3642	NBH-ST	0.977	180	9	3072	ALT12 PF	1.022	65	0
3073	ALT34 PF	1.021	81	0	3069	MAPR1 PF	1.020	78	-12	3070	MAPR2 PF	1.020	78	-12
3071	MAPR3 PF	1.020	73	-20	3080	WSPFLD 3	1.014	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.045	32	0	3548	CRRA PF	1.045	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	245	CONYAK	0	0	MIDDLETOWN	727	235
MONTVILLE	472	84	NORWALK	327	60	BRIDGEPORT	1065	79
NHHARBOUR	447	49	DEVON	372	114	BRAYTONPT	1486	280
MANCHSTRST	425	75	SOMERSET	106	0	OSP	523	69
NEA	336	135	PAWTKTPWR	63	-10	ENRON	152	46
CANAL	1132	298	PILGRIM	665	81	MYSTIC	965	299
NEWBOSTON	760	150	SALEMHBR	700	79	SEABROOK	1150	124
NEWINGTON	422	50	SCHILLER	145	75	MERRIMACK	433	33
STONYBROOK	0	0	WYMAN	861	238	VTYANKEE	496	125
BEARSWAMP	560	69	NORTHFIELD	717	98	MASSPWRR	229	-45
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	22	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	-26	MEYANKEE-SOUTH	-285	-57	MAINE-NH	-187	-45
NNE-SCOBIE+394	1079	-49	SEABROOK-SOUTH	1113	4	NORTH-SOUTH	851	-22
CMFD/MOORE-SO	187	-16	SNDYPOND-SOUTH	643	181	CONN EXPORT	504	-85*
CONN-MASS	-124	53*	CONN-RI	76	-11*	SW CONN IMPORT	735	-32
NORWLK-STAMFORD	572	-31*	BOSTON IMPORT	2263	99*	NEMA/BOS IMPORT	2695	84
SEMA/RI EXPORT	1457	8	CONVEX-REMVEC	471	-125	EAST-WEST	-509	110
NY-NE	-697	-34						

HVDC TRANSFERS FROM H-Q

CHAT-1 = 0	CHAT-2 = 0	HIGHGATE = 199
MADAWASK = 0	PHII-P1 = 600	PHII-P2 = 0
EEL = 0		

BUS VOLTAGES

			V	LMT				V	LMT				V	LMT	
2692	NWGTN345	345	357.			2694	SEBRK345	345	357.			1789	TEWKS	345	358.		
759	MYSTIC	345	360.			1797	MILLBURY	345	355.			2925	LUDLOW	345	354.		
2926	NRTHFLD	345	359.			3106	SOUTHGTN	345	352.			3108	CARD	345	356.		
3109	MONTVILE	345	357.			3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	358.		
1801	BRAYTN P	345	358.			1811	KENT CO.	345	354.			1326	BRIDGWTR	345	355.		
1336	SHERMAN	345	357.			1338	OS POWER	345	357.			1337	WFARNUM	345	356.		
772	W MEDWAY	345	353.			780	WWALP345	345	352.			783	PILGRIM	345	358.		
773	NEA 336	345	357.			1193	CANAL	345	359.			1133	CARVER	345	356.		
795	FRMNGHAM	230	234.			793	MDFRM230	230	238.			794	MDWLT230	230	240.		
818	MYSTC MA	115	119.			1891	SALEM HR	115	119.			2096	MILLBURY	115	115.	63.0	*
1377	SOMERSET	115	117.			2277	MIDWEYMT	115	117.			2259	MINK 183	115	118.		
2574	WARRN 84	115	116.			2569	FRSQ	115	119.	0.0		2566	PHILP183	115	119.		
2553	ADMIRAL3	115	119.			1405	PAWTUCKT	115	113.			1379	SWANSEA	115	117.		
2268	WHITN PD	115	115.			2278	FIELD 1	115	117.			2266	READ ST	115	115.		
2267	S WREN29	115	113.			2254	DEPOT129	115	116.			2255	DEPOT130	115	116.		
2582	WOONSCKT	115	117.			1403	WFARNUM	115	117.			2539	WOLFHILL	115	117.		
2584	HARTAVE	115	118.			2544	JOHNSTN1	115	118.	5.4	*	2545	JOHNSTN2	115	118.	6.3	*
2560	DRUMROCK	115	118.	32.0	*	2565	KENT CO	115	118.	6.3		2570	SOCK187	115	117.		
2571	SOCK188	115	117.			2558	DAVIS 85	115	117.			2559	DAVIS 90	115	117.		
2572	W.KINGST	115	116.	18.1	*	2538	KENYON	115	115.			2581	WOOD RIV	115	115.		

AREA/ZONE TOTALS

NEPOOL_GEN	23247	NEPOOL_LOAD	22936	NEPOOL_LOSS	498
NEPOOL_INT	-199				

CASE MD0MW-2001S-100%-NYNE0-LI100-CTX-CTGN
DEVON=0MW 2001S 100%LOAD NYNE=0MW LI=100MW CTX=310MW CT GN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.989	654	59	3562	MILL#2	0.989	857	76	3563	MILL#3	0.989	1137	102
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.025	117	52	3556	MIDDTN#3	0.993	230	52
3557	MIDDTN#4	1.005	380	98	3558	MONTV#5	1.005	70	27*	3559	MONTV#6	0.992	402	50
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.993	159	20
3552	NORHAR#2	0.993	168	20	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.970	170	1
3648	BPTHBR#3	0.963	375	1	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.997	447	49
3570	DEVGAS11	0.987	40	3	3571	DEVGAS11	0.987	40	3	3572	DEVGAS11	0.987	40	3
3573	DEVGAS11	0.987	40	3	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.985	106	6	3554	DEVON#8	0.985	106	6	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	1.028	240	105*	2375	BP #2 GN	1.027	240	105*	2370	BP #3 GN	1.019	585	58
2371	BP #4 GN	1.019	421	38	2661	MANCH09A	1.011	100	35*	2662	MANCH10A	1.011	100	35*
2663	MANCH11A	1.011	100	35*	2666	FRSQ SC1	0.999	42	-10	2667	FRSQ SC2	1.004	42	-10
2668	FRSQ SC3	1.002	41	-10	1522	SOM G6	0.950	106	0	1531	OSP1 PF	1.020	77	11
1532	OSP2 PF	1.020	77	11	1533	OSP3 PF	1.020	108	15	1534	OSP4 PF	1.020	77	11
1535	OSP5 PF	1.020	77	11	1536	OSP6 PF	1.020	108	15	1084	NEA GTPF	1.046	111	40*
1085	NEA GTPF	1.046	110	40*	1086	NEA STPF	1.061	115	55*	1251	CANAL G1	1.030	566	187
1252	CANAL G2	1.020	566	120*	1094	PLGRM G1	0.973	665	100	1060	MYST G4	0.000	0	0
1061	MYST 5G	1.056	129	80	1062	MYST G6	1.056	138	80	1063	MYST G7	1.035	565	221
1073	N.BOST 1	1.005	300	72	1074	N.BOST 2	0.996	380	72	1946	SALEM G1	1.023	79	10
1947	SALEM G2	1.023	78	10	1948	SALEM G3	0.000	0	0	1949	SALEM G4	1.020	400	61
2869	SBRK G1	0.999	1150	149	2868	NWNGT G1	0.995	422	60	2870	SCHILLER	1.024	48	25*
2871	SCHILLER	1.024	50	25*	2872	SCHILLER	1.024	48	25*	2866	MERMK G1	1.025	113	13
2867	MERMK G2	1.025	320	36	369	MAINE YA	0.000	0	0	365	WF WY #1	1.012	54	6
366	WF WY #2	1.012	54	6	367	WF WY #3	1.012	123	12	368	WF WY #4	1.054	448	185
705	VTYAK G	1.024	496	150*	3083	NRTHFD12	1.005	400	62	3084	NRTHFD34	1.007	317	62
2512	BRSWP G1	0.984	280	46	2513	BRSWP G2	0.984	280	46	1381	DIGTN U6	1.030	185	25
3085	MT.TOM	0.995	146	30*	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.971	170	0
3641	NBH-GT2	0.971	170	0	3642	NBH-ST	0.970	180	0	3072	ALT12 PF	1.023	65	0
3073	ALT34 PF	1.021	81	0	3069	MAPR1 PF	1.020	78	-12	3070	MAPR2 PF	1.020	78	-12
3071	MAPR3 PF	1.020	73	-19	3080	WSPFLD 3	1.014	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.044	32	0	3548	CRRA PF	1.044	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	236	CONYAK	0	0	MIDDLETOWN	727	201
MONTVILLE	472	77	NORWALK	327	41	BRIDGEPORT	1065	4
NHHARBOUR	447	49	DEVON	372	22	BRAYTONPT	1486	306
MANCHSTRST	425	75	SOMERSET	106	0	OSP	523	73
NEA	336	135	PAWTKTPWR	63	-10	ENRON	152	51
CANAL	1132	307	PILGRIM	665	100	MYSTIC	832	381
NEWBOSTON	680	144	SALEMHBR	557	81	SEABROOK	1150	149
NEWINGTON	422	60	SCHILLER	145	75	MERRIMACK	433	48
STONYBROOK	0	0	WYMAN	679	210	VTYANKEE	496	150
BEARSWAMP	560	92	NORTHFIELD	717	125	MASSPWRR	229	-43
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	25	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	-26	MEYANKEE-SOUTH	-286	-57	MAINE-NH	-367	-13
NNE-SCOBIE+394	904	8	SEABROOK-SOUTH	1101	30	NORTH-SOUTH	606	10
CMFD/MOORE-SO	43	-11	SNDYPOND-SOUTH	590	197	CONN EXPORT	496	-79*
CONN-MASS	-20	38*	CONN-RI	90	-12*	SW CONN IMPORT	740	-31
NORWLK-STAMFORD	575	-17*	BOSTON IMPORT	2601	73*	NEMA/BOS IMPORT	3054	57
SEMA/RI EXPORT	1454	58	CONVEX-REMVEC	1012	-134	EAST-WEST	-1185	207
NY-NE	-1	-138						

HVDC TRANSFERS FROM H-Q

CHAT-1 = 0	CHAT-2 = 0	HIGHGATE = 199
MADAWASK = 0	PHII-P1 = 600	PHII-P2 = 0
EEL = 0		

BUS VOLTAGES

			V	LMT				V	LMT				V	LMT	
2692	NWGTN345	345	357.			2694	SEBRK345	345	357.			1789	TEWKS	345	357.		
759	MYSTIC	345	360.			1797	MILLBURY	345	354.			2925	LUDLOW	345	353.		
2926	NRTHFLD	345	359.			3106	SOUTHGTN	345	354.			3108	CARD	345	356.		
3109	MONTVILE	345	357.			3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	358.		
1801	BRAYTN P	345	358.			1811	KENT CO.	345	354.			1326	BRIDGWTR	345	354.		
1336	SHERMAN	345	357.			1338	OS POWER	345	357.			1337	WFARNUM	345	355.		
772	W MEDWAY	345	352.			780	WWALP345	345	351.			783	PILGRIM	345	358.		
773	NEA 336	345	357.			1193	CANAL	345	359.			1133	CARVER	345	356.		
795	FRMNGHAM	230	233.			793	MDFRM230	230	237.			794	MDWLT230	230	239.		
818	MYSTC MA	115	119.			1891	SALEM HR	115	119.			2096	MILLBURY	115	114.		63.0 *
1377	SOMERSET	115	117.			2277	MIDWEYMT	115	117.			2259	MINK 183	115	118.		
2574	WARRN 84	115	116.			2569	FRSQ	115	119.		0.0	2566	PHILP183	115	119.		
2553	ADMIRAL3	115	119.			1405	PAWTUCKT	115	113.			1379	SWANSEA	115	117.		
2268	WHITN PD	115	115.			2278	FIELD 1	115	117.			2266	READ ST	115	115.		
2267	S WREN29	115	113.			2254	DEPOT129	115	116.			2255	DEPOT130	115	116.		
2582	WOONSCKT	115	117.			1403	WFARNUM	115	117.			2539	WOLFHILL	115	117.		
2584	HARTAVE	115	118.			2544	JOHNSTN1	115	118.		5.4 *	2545	JOHNSTN2	115	118.		6.3 *
2560	DRUMROCK	115	117.		32.0 *	2565	KENT CO	115	117.		6.3	2570	SOCK187	115	117.		
2571	SOCK188	115	117.			2558	DAVIS 85	115	117.			2559	DAVIS 90	115	117.		
2572	W.KINGST	115	115.		18.1 *	2538	KENYON	115	115.			2581	WOOD RIV	115	114.		

AREA/ZONE TOTALS

NEPOOL_GEN	22565	NEPOOL_LOAD	22936	NEPOOL_LOSS	513
NEPOOL_INT	-897				

CASE MD0MW-2001S-100%-NYNE700-LI100-CTX-CTGN
DEVON=0MW 2001S 100%LOAD NYNE=700MW LI=100MW CTX=318MW CT GN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.986	654	44	3562	MILL#2	0.987	857	56	3563	MILL#3	0.987	1137	75
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.020	117	46	3556	MIDDTN#3	0.991	230	46
3557	MIDDTN#4	0.984	380	11	3558	MONTV#5	1.009	70	27*	3559	MONTV#6	0.996	402	47
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.996	159	25
3552	NORHAR#2	0.996	168	25	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.984	170	24
3648	BPTHBR#3	0.968	375	24	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	1.016	447	152
3570	DEVGAS11	0.986	40	2	3571	DEVGAS11	0.986	40	2	3572	DEVGAS11	0.986	40	2
3573	DEVGAS11	0.986	40	2	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.984	106	5	3554	DEVON#8	0.984	106	5	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	1.028	240	106*	2375	BP #2 GN	1.028	240	106*	2370	BP #3 GN	1.020	585	69
2371	BP #4 GN	1.021	421	46	2661	MANCH09A	1.011	100	35*	2662	MANCH10A	1.011	100	35*
2663	MANCH11A	1.011	100	35*	2666	FRSQ SC1	0.999	42	-10	2667	FRSQ SC2	1.003	42	-10
2668	FRSQ SC3	1.002	41	-10	1522	SOM G6	0.949	106	0	1531	OSP1 PF	1.020	77	12
1532	OSP2 PF	1.020	77	12	1533	OSP3 PF	1.020	108	15	1534	OSP4 PF	1.020	77	12
1535	OSP5 PF	1.020	77	12	1536	OSP6 PF	1.020	108	15	1084	NEA GTPF	1.046	111	40*
1085	NEA GTPF	1.047	110	40*	1086	NEA STPF	1.061	115	55*	1251	CANAL G1	0.000	0	0
1252	CANAL G2	1.012	566	120*	1094	PLGRM G1	0.988	665	216	1060	MYST G4	0.000	0	0
1061	MYST 5G	1.056	129	81	1062	MYST G6	1.056	138	81	1063	MYST G7	1.043	565	295
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	1.015	380	182	1946	SALEM G1	1.024	79	11
1947	SALEM G2	1.024	78	11	1948	SALEM G3	0.000	0	0	1949	SALEM G4	1.021	400	64
2869	SBRK G1	1.001	1150	183	2868	NWNGT G1	0.998	422	71	2870	SCHILLER	1.022	48	25*
2871	SCHILLER	1.022	50	25*	2872	SCHILLER	1.022	48	25*	2866	MERMK G1	1.027	113	15
2867	MERMK G2	1.028	320	44	369	MAINE YA	0.000	0	0	365	WF WY #1	1.012	54	6
366	WF WY #2	1.012	54	6	367	WF WY #3	1.012	123	13	368	WF WY #4	1.054	361	181
705	VTYAK G	1.020	496	150*	3083	NRTHFD12	1.014	400	93*	3084	NRTHFD34	1.015	317	93*
2512	BRSWP G1	0.992	280	66	2513	BRSWP G2	0.992	280	66	1381	DIGTN U6	1.030	185	28
3085	MT.TOM	0.974	146	-2	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	1.029	280	122	3640	NBH-GT1	0.977	170	8
3641	NBH-GT2	0.977	170	8	3642	NBH-ST	0.976	180	8	3072	ALT12 PF	1.023	65	0
3073	ALT34 PF	1.022	81	0	3069	MAPR1 PF	1.020	78	-15	3070	MAPR2 PF	1.020	78	-14
3071	MAPR3 PF	1.020	73	-23	3080	WSPFLD 3	1.028	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.047	32	0	3548	CRRA PF	1.047	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	175	CONYAK	0	0	MIDDLETOWN	727	102
MONTVILLE	472	74	NORWALK	327	50	BRIDGEPORT	1065	72
NHHARBOUR	447	152	DEVON	372	19	BRAYTONPT	1486	328
MANCHSTRST	425	75	SOMERSET	106	0	OSP	523	77
NEA	336	135	PAWTKTPWR	63	-9	ENRON	152	55
CANAL	566	120	PILGRIM	665	216	MYSTIC	832	457
NEWBOSTON	380	182	SALEMHBR	557	85	SEABROOK	1150	183
NEWINGTON	422	71	SCHILLER	145	75	MERRIMACK	433	59
STONYBROOK	0	0	WYMAN	592	207	VTYANKEE	496	150
BEARSWAMP	560	131	NORTHFIELD	717	187	MASSPWRR	229	-52
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	28	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	-27	MEYANKEE-SOUTH	-285	-55	MAINE-NH	-448	8
NNE-SCOBIE+394	836	68	SEABROOK-SOUTH	1112	62	NORTH-SOUTH	575	0
CMFD/MOORE-SO	43	-8	SNDYPOND-SOUTH	629	197	CONN EXPORT	570	-27*
CONN-MASS	60	51*	CONN-RI	113	-12*	SW CONN IMPORT	743	-61
NORWLK-STAMFORD	578	-29*	BOSTON IMPORT	2887	47*	NEMA/BOS IMPORT	3361	34
SEMA/RI EXPORT	893	146	CONVEX-REMVEC	1842	-74	EAST-WEST	-2118	378
NY-NE	704	-210						

HVDC TRANSFERS FROM H-Q

CHAT-1 =	0	CHAT-2 =	0	HIGHGATE =	199
MADAWASK =	0	PHII-P1 =	600	PHII-P2 =	0
EEL =	0				

BUS VOLTAGES

			V	LMT					V	LMT					V	LMT	
2692	NWGTN345	345	357.		2694	SEBRK345	345	357.			1789	TEWKS	345	357.			
759	MYSTIC	345	360.		1797	MILLBURY	345	353.			2925	LUDLOW	345	353.			
2926	NRTHFLD	345	359.		3106	SOUTHGTN	345	356.			3108	CARD	345	356.			
3109	MONTVILE	345	357.		3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	357.			
1801	BRAYTN P	345	358.		1811	KENT CO.	345	354.			1326	BRIDGWTR	345	354.			
1336	SHERMAN	345	356.		1338	OS POWER	345	356.			1337	WFARNUM	345	355.			
772	W MEDWAY	345	352.		780	WWALP345	345	351.			783	PILGRIM	345	358.			
773	NEA 336	345	357.		1193	CANAL	345	356.			1133	CARVER	345	354.			
795	FRMNGHAM	230	232.		793	MDFRM230	230	237.			794	MDWLT230	230	238.			
818	MYSTC MA	115	119.		1891	SALEM HR	115	119.			2096	MILLBURY	115	114.		63.0	*
1377	SOMERSET	115	117.		2277	MIDWEYMT	115	117.			2259	MINK 183	115	118.			
2574	WARRN 84	115	116.		2569	FRSQ	115	119.		0.0	2566	PHILP183	115	118.			
2553	ADMIRAL3	115	118.		1405	PAWTUCKT	115	113.			1379	SWANSEA	115	117.			
2268	WHITN PD	115	114.		2278	FIELD 1	115	117.			2266	READ ST	115	115.			
2267	S WREN29	115	113.		2254	DEPOT129	115	115.			2255	DEPOT130	115	115.			
2582	WOONSCKT	115	117.		1403	WFARNUM	115	117.			2539	WOLFHILL	115	117.			
2584	HARTAVE	115	118.		2544	JOHNSTN1	115	118.		5.4 *	2545	JOHNSTN2	115	118.		6.3	*
2560	DRUMROCK	115	117.	32.0 *	2565	KENT CO	115	117.		6.3	2570	SOCK187	115	117.			
2571	SOCK188	115	117.		2558	DAVIS 85	115	117.			2559	DAVIS 90	115	117.			
2572	W.KINGST	115	115.	18.1 *	2538	KENYON	115	114.			2581	WOOD RIV	115	114.			

AREA/ZONE TOTALS

NEPOOL_GEN	21892	NEPOOL_LOAD	22936	NEPOOL_LOSS	542
NEPOOL_INT	-1599				

CASE MD0MW-2001S-75%-NYNE-700-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 75%LOAD NYNE=-700 LI=100MW CTX=1977MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.988	654	57	3562	MILL#2	0.989	857	73	3563	MILL#3	0.989	1137	98
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.013	117	38	3556	MIDDTN#3	0.987	230	38
3557	MIDDTN#4	1.016	380	144	3558	MONTV#5	0.998	70	16	3559	MONTV#6	0.993	402	16
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.989	159	13
3552	NORHAR#2	0.989	168	13	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.969	170	0
3648	BPTHBR#3	0.962	375	0	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.968	447	0
3570	DEVGAS11	0.986	40	2	3571	DEVGAS11	0.986	40	2	3572	DEVGAS11	0.986	40	2
3573	DEVGAS11	0.986	40	2	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.984	106	5	3554	DEVON#8	0.984	106	5	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	0.000	0	0	2375	BP #2 GN	1.027	240	104*	2370	BP #3 GN	1.013	585	6
2371	BP #4 GN	0.000	0	0	2661	MANCH09A	0.000	0	0	2662	MANCH10A	1.003	100	17
2663	MANCH11A	1.003	100	17	2666	FRSQ SC1	0.000	0	0	2667	FRSQ SC2	1.007	42	-10
2668	FRSQ SC3	1.006	41	-10	1522	SOM G6	0.000	0	0	1531	OSP1 PF	1.020	77	9
1532	OSP2 PF	1.020	77	9	1533	OSP3 PF	1.020	108	12	1534	OSP4 PF	1.020	77	9
1535	OSP5 PF	1.020	77	9	1536	OSP6 PF	1.020	108	12	1084	NEA GTPF	1.009	111	0
1085	NEA GTPF	1.009	110	0	1086	NEA STPF	1.009	115	0	1251	CANAL G1	1.007	566	102
1252	CANAL G2	1.017	566*	102	1094	PLGRM G1	0.000	0	0	1060	MYST G4	0.000	0	0
1061	MYST 5G	0.000	0	0	1062	MYST G6	0.000	0	0	1063	MYST G7	1.002	565	-60
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	0.982	380	-50	1946	SALEM G1	0.000	0	0
1947	SALEM G2	0.000	0	0	1948	SALEM G3	0.000	0	0	1949	SALEM G4	1.011	134	7
2869	SBRK G1	0.992	1150	63	2868	NWNGT G1	0.982	300	5	2870	SCHILLER	0.000	0	0
2871	SCHILLER	0.000	0	0	2872	SCHILLER	0.000	0	0	2866	MERMK G1	1.009	113	-10
2867	MERMK G2	0.000	0	0	369	MAINE YA	0.000	0	0	365	WF WY #1	0.000	0	0
366	WF WY #2	0.000	0	0	367	WF WY #3	0.000	0	0	368	WF WY #4	1.044	531	133
705	VTYAK G	1.011	496	87	3083	NRTHFD12	0.000	0	0	3084	NRTHFD34	0.000	0	0
2512	BRSWP G1	0.000	0	0	2513	BRSWP G2	0.000	0	0	1381	DIGTN U6	1.030	185	0
3085	MT.TOM	0.972	146	-4	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.971	170	0
3641	NBH-GT2	0.971	170	0	3642	NBH-ST	0.969	180	0	3072	ALT12 PF	1.030	65	0
3073	ALT34 PF	1.028	81	0	3069	MAPR1 PF	1.020	78	-14	3070	MAPR2 PF	1.020	78	-14
3071	MAPR3 PF	1.020	73	-22	3080	WSPFLD 3	1.023	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.050	32	0	3548	CRRA PF	1.050	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	228	CONYAK	0	0	MIDDLETOWN	727	219
MONTVILLE	472	32	NORWALK	327	25	BRIDGEPORT	1065	0
NHHARBOUR	447	0	DEVON	372	19	BRAYTONPT	825	110
MANCHSTRST	283	14	SOMERSET	0	0	OSP	523	58
NEA	336	0	PAWTKTPWR	63	-11	ENRON	152	-6
CANAL	1132	204	PILGRIM	0	0	MYSTIC	565	-60
NEWBOSTON	380	-50	SALEMHBR	134	7	SEABROOK	1150	63
NEWINGTON	300	5	SCHILLER	0	0	MERRIMACK	113	-10
STONYBROOK	0	0	WYMAN	531	133	VTYANKEE	496	87
BEARSWAMP	0	0	NORTHFIELD	0	0	MASSPWRR	229	-50
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	0	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	-26	MEYANKEE-SOUTH	-170	-61	MAINE-NH	-128	-2
NNE-SCOBIE+394	950	-83	SEABROOK-SOUTH	1054	-45	NORTH-SOUTH	642	-37
CMFD/MOORE-SO	-52	-2	SNDYPOND-SOUTH	580	186	CONN EXPORT	1968	-144*
CONN-MASS	409	7*	CONN-RI	112	-17*	SW CONN IMPORT	16	58
NORWLK-STAMFORD	340	-60*	BOSTON IMPORT	2336	5*	NEMA/BOS IMPORT	2684	-32
SEMA/RI EXPORT	757	8	CONVEX-REMVEC	1321	-207	EAST-WEST	-1436	238
NY-NE	-692	-48						

HVDC TRANSFERS FROM H-Q

CHAT-1 = 0	CHAT-2 = 0	HIGHGATE = 199
MADAWASK = 0	PHII-P1 = 600	PHII-P2 = 0
EEL = 0		

BUS VOLTAGES

			V	LMT				V	LMT				V	LMT	
2692	NWGTN345	345	357.			2694	SEBRK345	345	357.			1789	TEWKS	345	359.		
759	MYSTIC	345	360.			1797	MILLBURY	345	356.			2925	LUDLOW	345	355.		
2926	NRTHFLD	345	358.			3106	SOUTHGTN	345	354.			3108	CARD	345	356.		
3109	MONTVILE	345	357.			3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	358.		
1801	BRAYTN P	345	358.			1811	KENT CO.	345	357.			1326	BRIDGWTR	345	356.		
1336	SHERMAN	345	358.			1338	OS POWER	345	358.			1337	WFARNUM	345	357.		
772	W MEDWAY	345	354.			780	WWALP345	345	354.			783	PILGRIM	345	358.		
773	NEA 336	345	358.			1193	CANAL	345	359.			1133	CARVER	345	357.		
795	FRMNGHAM	230	237.			793	MDFRM230	230	240.			794	MDWLT230	230	241.		
818	MYSTC MA	115	120.			1891	SALEM HR	115	119.			2096	MILLBURY	115	117.	63.0	*
1377	SOMERSET	115	118.			2277	MIDWEYMT	115	119.			2259	MINK 183	115	119.		
2574	WARRN 84	115	117.			2569	FRSQ	115	119.	0.0		2566	PHILP183	115	119.		
2553	ADMIRAL3	115	119.			1405	PAWTUCKT	115	116.			1379	SWANSEA	115	118.		
2268	WHITN PD	115	117.			2278	FIELD 1	115	119.			2266	READ ST	115	117.		
2267	S WREN29	115	116.			2254	DEPOT129	115	117.			2255	DEPOT130	115	118.		
2582	WOONSCKT	115	118.			1403	WFARNUM	115	118.			2539	WOLFHILL	115	119.		
2584	HARTAVE	115	119.			2544	JOHNSTN1	115	119.	5.4	*	2545	JOHNSTN2	115	119.	6.3	*
2560	DRUMROCK	115	119.	32.0	*	2565	KENT CO	115	119.	6.3		2570	SOCK187	115	119.		
2571	SOCK188	115	119.			2558	DAVIS 85	115	118.			2559	DAVIS 90	115	119.		
2572	W.KINGST	115	117.	18.1	*	2538	KENYON	115	117.			2581	WOOD RIV	115	116.		

AREA/ZONE TOTALS

NEPOOL_GEN	17434	NEPOOL_LOAD	17252	NEPOOL_LOSS	370
NEPOOL_INT	-199				

CASE MD0MW-2001S-75%-NYNE0-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 75%LOAD NYNE=0 LI=100MW CTX=1840MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.000	0	0*	3562	MILL#2	0.983	857	23	3563	MILL#3	0.983	1137	31
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.011	117	35	3556	MIDDTN#3	0.986	230	35
3557	MIDDTN#4	0.967	380	-61	3558	MONTV#5	0.972	70	0	3559	MONTV#6	0.985	402	-2
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.989	159	13
3552	NORHAR#2	0.989	168	13	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.969	170	0
3648	BPTHBR#3	0.962	375	-2	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.970	447	0
3570	DEVGAS11	0.982	40	0	3571	DEVGAS11	0.982	40	0	3572	DEVGAS11	0.982	40	0
3573	DEVGAS11	0.982	40	0	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.976	106	-2	3554	DEVON#8	0.977	106	-2	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	0.000	0	0	2375	BP #2 GN	1.026	240	102*	2370	BP #3 GN	1.012	585	-3
2371	BP #4 GN	0.000	0	0	2661	MANCH09A	0.000	0	0	2662	MANCH10A	1.002	100	16
2663	MANCH11A	1.002	100	16	2666	FRSQ SC1	0.000	0	0	2667	FRSQ SC2	1.007	42	-10
2668	FRSQ SC3	1.006	41	-10	1522	SOM G6	0.000	0	0	1531	OSP1 PF	1.020	77	8
1532	OSP2 PF	1.020	77	8	1533	OSP3 PF	1.020	108	11	1534	OSP4 PF	1.020	77	8
1535	OSP5 PF	1.020	77	8	1536	OSP6 PF	1.020	108	11	1084	NEA GTPF	1.010	111	0
1085	NEA GTPF	1.010	110	0	1086	NEA STPF	1.010	115	0	1251	CANAL G1	0.000	0	0
1252	CANAL G2	1.019	566	120*	1094	PLGRM G1	0.000	0	0	1060	MYST G4	0.000	0	0
1061	MYST 5G	0.000	0	0	1062	MYST G6	0.000	0	0	1063	MYST G7	1.011	565	17
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	0.981	380	-50	1946	SALEM G1	0.000	0	0
1947	SALEM G2	0.000	0	0	1948	SALEM G3	0.000	0	0	1949	SALEM G4	0.000	0	0
2869	SBRK G1	1.000	1150	170	2868	NWNGT G1	1.009	300	101	2870	SCHILLER	0.000	0	0
2871	SCHILLER	0.000	0	0	2872	SCHILLER	0.000	0	0	2866	MERMK G1	1.033	113	24
2867	MERMK G2	0.000	0	0	369	MAINE YA	0.000	0	0	365	WF WY #1	0.000	0	0
366	WF WY #2	0.000	0	0	367	WF WY #3	0.000	0	0	368	WF WY #4	0.982	1174	242*
705	VTYAK G	1.016	496	109	3083	NRTHFD12	0.000	0	0	3084	NRTHFD34	0.000	0	0
2512	BRSWP G1	0.000	0	0	2513	BRSWP G2	0.000	0	0	1381	DIGTN U6	1.030	185	-2
3085	MT.TOM	0.971	146	-6	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.970	170	-1
3641	NBH-GT2	0.970	170	-1	3642	NBH-ST	0.969	180	-1	3072	ALT12 PF	1.029	65	0
3073	ALT34 PF	1.028	81	0	3069	MAPR1 PF	1.020	78	-14	3070	MAPR2 PF	1.020	78	-14
3071	MAPR3 PF	1.020	73	-23	3080	WSPFLD 3	1.023	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.051	32	0	3548	CRRA PF	1.051	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	1994	54	CONYAK	0	0	MIDDLETOWN	727	9
MONTVILLE	472	-2	NORWALK	327	25	BRIDGEPORT	1065	-4
NHHARBOUR	447	0	DEVON	372	-4	BRAYTONPT	825	98
MANCHSTRST	283	12	SOMERSET	0	0	OSP	523	54
NEA	336	0	PAWTKTPWR	63	-11	ENRON	152	-8
CANAL	566	120	PILGRIM	0	0	MYSTIC	565	17
NEWBOSTON	380	-50	SALEMHBR	0	0	SEABROOK	1150	170
NEWINGTON	300	101	SCHILLER	0	0	MERRIMACK	113	24
STONYBROOK	0	0	WYMAN	1174	242	VTYANKEE	496	109
BEARSWAMP	0	0	NORTHFIELD	0	0	MASSPWRR	229	-51
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	-2	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	5	MEYANKEE-SOUTH	-173	-35	MAINE-NH	482	-281
NNE-SCOBIE+394	1508	-137	SEABROOK-SOUTH	1181	53	NORTH-SOUTH	1295	-101
CMFD/MOORE-SO	-52	-1	SNDYPOND-SOUTH	880	105	CONN EXPORT	1357	-57*
CONN-MASS	246	17*	CONN-RI	107	-19*	SW CONN IMPORT	19	-78
NORWLK-STAMFORD	345	-72*	BOSTON IMPORT	2443	15*	NEMA/BOS IMPORT	2822	-22
SEMA/RI EXPORT	200	52	CONVEX-REMVEC	1298	-194	EAST-WEST	-1500	224
NY-NE	6	-224						

HVDC TRANSFERS FROM H-Q

CHAT-1 =	0	CHAT-2 =	0	HIGHGATE =	199
MADAWASK =	0	PHII-P1 =	600	PHII-P2 =	0
EEL =	0				

BUS VOLTAGES

			V	LMT					V	LMT					V	LMT	
2692	NWGTN345	345	357.		2694	SEBRK345	345	357.			1789	TEWKS	345	358.			
759	MYSTIC	345	360.		1797	MILLBURY	345	356.			2925	LUDLOW	345	355.			
2926	NRTHFLD	345	359.		3106	SOUTHGTN	345	358.			3108	CARD	345	357.			
3109	MONTVILE	345	357.		3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	357.			
1801	BRAYTN P	345	358.		1811	KENT CO.	345	357.			1326	BRIDGWTR	345	356.			
1336	SHERMAN	345	358.		1338	OS POWER	345	358.			1337	WFARNUM	345	357.			
772	W MEDWAY	345	355.		780	WWALP345	345	355.			783	PILGRIM	345	358.			
773	NEA 336	345	359.		1193	CANAL	345	358.			1133	CARVER	345	357.			
795	FRMNGHAM	230	237.		793	MDFRM230	230	240.			794	MDWLT230	230	241.			
818	MYSTC MA	115	120.		1891	SALEM HR	115	118.			2096	MILLBURY	115	117.		63.0	*
1377	SOMERSET	115	118.		2277	MIDWEYMT	115	119.			2259	MINK 183	115	119.			
2574	WARRN 84	115	117.		2569	FRSQ	115	119.		0.0	2566	PHILP183	115	119.			
2553	ADMIRAL3	115	119.		1405	PAWTUCKT	115	116.			1379	SWANSEA	115	118.			
2268	WHITN PD	115	117.		2278	FIELD 1	115	119.			2266	READ ST	115	117.			
2267	S WREN29	115	116.		2254	DEPOT129	115	117.			2255	DEPOT130	115	118.			
2582	WOONSCKT	115	118.		1403	WFARNUM	115	118.			2539	WOLFHILL	115	119.			
2584	HARTAVE	115	119.		2544	JOHNSTN1	115	119.		5.4	* 2545	JOHNSTN2	115	119.		6.3	*
2560	DRUMROCK	115	119.	32.0	* 2565	KENT CO	115	119.		6.3	2570	SOCK187	115	119.			
2571	SOCK188	115	119.		2558	DAVIS 85	115	118.			2559	DAVIS 90	115	119.			
2572	W.KINGST	115	117.	18.1	* 2538	KENYON	115	116.			2581	WOOD RIV	115	116.			

AREA/ZONE TOTALS

NEPOOL_GEN	16724	NEPOOL_LOAD	17252	NEPOOL_LOSS	360
NEPOOL_INT	-899				

CASE MD0MW-2001S-75%-NYNE700-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 75%LOAD NYNE=700 LI=100MW CTX=1846MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.000	0	0*	3562	MILL#2	0.983	857	25	3563	MILL#3	0.983	1137	34
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	1.012	117	36	3556	MIDDTN#3	0.987	230	36
3557	MIDDTN#4	0.986	380	17	3558	MONTV#5	0.981	70	3	3559	MONTV#6	0.991	402	3
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.989	159	13
3552	NORHAR#2	0.989	168	13	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.969	170	0
3648	BPTHBR#3	0.962	375	-3	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.968	447	0
3570	DEVGAS11	0.985	40	1	3571	DEVGAS11	0.985	40	1	3572	DEVGAS11	0.985	40	1
3573	DEVGAS11	0.985	40	1	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.982	106	3	3554	DEVON#8	0.982	106	3	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	0.000	0	0	2375	BP #2 GN	1.028	240	106*	2370	BP #3 GN	1.015	585	28
2371	BP #4 GN	0.000	0	0	2661	MANCH09A	0.000	0	0	2662	MANCH10A	1.004	100	20
2663	MANCH11A	1.004	100	20	2666	FRSQ SC1	0.000	0	0	2667	FRSQ SC2	1.007	42	-10
2668	FRSQ SC3	1.006	41	-10	1522	SOM G6	0.000	0	0	1531	OSP1 PF	1.020	77	10
1532	OSP2 PF	1.020	77	10	1533	OSP3 PF	1.020	108	13	1534	OSP4 PF	1.020	77	10
1535	OSP5 PF	1.020	77	10	1536	OSP6 PF	1.020	108	13	1084	NEA GTPF	1.008	111	0
1085	NEA GTPF	1.009	110	0	1086	NEA STPF	1.008	115	0	1251	CANAL G1	1.032	566	198
1252	CANAL G2	0.000	0	0	1094	PLGRM G1	0.000	0	0	1060	MYST G4	0.000	0	0
1061	MYST 5G	0.000	0	0	1062	MYST G6	0.000	0	0	1063	MYST G7	1.010	565	8
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	0.981	380	-50	1946	SALEM G1	0.000	0	0
1947	SALEM G2	0.000	0	0	1948	SALEM G3	0.000	0	0	1949	SALEM G4	0.000	0	0
2869	SBRK G1	0.994	1150	94	2868	NWNGT G1	0.987	300	21	2870	SCHILLER	0.000	0	0
2871	SCHILLER	0.000	0	0	2872	SCHILLER	0.000	0	0	2866	MERMK G1	1.013	113	-3
2867	MERMK G2	0.000	0	0	369	MAINE YA	0.000	0	0	365	WF WY #1	0.000	0	0
366	WF WY #2	0.000	0	0	367	WF WY #3	0.000	0	0	368	WF WY #4	1.042	207	109
705	VTYAK G	1.021	496	150*	3083	NRTHFD12	0.000	0	0	3084	NRTHFD34	0.000	0	0
2512	BRSWP G1	0.000	0	0	2513	BRSWP G2	0.000	0	0	1381	DIGTN U6	1.030	185	3
3085	MT.TOM	0.961	146	-19	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	1.011	280	89	3640	NBH-GT1	0.970	170	-1
3641	NBH-GT2	0.970	170	-1	3642	NBH-ST	0.969	180	-1	3072	ALT12 PF	1.022	65	0
3073	ALT34 PF	1.021	81	0	3069	MAPR1 PF	1.020	78	-14	3070	MAPR2 PF	1.020	78	-14
3071	MAPR3 PF	1.020	73	-23	3080	WSPFLD 3	1.030	107	52*	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.051	32	0	3548	CRRA PF	1.051	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	1994	59	CONYAK	0	0	MIDDLETOWN	727	89
MONTVILLE	472	5	NORWALK	327	27	BRIDGEPORT	1065	-6
NHHARBOUR	447	0	DEVON	372	12	BRAYTONPT	825	134
MANCHSTRST	283	20	SOMERSET	0	0	OSP	523	65
NEA	336	0	PAWTKTPWR	63	-11	ENRON	152	0
CANAL	566	198	PILGRIM	0	0	MYSTIC	565	8
NEWBOSTON	380	-50	SALEMHBR	0	0	SEABROOK	1150	94
NEWINGTON	300	21	SCHILLER	0	0	MERRIMACK	113	-3
STONYBROOK	0	0	WYMAN	207	109	VTYANKEE	496	150
BEARSWAMP	0	0	NORTHFIELD	0	0	MASSPWRR	229	-51
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	3	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS

NB-NE	100	-25	MEYANKEE-SOUTH	-168	-60	MAINE-NH	-429	52
NNE-SCOBIE+394	685	-3	SEABROOK-SOUTH	1025	-11	NORTH-SOUTH	425	12
CMFD/MOORE-SO	-52	-1	SNDYPOND-SOUTH	555	189	CONN EXPORT	1424	-4*
CONN-MASS	361	32*	CONN-RI	126	-17*	SW CONN IMPORT	22	31
NORWLK-STAMFORD	347	-79*	BOSTON IMPORT	2438	-26*	NEMA/BOS IMPORT	2820	-62
SEMA/RI EXPORT	192	118	CONVEX-REMVEC	2115	-205	EAST-WEST	-2429	468
NY-NE	711	-276						

HVDC TRANSFERS FROM H-Q

CHAT-1 = 0	CHAT-2 = 0	HIGHGATE = 199
MADAWASK = 0	PHII-P1 = 600	PHII-P2 = 0
EEL = 0		

BUS VOLTAGES

			V	LMT				V	LMT					V	LMT	
2692	NWGTN345	345	357.			2694	SEBRK345	345	357.			1789	TEWKS	345	358.	
759	MYSTIC	345	360.			1797	MILLBURY	345	355.			2925	LUDLOW	345	354.	
2926	NRTHFLD	345	357.			3106	SOUTHGTN	345	360.			3108	CARD	345	356.	
3109	MONTVILE	345	357.			3110	MILLSTNE	345	357.			3116	MIDDLTWN	345	357.	
1801	BRAYTN P	345	358.			1811	KENT CO.	345	356.			1326	BRIDGWTR	345	356.	
1336	SHERMAN	345	357.			1338	OS POWER	345	357.			1337	WFARNUM	345	357.	
772	W MEDWAY	345	354.			780	WWALP345	345	354.			783	PILGRIM	345	357.	
773	NEA 336	345	358.			1193	CANAL	345	359.			1133	CARVER	345	357.	
795	FRMNGHAM	230	237.			793	MDFRM230	230	239.			794	MDWLT230	230	240.	
818	MYSTC MA	115	120.			1891	SALEM HR	115	118.			2096	MILLBURY	115	116.	63.0 *
1377	SOMERSET	115	118.			2277	MIDWEYMT	115	119.			2259	MINK 183	115	119.	
2574	WARRN 84	115	117.			2569	FRSQ	115	119.	0.0		2566	PHILP183	115	119.	
2553	ADMIRAL3	115	119.			1405	PAWTUCKT	115	116.			1379	SWANSEA	115	118.	
2268	WHITN PD	115	117.			2278	FIELD 1	115	119.			2266	READ ST	115	117.	
2267	S WREN29	115	115.			2254	DEPOT129	115	117.			2255	DEPOT130	115	117.	
2582	WOONSCKT	115	118.			1403	WFARNUM	115	118.			2539	WOLFHILL	115	118.	
2584	HARTAVE	115	119.			2544	JOHNSTN1	115	119.	5.4 *		2545	JOHNSTN2	115	119.	6.3 *
2560	DRUMROCK	115	119.	32.0 *		2565	KENT CO	115	119.	6.3		2570	SOCK187	115	119.	
2571	SOCK188	115	119.			2558	DAVIS 85	115	118.			2559	DAVIS 90	115	118.	
2572	W.KINGST	115	117.	18.1 *		2538	KENYON	115	116.			2581	WOOD RIV	115	116.	

AREA/ZONE TOTALS

NEPOOL_GEN	16036	NEPOOL_LOAD	17247	NEPOOL_LOSS	378
NEPOOL_INT	-1600				

CASE MD0MW-2001S-50%-NYNE-700-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 50%LOAD NYNE=-700MW CTX=2340MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.987	654	52	3562	MILL#2	0.988	857	67	3563	MILL#3	0.988	1137	90
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	0.000	0	0	3556	MIDDTN#3	0.988	230	39
3557	MIDDTN#4	0.000	0	0	3558	MONTV#5	1.004	70	25	3559	MONTV#6	0.000	0	0
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.000	0	0
3552	NORHAR#2	0.987	168	10	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.974	170	8
3648	BPTHBR#3	0.964	375	8	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.969	447	23
3570	DEVGAS11	0.997	40	9	3571	DEVGAS11	0.997	40	9	3572	DEVGAS11	0.997	40	9
3573	DEVGAS11	0.997	40	9	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.998	106	18	3554	DEVON#8	0.997	106	18	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	0.000	0	0	2375	BP #2 GN	1.016	240	74*	2370	BP #3 GN	1.009	585	-22
2371	BP #4 GN	0.000	0	0	2661	MANCH09A	0.000	0	0	2662	MANCH10A	0.000	0	0
2663	MANCH11A	1.003	100	17	2666	FRSQ SC1	0.000	0	0	2667	FRSQ SC2	0.000	0	0
2668	FRSQ SC3	1.006	41	-10	1522	SOM G6	0.000	0	0	1531	OSP1 PF	0.000	0	0
1532	OSP2 PF	0.000	0	0	1533	OSP3 PF	0.000	0	0	1534	OSP4 PF	1.020	77	9
1535	OSP5 PF	1.020	77	9	1536	OSP6 PF	1.020	108	12	1084	NEA GTPF	0.000	0	0
1085	NEA GTPF	0.000	0	0	1086	NEA STPF	0.000	0	0	1251	CANAL G1	1.000	563	74
1252	CANAL G2	1.013	566	74	1094	PLGRM G1	0.000	0	0	1060	MYST G4	0.000	0	0
1061	MYST 5G	0.000	0	0	1062	MYST G6	0.000	0	0	1063	MYST G7	1.006	300	-150
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	1.012	200	-50	1946	SALEM G1	0.000	0	0
1947	SALEM G2	0.000	0	0	1948	SALEM G3	0.000	0	0	1949	SALEM G4	0.000	0	0
2869	SBRK G1	0.984	1150	-31	2868	NWNGT G1	0.000	0	0	2870	SCHILLER	0.000	0	0
2871	SCHILLER	0.000	0	0	2872	SCHILLER	0.000	0	0	2866	MERMK G1	1.017	113	-10
2867	MERMK G2	0.000	0	0	369	MAINE YA	0.000	0	0	365	WF WY #1	0.000	0	0
366	WF WY #2	0.000	0	0	367	WF WY #3	0.000	0	0	368	WF WY #4	1.034	264	66
705	VTYAK G	0.998	496	33	3083	NRTHFD12	1.014	-500	129*	3084	NRTHFD34	1.009	-250	80*
2512	BRSWP G1	0.995	-280	85	2513	BRSWP G2	0.000	0	0	1381	DIGTN U6	1.030	185	-18
3085	MT.TOM	0.968	146	-11	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.973	170	3
3641	NBH-GT2	0.973	170	3	3642	NBH-ST	0.972	180	3	3072	ALT12 PF	1.028	65	0
3073	ALT34 PF	1.026	81	0	3069	MAPR1 PF	1.020	78	-14	3070	MAPR2 PF	1.020	78	-14
3071	MAPR3 PF	1.020	73	-23	3080	WSPFLD 3	0.000	0	0	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.011	32	0	3548	CRRA PF	1.011	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	210	CONYAK	0	0	MIDDLETOWN	230	39
MONTVILLE	70	25	NORWALK	168	10	BRIDGEPORT	1065	23
NHHARBOUR	447	23	DEVON	372	71	BRAYTONPT	825	51
MANCHSTRST	141	7	SOMERSET	0	0	OSP	262	29
NEA	0	0	PAWTKTPWR	63	-11	ENRON	152	-32
CANAL	1129	147	PILGRIM	0	0	MYSTIC	300	-150
NEWBOSTON	200	-50	SALEMHBR	0	0	SEABROOK	1150	-31
NEWINGTON	0	0	SCHILLER	0	0	MERRIMACK	113	-10
STONYBROOK	0	0	WYMAN	264	66	VTYANKEE	496	33
BEARSWAMP	-280	85	NORTHFIELD	-750	209	MASSPWRR	229	-51
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	-18	MILLENNIUM	0	0	ALTRESCO	146	0

CASE MD0MW-2001S-50%-NYNE0-LI100-CTX-CTGN.SAV
DEVON=0MW 2001S 50%LOAD NYNE=0MW CTX=2237MW CTGN

GENERATION

#		V	MW	MX	#		V	MW	MX	#		V	MW	MX
3561	MILL#1	0.994	654	82	3562	MILL#2	0.992	857	105	3563	MILL#3	0.993	1137	141
3560	CTYANKEE	0.000	0	0	3555	MIDDTN#2	0.000	0	0	3556	MIDDTN#3	0.991	230	46
3557	MIDDTN#4	0.000	0	0	3558	MONTV#5	0.969	70	0	3559	MONTV#6	0.000	0	0
3549	SMD1112J	0.000	0	0	3550	SMD1314J	0.000	0	0	3551	NORHAR#1	0.000	0	0
3552	NORHAR#2	0.981	168	-2	3646	BPTHBR#1	0.000	0	0	3647	BPTHBR#2	0.973	170	6
3648	BPTHBR#3	0.964	375	6	3649	BPTHBR#4	0.000	0	0	3651	NH HARBR	0.972	447	40
3570	DEVGAS11	0.997	40	9	3571	DEVGAS11	0.997	40	9	3572	DEVGAS11	0.997	40	9
3573	DEVGAS11	0.997	40	9	3574	MILFD#1	0.000	0	0	3575	MILFD#2	0.000	0	0
3553	DEVON#7	0.999	106	19	3554	DEVON#8	0.998	106	19	1739	TAUNT PF	0.000	0	0
2372	BP #1 GN	0.000	0	0	2375	BP #2 GN	1.016	240	73*	2370	BP #3 GN	1.011	585	-6
2371	BP #4 GN	0.000	0	0	2661	MANCH09A	0.000	0	0	2662	MANCH10A	0.000	0	0
2663	MANCH11A	1.006	100	22	2666	FRSQ SC1	0.000	0	0	2667	FRSQ SC2	0.000	0	0
2668	FRSQ SC3	1.006	41	-10	1522	SOM G6	0.000	0	0	1531	OSP1 PF	0.000	0	0
1532	OSP2 PF	0.000	0	0	1533	OSP3 PF	0.000	0	0	1534	OSP4 PF	1.020	77	10
1535	OSP5 PF	1.020	77	10	1536	OSP6 PF	1.020	108	13	1084	NEA GTPF	0.000	0	0
1085	NEA GTPF	0.000	0	0	1086	NEA STPF	0.000	0	0	1251	CANAL G1	1.000	127	42
1252	CANAL G2	1.007	566	42	1094	PLGRM G1	0.000	0	0	1060	MYST G4	0.000	0	0
1061	MYST 5G	0.000	0	0	1062	MYST G6	0.000	0	0	1063	MYST G7	1.003	300	-150
1073	N.BOST 1	0.000	0	0	1074	N.BOST 2	1.010	200	-50	1946	SALEM G1	0.000	0	0
1947	SALEM G2	0.000	0	0	1948	SALEM G3	0.000	0	0	1949	SALEM G4	0.000	0	0
2869	SBRK G1	0.990	1150	43	2868	NWNGT G1	0.000	0	0	2870	SCHILLER	0.000	0	0
2871	SCHILLER	0.000	0	0	2872	SCHILLER	0.000	0	0	2866	MERMK G1	1.012	113	-10
2867	MERMK G2	0.000	0	0	369	MAINE YA	0.000	0	0	365	WF WY #1	0.000	0	0
366	WF WY #2	0.000	0	0	367	WF WY #3	0.000	0	0	368	WF WY #4	0.000	0	0
705	VTYAK G	1.006	496	66	3083	NRTHFD12	1.022	-500	160*	3084	NRTHFD34	1.009	-250	80*
2512	BRSWP G1	1.004	-280	106	2513	BRSWP G2	0.000	0	0	1381	DIGTN U6	1.030	185	-17
3085	MT.TOM	0.973	146	-4	65001		0.000	0	0	65006		0.000	0	0
62091		0.000	0	0	61387		0.000	0	0	70000		0.000	0	0
70001		0.000	0	0	90001		0.000	0	0	91002		0.000	0	0
91003		0.000	0	0	2986	BERKPWR	0.000	0	0	3640	NBH-GT1	0.972	170	2
3641	NBH-GT2	0.972	170	2	3642	NBH-ST	0.971	180	2	3072	ALT12 PF	1.026	65	0
3073	ALT34 PF	1.025	81	0	3069	MAPR1 PF	1.020	78	-13	3070	MAPR2 PF	1.020	78	-13
3071	MAPR3 PF	1.020	73	-21	3080	WSPFLD 3	0.000	0	0	1552		0.000	0	0
1553		0.000	0	0	1554		0.000	0	0	1555		0.000	0	0
3547	CRRA PF	1.008	32	0	3548	CRRA PF	1.008	32	0	0		0.000	0	0

	MW	MX		MW	MX		MW	MX
MILLSTONE	2648	328	CONYAK	0	0	MIDDLETOWN	230	46
MONTVILLE	70	0	NORWALK	168	-2	BRIDGEPORT	1065	18
NHHARBOUR	447	40	DEVON	372	74	BRAYTONPT	825	67
MANCHSTRST	141	12	SOMERSET	0	0	OSP	262	33
NEA	0	0	PAWTKTPWR	63	-11	ENRON	152	-31
CANAL	694	85	PILGRIM	0	0	MYSTIC	300	-150
NEWBOSTON	200	-50	SALEMHBR	0	0	SEABROOK	1150	43
NEWINGTON	0	0	SCHILLER	0	0	MERRIMACK	113	-10
STONYBROOK	0	0	WYMAN	0	0	VTYANKEE	496	66
BEARSWAMP	-280	106	NORTHFIELD	-750	240	MASSPWRR	229	-48
ANP-BELLINGHAM	0	0	ANP-BLACKSTONE	0	0	EMI-TIVERTON	0	0
EMI-DIGHTON	185	-17	MILLENNIUM	0	0	ALTRESCO	146	0

INTERFACE FLOWS