

Appendix J

More Planning Sensitivity Results

Note:

Revised for PJM-LI Neptune HVDC from 597 MW to 660 MW
3/15/06

**Table J-1
Planning Case
Added Zone J Generation**

Deliverability: Scenario C, Additional Generating Units

J], plus the Neptune HVDC (660 MW Zone K)

Table J-2
Planning Case

Deliverability: Scenario C, Additional Generating Units
Results Comparison: Zone J Transmission

Additional Generation is Cathness (352 MW Zone K) and Liberty (394 MW Zone J), plus the Neptune HVDC (660 MW Zone K)

Note: LIPA transmission upgrades for Neptune are not included

LTE ratings with emergency, stuck breaker, and tower contingencies

Most severe overloads chosen		Zone J Shift					NYCA Shift				
Monitored Element	Contingency	M1	M2	M3	M3	M5	M1	M2	M3	M4	M5
74332 FR KILLS 345 74470 FRKILLSR 138 1	TWR21&22	-77	-103	-103	-103	388	-77	-103	-103	-103	388
74333 GOTHLS N 345 74336 GOWANUSN 345 1	BaseCase	-200	-243	-243	-243	570	-200	-243	-243	-243	570
74333 GOTHLS N 345 74336 GOWANUSN 345 1	SBFARR 345 7W	26	-42	-41	-41	41					
74335 GOTHLS S 345 74337 GOWANUSS 345 1	BaseCase	-205	-249	-249	-249	574	-205	-249	-249	-249	574
74335 GOTHLS S 345 74337 GOWANUSS 345 1	BUS:GOWANUS N 345	29	-38	-38	-38	1216					
74345 RAINY 345 74611 8E DUM 138 8	74345 RAINY 345 74612 8W DUM 138 8	-198	-234	69	548	548	-77	-44	443	-720	-623
74345 RAINY 345 74611 8E DUM 138 8	74345 RAINY 345 74611 8E DUM 138 8	-198	-234	68	544	544	-78	-45	440	-713	-618
74380 GOWNUSR2 138 74484 GRENEWOOD 138 2	BaseCase	-0.1	-13	-13	-13	227	-0.1	-13	-13	-13	227
74384 ASTE-ERG 138 74495 HG 4 138 1	SIN:340	-403	-482	-326	-274	274	-455	-659	-622	-658	207
74385 GOWNUSR1 138 74484 GRENEWOOD 138 2	BaseCase	-8.1	-13	-13	-13	227	-8.1	-13	-13	-13	227
74402 ASTE-WRG 138 74465 CORONA-N 138 2	SIN:340	-64	-34	-76	-73	173	-64	-34	-76	-32	32
74402 ASTORIAW 138 74525 QUENBRDG 138 2	BaseCase	-438	-491	-367	-313	313	-600	-694	-661	-597	199
74403 ASTORIAW 138 74525 QUENBRDG 138 3	BaseCase	-107	-135	-81	12	12	-140	-173	-109	-133	45
74403 ASTORIAW 138 74525 QUENBRDG 138 4	BaseCase	-91	-117	-18	48	48	-219	-290	-173	-216	109
74435 E179 ST 138 74492 HG 1 138 1	BaseCase	-151	-180	-46	10	10	-309	-379	-244	-294	79
74435 E179 ST 138 74492 HG 4 138 1	SIN:350	-439	-650	-526	-472	472	-751	-853	-720	-786	178
74435 E179 ST 138 74495 HG 4 138 1	SIN:340	-553	-611	-487	-433	433	-718	-814	-681	-717	183
74435 E179 ST 138 74497 HG 6 138 1	BaseCase	-304	-337	-65	90	90					
74435 E179 ST 138 74497 HG 6 138 1	BUS:GOETHALS_S 345	-230	-264	8	163	163	-166	-189	141	-513	-340
74466 FOXHILLS1 138 74571 WILWBK2 138 1	freshkills willowbrook1 138	-123	-145	-85	no excess	no excess	-126	-150	-87	no excess	no excess
74467 FOXHILLS2 138 74484 GRENEWOOD 138 1	freshkills willowbrook2 138	-69	-91	-22	no excess	no excess	-72	-96	-24	no excess	no excess
74467 FOXHILLS2 138 74570 WILWBK1 138 1	freshkills willowbrook2 138	-120	-143	-82	no excess	no excess	-123	-147	-84	no excess	no excess
74468 FR KILLS 138 74570 WILWBK1 138 1	freshkills willowbrook2 138	-168	-192	-136	-26	-26	-171	-196	-138	no excess	no excess
74468 FR KILLS 138 74571 WILWBK2 138 1	freshkills willowbrook1 138	-171	-195	-138	-30	-30	-174	-198	-141	-150	-113
74484 GRENEWOOD 138 74504 KENTTAP 138 1	74345 RAINY 345 74612 8W DUM 138 8	-23	-41	58	no excess	no excess	-18	-35	-252	-1810	60
74484 GRENEWOOD 138 74556 VERNONE 138 1	74345 RAINY 345 74611 8E DUM 138 8	15	-2	97	no excess	no excess	19	3	-180	-1770	97
74525 QUENBRDG 138 74556 VERNONE 138 2	BaseCase	24	-5	175	311	311					
74525 QUENBRDG 138 74557 VERNON-W 138 1	BaseCase	20	-5	171	306	306					

Table J-3
Planning Case

Deliverability: Scenario C, Additional Generating Units
Results Comparison: Zone K Transmission
Using STE Ratings and Emergency Contingencies

Additional Generation is Caltheas (352 MW Zone K) and Liberty (394 MW Zone J), plus the Neptune HVDC (660 MW Zone K)

Note: LIPA transmission upgrades for Neptune are not included

Blanks mean that no overload was encountered for this condition

Negative values shown in bold highlight

Monitored Element	Contingency	NYCA Shift					ZoneK Shift				
		Added Generation					Base Generation				
		M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
75026 BRKHV2N 138 75058 RVRHD 138 1	52 SHM1360B	34	38	69	-176	7	55	60	356	-1019	18
75026 BRKHV2N 138 75058 RVRHD 138 1	75024 CALVERTN 138 75049 WILDWOOD 138 1										
75026 BRKHV2N 138 75058 RVRHD 138 1	75049 WILDWOOD 138 75062 SHOREHAM 138 1										
75036 C ISLIP 138 75059 RONKONK 138 1	43HOL-RUL 2C	28	32	56	-135	3	49	53	268	-1023	13
75044 HOLBROOK 138 75059 RONKONK 138 1	43HOL-RUL 2C	-181	-281	-141	-106	183	74	40	139	-153	79
75044 HOLBROOK 138 75127 HOLBRK1 69.0 1	43HOL-RUL 2C	-184	-284	-115	-174	217	97	63	162	-128	104
75057 PT JEFF1 138 75208 PT JEFF289 0 1	BaseCase	32	42	-174	-143	182	7	0	-281	-278	14
75064 STERLING 138 75080 RULND RD 138 1	BaseCase	32	33	188	-222	9	25	25	176	-187	15
75064 STERLING 138 75221 STERLING89 0 1	42-RUL-NB 2C	28	45	-19	-40	55	4	-11	15	-8	78
75104 CONETOUT 69.0 75173 HOLBRK2 69.0 1	43HOL-RUL 2C	-153	-23	-2	-18	90	5	-5	14	-15	20
75130 VLYSTRM 169.0 75228 WOODMERE 69.0 1	BaseCase	100	105	2948	-799	92	100	105	583	-19	88
75133 REPUB TP69.0 75215 RULND RD69.0 1	75064 STERLING 138 75080 RULND RD 138 1	18	19	957	-284	15	0	-2	13	-39	2
75138 BAYPORT 69.0 75105 GRT RVER69.0 1	43HOL-RUL 2C	31	49	-15	-26	75	3	7	18	-22	20
75153 E.G.C.1 69.0 75235 W HEMP 169.0 1	BaseCase	17	18	236	-343	15	17	17	36	-13	1
75154 E.G.C.2 69.0 75106 MEDBROOK 69.0 1	16-NBR 1320	18	20	525	-328	29	17	19	93	-14	21
75154 E.G.C.2 69.0 75238 C.L.P. 69.0 1	BaseCase	15	16	187	-238	13	15	15	193	-310	13
75154 ELWOOD 69.0 75228 PULASKI 69.0 1	BaseCase	12	24	3	-21	64	26	21	54	-10	no excess
75173 HOLBRK2 69.0 75184 NSCONSET 69.0 1	43HOL-RUL 2C	19	19	78	-12	10	20	21	82	-38	9
75176 JERICHO 69.0 75182 NEWBARGE 269.0 1	BaseCase	16	18	945	-177	6	13	14	82	-53	14
75190 MT SINAI 69.0 75207 PT JEFF1 69.0 1	51-SHM1360	-12	-23	-1	-23	64	2	-7	10	-18	20
75208 PT JEFF269.0 75225 STONYBRK 69.0 1	43HOL-RUL 2C	-15	-18	-4	-18	48	2	-1	10	-7	51
75257 W.FLOYD 169.0 75259 WYPMK1 69.0 1	43HOL-RUL 2C										

**Table J-4
Planning Case**

**Deliverability: Scenario C, Additional Generating Units
Results Comparison: Zone K Transmission**

Additional Generation is Calithness (352 MW Zone K) and Liberty (394 MW Zone J), plus the Neptune HVDC (660 MW Zone K)

Note: LIPA transmission upgrades for Neptune are not included

LTE ratings with emergency, stuck breaker, and tower contingencies

Most severe overloads chosen		Zone K Shift					NYCA Shift				
Monitored Element	Contingency	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
75021 BARRETT1 138 75066 VLY STRM 138 1	75032 BARRETT2 138 75066 VLY STRM 138 2	-33	-41	-45	no excess	no excess	-38	-48	-53	-77	32
75024 CALVERTN 138 75049 WILDWOOD 138 1	75026 BRKHVEN2 138 75058 RVRHD 138 1	-28	-48	-3	-112	15					
75026 BRKHVEN2 138 75058 RVRHD 138 1	75049 WILDWOOD 138 75062 SHOREHAM 138 1	-120	-140	88	-112	-80	-5	-4	20	-1219	-34
75028 BRKHVEN4 138 75089 SILLS RD 138 1	75025 BRKHVEN1 138 75089 SILLS RD 138 1	50	31	85	-1	128					
75036 C.ISLIP 138 75059 RONKONK 138 1	43HOL-RUL 2C	-32	-45	34	-258	-25	-285	-386	-246	-305	78
75036 C.ISLIP 138 75147 C.ISLIP 69.0 1	43HOL-RUL 2C	-2	-24	11	-45	31	-41	-68	-25	-53	141
75037 CARLE PL 138 75038 E.G.C. 138 1	8.EGC 1330	10	-5	50	7	100	-182	-182	166	-214	-45
75039 ELWOOD 1 138 75052 NRTHPRT2 138 1	75040 ELWOOD 2 138 75052 NRTHPRT2 138 1	8	-25	-401	no excess	no excess	8	-25	-4073	-56	44
75040 ELWOOD 2 138 75042 GREENLAWN 138 1	24.ELWD BUS1	27	-3	-207	-15	48	26	-5	-308	-20	173
75040 ELWOOD 2 138 75052 NRTHPRT2 138 1	75039 ELWOOD 1 138 75052 NRTHPRT2 138 1	23	-9	-226	-16	35	22	-9	-282	-16	200
75044 HOLBROOK 138 75059 RONKONK 138 1	43HOL-RUL 2C	-48	-80	19	-271	-38	-307	-397	-288	-317	74
75044 HOLBROOK 138 75089 SILLS RD 138 1	75044 HOLBROOK 138 75070 NYPAHOLT 138 1	15	-9	11	-15	31	16	-7	-902	-182	68
75044 HOLBROOK 138 75127 HOLBK1 69.0 1	43HOL-RUL 2C	-48	-87	-36	-84	-80	-32	-42	-374	-348	-18
75049 WILDWOOD 138 75062 SHOREHAM 138 1	75026 BRKHVEN2 138 75058 RVRHD 138 1	25	2	56	-51	91					
75056 PILGRIM 138 75201 PILGRM 69.0 2	35. PIL 1370	41	31	47	-11	39	-12	-20	-243	-182	3
75057 PT JEFF1 138 75208 PT JEFF269.0 1	43HOL-RUL 2C	-13	-21	-11	-37	-8					
75064 STERLING 138 75080 RULND RD 138 1	BaseCase	-10	-17	3	-26	5					
75064 STERLING 138 75221 STERLING69.0 1	42.RUL-NB 2C	-11	-25	-4	-38	3	-28	-45	-19	-40	55
75104 CONETOUT69.0 75173 HOLBK2 69.0 1	43HOL-RUL 2C	-6	-16	3	-26	9	-24	-38	-13	-28	79
75130 VLYSTRM169.0 75229 WOODMERE69.0 1	BaseCase	100	105	583	-19	88	100	105	2948	-798	92
75133 REPUB TP69.0 75215 RULND RD69.0 1	75064 STERLING 138 75080 RULND RD 138 1	0	-2	13	-39	2	18	19	957	-284	15
75138 BAYPORT 69.0 75165 GRT RVER69.0 1	43HOL-RUL 2C	-2	-12	13	-27	15	-38	-61	-18	-54	70
75153 E.G.C.1 69.0 75171 HERRICK*69.0 1	44EGC-CP DBL	14	14	76	-41	2	-133	-161	-80	-48	15
75153 E.G.C.1 69.0 75235 W.HEMP 169.0 1	8.EGC 1330	27	29	74	-14	20	27	30	339	-397	25
75154 E.G.C.2 69.0 75186 MEDBROOK69.0 1	18.NBR 1320	12	14	88	-19	16	13	15	520	-334	24
75154 E.G.C.2 69.0 75238 C.L.P. 69.0 1	8.EGC 1330	25	27	72	-18	18	25	28	337	-413	23
75156 ELWOOD 69.0 75166 GREENLAWN69.0 1	45PIL-NBR2C	27	22	44	-3	29	-10	-24	9	-11	87
75173 HOLBK2 69.0 75194 NSCONSET69.0 1	43HOL-RUL 2C	-5	-15	6	-28	11	-23	-35	-8	-32	53
75176 JERICHO 69.0 75192 NEWBRGE269.0 1	44EGC-CP DBL	30	32	85	-32	16	-87	-84	-37	-23	16
75186 MEDBROOK69.0 75192 NEWBRGE269.0 1	15.NBR 1420	22	24	98	-1	32	24	26	443	-121	39
75190 MT.SINAI69.0 75207 PT JEFF 169.0 1	51.SHM1360	9	10	78	-37	10	12	14	941	-521	2
75200 OYSTRBAY69.0 75224 SYOSSET 69.0 1	44EGC-CP DBL	47	48	76	-10	26	-88	-89	-35	-23	36
75208 PT JEFF269.0 75225 STONYBRK69.0 1	43HOL-RUL 2C	-9	-18	-1	-20	9	-23	-34	-12	-34	53
75236 W.HEMP 269.0 75238 C.L.P. 69.0 1	8.EGC 1330	30	33	78	-10	24	31	34	343	-386	29
75257 W.FLOYD169.0 75259 WYPNK1 69.0 1	43HOL-RUL 2C	-14	-17	-7	-25	-8	-17	-20	-10	-26	46

Table J-5
Planning Case
Added M29 Circuit
Deliverability Scenario: Add M29 Transmission
Results Comparison: Zone J Transmission

Monitored Element	NYCA Shift										Zone J Shift									
	Base Transmission					Add M29					Base Transmission					Add M29				
	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5	M1	M2	M3	M4	M5
74435 E179 ST 138 74492 HG 1 138 1	304	276	273	267	327	307	289	286	280	325	309	291	288	282	322	309	291	288	282	322
74435 E179 ST 138 74495 HG 4 138 1	327	344	344	344	132	327	344	344	344	132	327	344	344	344	132	327	344	344	344	132
74402 ASTE-WRG 138 74492 HG 1 138 1	349	365	365	365	124	349	365	365	365	124	349	365	365	365	124	349	365	365	365	124
74394 ASTE-ERG 138 74492 HG 4 138 1	364	374	374	374	140	364	374	374	374	140	364	374	374	374	140	364	374	374	374	140
74435 E179 ST 138 74497 HG 6 138 1	369	379	379	379	81	369	379	379	379	81	369	379	379	379	81	369	379	379	379	81
74403 ASTORIAW 138 74525 QUENBROG 138 4	369	379	379	379	46	369	379	379	379	46	369	379	379	379	46	369	379	379	379	46
74403 ASTORIAW 138 74525 QUENBROG 138 3	369	379	379	379	110	369	379	379	379	110	369	379	379	379	110	369	379	379	379	110
74403 ASTORIAW 138 74525 QUENBROG 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74498 FR-KILLS 138 74571 WILLOWBK2 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74435 E179 ST 138 74497 HG 6 138 1	369	379	379	379	81	369	379	379	379	81	369	379	379	379	81	369	379	379	379	81
74403 ASTORIAW 138 74525 QUENBROG 138 4	369	379	379	379	46	369	379	379	379	46	369	379	379	379	46	369	379	379	379	46
74403 ASTORIAW 138 74525 QUENBROG 138 3	369	379	379	379	110	369	379	379	379	110	369	379	379	379	110	369	379	379	379	110
74403 ASTORIAW 138 74525 QUENBROG 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74525 QUENBROG 138 74557 VERNON-W 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74390 GOWANUSR1 138 74484 GREWOOD 138 2	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74390 GOWANUSR2 138 74484 GREWOOD 138 2	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74525 QUENBROG 138 74556 VERNON-W 138 2	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74395 RAINY 345 74611 BE DUM 138 8	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74395 RAINY 345 74612 BN DUM 138 6	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74395 RAINY 345 74612 BN DUM 138 8	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74327 FARRAGUT 345 74345 RAINY 345 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74333 GOHLIS N 345 74337 FARRAGUT 345 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74333 GOHLIS S 345 74337 FARRAGUT 345 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74327 FARRAGUT 345 74447 F/S38M14 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74327 FARRAGUT 345 74330 G1-HUT9 345 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74402 ASTE-WRG 138 74486 CORONA-N 138 2	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74403 ASTORIAW 138 74496 HG 5 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74403 ASTORIAW 138 74497 HG 6 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74486 FOX-HLLS1 138 74571 WILLOWBK2 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74467 FOX-HLLS2 138 74571 WILLOWBK2 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74469 FR-KILLS 138 74570 WILLOWBK1 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74484 GREWOOD 138 74604 KENTAP 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74484 GREWOOD 138 74556 VERNON-W 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74504 KENTAP 138 74557 VERNON-W 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140
74435 E179 ST 138 74492 HG 1 138 1	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140	369	379	379	379	140