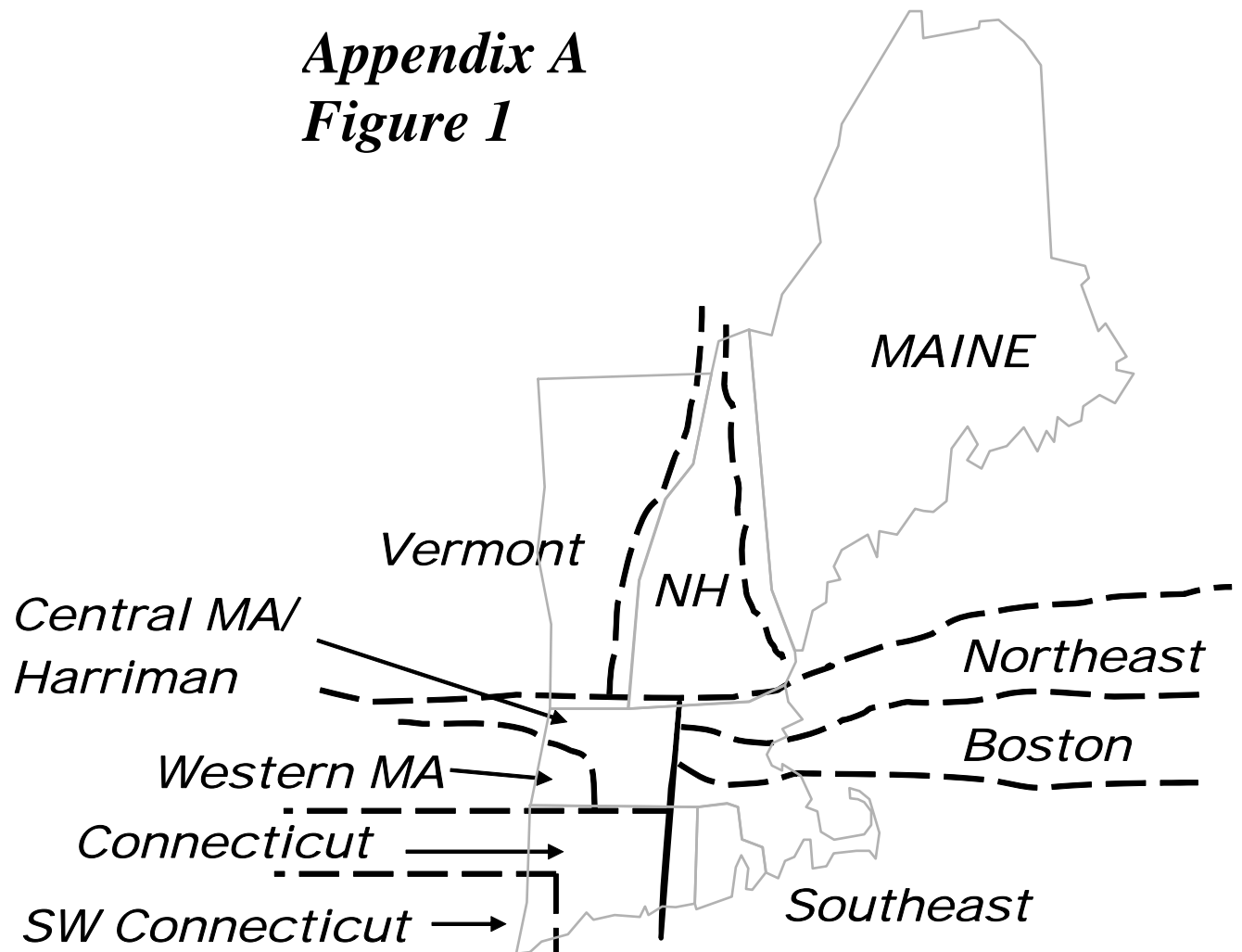


APPENDIX A - AREA DEFINITIONS

The New England Control Area is currently divided into 10 areas based on voltage/reactive performance, the number and strength of interconnections between voltage levels, and physical characteristics such as length of transmission lines, overhead or underground construction, etc. These area definitions may be updated from time to time, as system changes dictate. The 10 areas are shown below in Figure 1.



The 10 areas are described as follows:

Maine Area

<u>Line #</u>	<u>Terminals and Voltage</u>
396	Keswick - Chester 345 kV
390	Lepreau - Orrington 345 kV
391	Scobie - Buxton 345 kV
385	Deerfield - Buxton 345 kV
250	Three Rivers - Maguire 115 kV
197	Three Rivers – Quaker Hill 115 kV
Y-138	Saco Valley – White Lake 115 kV (Normally Open, Saco Valley is New Hampshire load that is fed radially from Maine)

Bolt Hill load is supplied from New Hampshire and Maine

Bolt Hill LPF compares to Maine area LPF Standard

New Hampshire Area

<u>Line #</u>	<u>Terminals and Voltage</u>
391	Buxton – Scobie 345 kV
385	Buxton – Deerfield 345 kV
250	Maguire – Three Rivers 115 kV
197	Quaker Hill – Three Rivers 115 kV
Y-138	Saco Valley – White Lake 115 kV (Normally Open, Saco Valley is New Hampshire load fed radially out of Maine)
394	Seabrook – Ward Hill 345 kV
326	Sandy Pond – Lawrence 345 kV
379	Vermont Yankee – Amherst 345 kV
Y151	Pelham – Bridge Street Tap 115 kV
A201	N.Litchfield – Comerford 230 kV*
B202	N.Litchfield – Dunbarton Tap 230 kV
F206	Comerford – Granite 230 kV
K174	North Road – Ascutney 115 kV
I135N	Monadnock – Monadnock Tap 115 kV
K60	St.Johnsbury - Littleton 115kV
B-49	Manchester - Bromley 46 kV
4X	Vermont Yankee 345/115 kV Transformer
3316	Comerford – Barnet 34.5 kV
3318	Comerford – Monroe 34.5 kV

Bolt Hill load is supplied from New Hampshire.

Bolt Hill LPF compares to Maine area LPF Standard

*Granite Ridge CT1 & CT2 units located in NEMA area on 230 kV lines,

ST unit located in NH area on 115 kV line

Vermont Area

<u>Line #</u>	<u>Terminals and Voltage</u>
1400	Stanstead – Derby 120 kV (Derby load is normally fed radially out of Quebec but may be switched to the VELCO system.)
Highgate Converter	Highgate HVDC (like a resource within the VT area)
PV-20	Plattsburgh – Grand Isle 115 kV
K37	Whitehall – Blissville 115 kV
K60	Littleton – St.Johnsbury 115kV
340	Vermont Yankee – Coolidge 345 kV
I135N	Monadnock Tap – Bellows Falls 115 kV
J136N	East Winchendon Tap – Bellows Falls 115 kV
K174	North Road – Ascutney 115 kV
F206	Comerford – Granite 230 kV
3316	Comerford – Barnet 34.5 kV
3318	Comerford – Monroe 34.5 kV

Northeast MA Area

<u>Line #</u>	<u>Terminals and Voltage</u>
394	Seabrook – Ward Hill 345 kV
338	Tewksbury-Woburn 345 kV
326	Lawrence – Sandy Pond 345 kV
Y151	Bridge Street Tap – Pelham 115 kV
A201	Comerford – N.Litchfield 230 kV*
B202	Dunbarton Tap – N.Litchfield 230 kV*
K137W	Ayer – Sandy Pond 115 kV
L138W	Laurel Circle – Sandy Pond 115 kV
314	Sandy Pond – Wachusett 345 kV
343	Sandy Pond – Wachusett 345 kV
M139	North Woburn – Pinehurst (Billerica Tap) 115 kV
N140	North Woburn – Pinehurst Tap 115 kV
349X+Y	Mystic – Golden Hills 345 kV
O167/423-515	Mystic – Everett 115 kV
P168/128-518	Chelsea – Revere 115 kV
Phase II	Sandy Pond HVDC (like a resource within the NEMA area)

*Granite Ridge CT1 & CT2 units located in NEMA area on 230 kV lines,
ST unit located in NH area on 115 kV line

Central MA/Harriman Area

<u>Line #</u>	<u>Terminals and Voltage</u>
I135N	Monadnock – Monadnock Tap 115 kV
J136N	Bellows Falls – East Winchendon Tap 115 kV
B-49	Bromley - Manchester 46 kV
K6	Hoosick – Bennington 115 kV
E205W	Rotterdam – Bear Swamp 230 kV
F132	Adams – Partridge 115 kV
B128	Montague/Cabot – Indeck 115 kV
Y177	Montague/Cabot – Sherman/Harriman Tap 115 kV
301	Ludlow – Carpenter Hill 345 kV
X176	Ludlow – Thorndike 115 kV
R144	Woonsocket – Millbury 115 kV
Q143	Whitins Pond – Millbury 115 kV
C129	Hopkinton – Millbury 115 kV
D130	Hopkinton – Millbury 115 kV
323	West Medway – Millbury 345 kV
357	West Medway – Millbury 345 kV
D156/153-507	Northboro Road – West Framingham 115 kV
314	Sandy Pond – Wachusett 345 kV
343	Sandy Pond – Wachusett 345 kV
K137W	Sandy Pond – Ayer 115 kV
L138W	Sandy Pond – Laurel Circle 115 kV

Western MA Area

<u>Line #</u>	<u>Terminals and Voltage</u>
340	Coolidge – Vermont Yankee 345 kV
4X	Vermont Yankee 345/115 kV Transformer
379	Amherst – Vermont Yankee 345 kV
393	Alps – Berkshire 345 kV
F132	Adams – Partridge 115 kV
B128	Indeck – Montague/Cabot 115 kV
Y177	Sherman/Harriman Tap – Montague/Cabot 115 kV
301	Carpenter Hill – Ludlow 345 kV
X176	Thorndike – Ludlow 115 kV
395	Meeksville Jct – Ludlow 345 kV
1768	North Bloomfield – Southwick 115 kV
1821	North Bloomfield – S. Agawam 115 kV
1836	North Bloomfield – S. Agawam 115 kV

Boston Area

<u>Line #</u>	<u>Terminals and Voltage</u>
338	Tewksbury – Woburn 345 kV
456-522	West Walpole – Dover 115 kV
274-509	Medway – Sherborn 115 kV
240-601	West Medway – Framingham 230 kV
282-602	West Medway – Waltham 230 kV
D156/513-507	Northboro Road – West Framingham 115 kV
M139	Billerica Tap – North Woburn 115 kV
N140	Pinehurst Tap – North Woburn 115 kV
349X+Y	Golden Hills – Mystic 345 kV
O167/423-515	Everett – Mystic 115 kV
P168/128-518	Revere – Chelsea 115 kV
517-524	North Quincy – Dewar Street 115 kV
517-525	North Quincy – Dewar Street 115 kV
3162	Stoughton – Hyde Park
3164	Stoughton – K Street

Southeast Area

<u>Line#</u>	<u>Terminals and Voltage</u>
1870S	Wood River – Shunock 115 kV
330	Card – Lake Road 345 kV
2X	Killingly 2X 345/115 kV
R144	Millbury – Woonsocket 115 kV
Q143	Millbury – Whitins Pond 115 kV
C129	Millbury – Hopkinton 115 kV
D130	Millbury – Hopkinton 115 kV
323	Millbury – West Medway 345 kV
357	Millbury – West Medway 345 kV
456-522	Dover – West Walpole 115 kV
274-509	Sherborn – Medway 115 kV
240-601	Framingham – West Medway 230 kV
282-602	Waltham – West Medway 230 kV
517-524	Dewar Street – North Quincy 115 kV (normally open)
517-525	Dewar Street – North Quincy 115 kV (normally open)
3162	Hyde Park - Stoughton
3164	K Street - Stoughton

Connecticut Area

<u>Line#</u>	<u>Terminals and Voltage</u>
398	Pleasant Valley – Long Mountain 345 kV
690	Smithfield – Salisbury 69 kV
395	Ludlow – Meeksville Junction 345 kV
1821	South Agawam – North Bloomfield 115 kV
1836	South Agawam – North Bloomfield 115 kV
1768	Southwick – North Bloomfield 115 kV
330	Lake Road – Card 345 kV
2X	Killingly 2X 345/115 kV
1870S	Wood River – Shunock 115 kV
Cross Sound Cable	Cross Sound Cable HVDC (like a resource within the CT area)

Southwest CT Area

<u>Line#</u>	<u>Terminals and Voltage</u>
321	Long Mountain – Plumtree 345 kV
1445	Frost Bridge – Shaws Hill 115 kV
1990	Frost Bridge – Baldwin Jct. 115 kV
1721	Frost Bridge – Freight 115 kV
1238	Frost Bridge – Carmel Hill 115 kV
1550	Frost Bridge – Noera Tap1 115 kV
1163	Frost Bridge – Noera Tap2 115 kV
1910	Southington – Todd 115 kV
1950	Southington – Canal 115 kV
1208	Southington – Wallingford 115 kV
1610	Southington – Glen Lake Jct. 115 kV
5X	Southington 115/13.8 kV Transformer
6X	Southington 115/13.8 kV Transformer
12X	Southington 115/27.6 kV Transformer
11X	Southington 115/27.6 kV Transformer
8100	East Shore – Grand Ave. 115 kV
8200	East Shore – Grand Ave. 115 kV
1460	East Shore – Branford RR 115 kV
1508	Green Hill – Branford RR 115kV

OP 17 Appendix A Revision History

Document History (This Document History documents action taken on the equivalent NEPOOL Procedure prior to the RTO Operations Date as well revisions made to the ISO New England Procedure subsequent to the RTO Operations Date.)

Rev. No.	Date	Reason
Rev 1	03/07/03	
Rev 2	02/01/05	Updated to conform to RTO terminology
Rev 3	06/02/05	Update for changes resulting from VTF meetings
Rev 4	09/07/06	Update for changes resulting from VTF meetings
Rev 5	10/23/06	Revised 148-522X+Y to 456-522
Rev 6	07/09/07	Update for changes resulting from VTF meetings
Rev 7	03/03/08	Revised to update for changes resulting from VTF meetings including: deleted K-41, N133 and 1690 lines; added K60 line; corrected names and sequencing for terminal listings for various lines; provided asterisks and applicable supporting information for various lines; changed Killingly 2x to 2X & added kV to Killingly 345/115; and deleted numbering for each geographic area.