

DRAFT for Discussion only
Short Circuit Comparison of CRP to Class 02 - ATRA
345 kV & 230 kV

Fault duties on buses in NYCA--CRPS Shrt Ckt study (Year 2010)					Class 02 - ATRA (Round #3)					CRP Minus Class 02 - ATRA		
Substation	Lowest Bkr Rating (kA)	3 L-G (kA)	2 L-G (kA)	1 L-G (kA)	Substation	Lowest Bkr Rating (kA)	3 L-G (kA)	2 L-G (kA)	1 L-G (kA)	Diff. - 3 L-G (kA)	Diff. - 2 L-G (kA)	Diff. - 1 L-G (kA)
345 kV					345 kV					RED > 0.5 kA		
ALPS	40	15.4	14.7	11.8	ALPS	40	15.5	14.7	11.7	-0.1	-0.1	0.1
ATHENS	50	32.9	31.9	29.3	ATHENS	50	33.0	32.2	29.8	-0.1	-0.3	-0.4
BUCHAN N	40	28.5	28.0	26.3	BUCHAN N	40	29.0	28.5	27.0	-0.5	-0.6	-0.7
BUCHAN S	40	37.6	36.8	34.0	BUCHAN S	40	37.9	37.1	34.2	-0.3	-0.3	-0.1
					CALPINE	40	15.9	14.7	11.3			
CLAY	41.8	34.0	33.4	28.5	CLAY	41.8	34.3	33.5	28.2	-0.3	-0.1	0.3
COOPERS CRN	30.3	15.4	14.2	10.6	COOPERS CRN	30.3	15.4	14.1	10.5	0.1	0.1	0.1
DUNWOODIE	63	48.0	47.0	39.4	DUNWOODIE	63	48.5	47.5	39.7	-0.5	-0.4	-0.3
E FISHKILL	63	38.1	36.5	28.7	E FISHKILL	63	37.7	36.0	28.2	0.4	0.4	0.4
EDIC	37	32.0	31.1	27.2	EDIC	37	32.4	31.3	26.9	-0.4	-0.3	0.3
EGC PAR	58.6	9.6	9.9	9.8	EGC PAR	58.6	9.4	9.6	9.5	0.2	0.2	0.3
FARRAGUT	63	46.1	47.3	45.7	FARRAGUT	63	49.5	51.8	51.0	-3.4	-4.5	-5.3
FR KILLS	63	23.3	24.2	24.1	FR KILLS	63	23.7	24.7	24.6	-0.4	-0.5	-0.5
FRASER	29.1	17.2	16.4	13.7	FRASER	29.1	17.3	16.4	13.6	0.0	0.0	0.1
GILBOA 345	40	22.3	22.5	22.2	GILBOA 345	40	22.3	22.3	21.7	0.0	0.2	0.5
GOETHL N	40	24.1	25.4	25.8	GOETHL N	40	23.0	24.0	24.1	1.1	1.5	1.7
GOETHL S	63	24.1	25.4	25.8	GOETHL S	63	22.9	24.1	24.4	1.2	1.3	1.4
GOW N	40	19.7	20.1	18.4	GOW N	40	19.1	19.5	17.8	0.6	0.7	0.6
GOW S	40	19.7	20.2	18.3	GOW S	40	19.1	19.5	17.8	0.6	0.6	0.5
HURLEY AVE.	40	17.0	16.1	12.2	HURLEY AVE.	40	16.8	16.0	12.1	0.1	0.1	0.1
LADENTOWN	63	37.7	37.5	33.9	LADENTOWN	63	39.4	40.1	37.0	-1.7	-2.6	-3.1
LEEDS	37	33.5	32.5	29.8	LEEDS	37	33.5	32.7	30.1	-0.1	-0.2	-0.3
MARCY 345	63	31.2	30.3	25.9	MARCY 345	63	31.7	30.6	25.7	-0.4	-0.3	0.2
MIDDLETN TAP	63	16.8	15.6	12.4	MIDDLETN TAP	63	16.8	15.5	12.3	0.0	0.1	0.1
MILLWOOD	63	43.0	41.3	32.5	MILLWOOD	63	43.3	41.5	32.5	-0.3	-0.2	0.0
NSCOT 99B	37	30.0	28.7	23.4	NEW SCOTLAND	37	30.1	28.9	23.1	0.0	-0.1	0.2
NIAGARA 345	63	28.9	30.4	30.9	NIAGARA 345	63	30.3	32.1	32.9	-1.4	-1.7	-2.0
OAKDALE 345	30.5	12.4	12.0	10.8	OAKDALE 345	30.5	12.7	12.2	10.9	-0.3	-0.2	-0.1
					PANNELL RD.	40	16.9	16.4	14.7			
PLEASANT VAL	63	39.2	37.0	26.0	PLEASANT VAL	63	38.9	36.7	25.6	0.3	0.3	0.3
POLETTI	63	36.4	37.1	32.2	POLETTI	63	39.5	40.8	37.7	-3.1	-3.7	-5.6
RAINEY	63	45.0	46.0	44.0	RAINEY	63	48.0	49.7	48.0	-2.9	-3.7	-4.0
RAMAPO	40	40.8	40.6	36.6	RAMAPO	40(1)	42.6	42.2	37.2	-1.8	-1.6	-0.6
REYNOLDS		11.9	11.5	10.1	REYNOLDS		11.9	11.5	10.1	0.0	0.0	0.0
ROCK TAVERN	38	26.1	24.9	20.1	ROCK TAVERN	38	26.2	24.9	19.8	-0.1	0.0	0.3
ROSETON	38.8	34.1	33.2	30.2	ROSETON	38.8	34.0	33.1	30.0	0.1	0.1	0.2
S080 345kV	40	16.6	16.3	15.3	S80	40	16.7	16.4	14.9	-0.1	0.0	0.4
SCRIBA	50	42.0	47.0	48.5	SCRIBA	50	42.5	47.3	48.9	-0.5	-0.4	-0.4
SPRN BRK	63	48.9	47.9	40.0	SPRN BRK	63	49.5	48.4	40.3	-0.5	-0.5	-0.3
STOLLE ROAD	28.8	3.9	3.7	3.3	STOLLE ROAD	28.8	3.9	3.7	3.3	0.0	0.0	0.0
VOLNEY	38.8	36.8	37.5	32.5	VOLNEY	37(2)	37.5	38.0	32.8	-0.7	-0.6	-0.3
W 49 ST	63	41.1	42.1	38.1	W 49 ST	63	43.6	45.2	41.3	-2.5	-3.1	-3.1
WATERCURE345	29.5	7.7	7.3	6.5	WATERCURE345	29.5	7.9	7.5	6.6	-0.2	-0.2	-0.1
230 kV					230 kV							
ADIRONDACK	37.7	8.3	7.9	6.3	ADIRONDACK	37.7	8.4	8.0	6.3	-0.1	-0.1	0.0
DUNKIRK	37.7	15.0	15.1	15.2	DUNKIRK	37.7	15.1	15.1	15.1	-0.1	0.0	0.1
GARDENVILLE1	37.5	21.9	21.2	19.3	GARDENVILLE1	35.9	22.7	21.9	19.9	-0.8	-0.7	-0.6
GOETHALS		41.7	41.3	40.0	GOETHALS		43.0	43.8	43.3	-1.3	-2.5	-3.3
HILLSIDE 230	25	11.4	11.5	11.4	HILL 230	31.7	12.6	12.5	12.1	-1.2	-1.0	-0.7
HUNTLEY	37.7	26.5	26.3	25.4	HUNTLEY	37.7	27.4	27.0	25.7	-0.8	-0.6	-0.3
MEYER	30.3	6.1	5.7	5.0	MEYER	30.3	6.2	5.8	5.0	-0.1	0.0	0.0
NIAGRA E 230	63	48.2	52.1	53.3	NIAGRA E 230	63	49.8	54.8	56.3	-1.6	-2.7	-3.1
NIAGRA W 230	63	48.2	52.1	53.3	NIAGRA W 230	63	49.8	54.8	56.3	-1.6	-2.7	-3.1
OAKDALE	21.3	6.4	6.3	6.1	OAKDALE	21.3	6.5	6.4	6.1	-0.1	0.0	0.0
PACKARD	37.6	41.5	41.0	36.7	PACKARD	37.7(2)	43.2	43.5	39.8	-1.7	-2.5	-3.1
PORTER	25.1	18.4	18.8	18.7	PORTER	25.1	18.5	18.8	18.7	0.0	0.0	0.1
ROBINSON RD.	32.1	14.2	13.4	11.3	ROBINSON RD.	32.1	14.5	13.7	11.5	-0.3	-0.3	-0.2
ROTTERDAM99H	25.1	12.4	12.0	11.5	ROTTERDAM	25.1	12.6	12.1	11.3	-0.2	-0.1	0.1
ST LAWRN 230	37.7	27.2	31.1	32.1	ST LAWRN 230	37.7	28.3	32.2	33.4	-1.1	-1.2	-1.3
STOLLE ROAD	28.8	12.9	12.1	9.8	STOLLE ROAD	28.8	13.1	12.2	9.8	-0.2	-0.2	-0.1
WATERCURE230	27.5	11.4	11.5	11.4	WATERCURE 71	27.5	12.5	12.4	12.0	-1.1	-0.9	-0.6

Notes: Gray highlighted substations need to be investigated further through Individual Breaker Analysis; Individual Breaker Analysis was performed for Class 02 - ATRA [(1) Individual Breaker Analysis indicates: no breaker is overdutied; (2) Circuit Breakers at this substation need to be replaced]; Blue highlighted area indicates positive kA value (CRP > Class 02). 09/01/05

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Short Circuit Comparison of CRP to Class 02 - ATRA
138 kV, 115 kV, & 69 kV

Fault duties on buses in NYCA-CRPS Srt Ckt stdy (Year 2010)					Class 02 - ATRA (Round #3)					CRP Minus Class 02 - ATRA		
Substation	Lowest Bkr Rating (kA)	3 L-G (kA)	2 L-G (kA)	1 L-G (kA)	Substation	Lowest Bkr Rating (kA)	3 L-G (kA)	2 L-G (kA)	1 L-G (kA)	Diff. - 3 L-G (kA)	Diff. - 2 L-G (kA)	Diff. - 1 L-G (kA)
138 kV					138 kV					RED > 0.5 kA		
AST-EAST-E	63	35.4	37.8	38.1	AST-EAST-E	63	47.0	50.5	51.6	-11.6	-12.6	-13.5
AST-EAST-W	63	42.3	45.8	47.0	AST-EAST-W	63	47.4	51.2	52.5	-5.1	-5.4	-5.5
AST-WEST	45	34.6	37.9	39.2	AST-WEST	45	27.8	30.1	30.9	6.9	7.8	8.4
BARRETT	57.84	45.5	46.4	46.3	BARRETT	38.7(1)	44.0	44.5	44.1	1.6	1.8	2.2
BRKHAVEN	35.44	23.7	22.6	18.1	BRKHAVEN	35.3	27.0	26.3	22.9	-3.3	-3.6	-4.8
BUCHANAN	40	15.7	15.2	14.0	BUCHANAN	40	15.5	15.0	13.8	0.2	0.2	0.2
CORONA NORTH	45	38.7	43.7	38.9	CORONA NORTH	45	42.4	47.6	41.8	-3.7	-3.9	-2.9
CORONA SOUTH	45	33.5	37.4	34.0	CORONA SOUTH	45(1)	42.6	48.0	42.2	-9.1	-10.6	-8.2
DUN NO	40	32.0	31.9	28.7	DUN NO	40	31.7	31.7	28.5	0.3	0.3	0.3
DUN SO	40	30.0	30.3	28.8	DUN SO	40	29.7	30.0	28.5	0.3	0.3	0.3
E 13 ST	63	43.9	45.0	45.0	E 13 ST	63	44.4	45.7	46.0	-0.5	-0.7	-1.0
E 179 ST	63	40.9	42.8	39.0	E 179 ST	63	40.9	42.8	38.9	0.0	0.0	0.1
E.G.C.	63	62.7	64.9	64.7	E.G.C. 5038	63	58.2	58.9	56.8	4.5	6.0	7.8
FOXHLS 2	40	33.0	33.6	26.9	FOXHLS 2	40	33.3	33.8	27.0	-0.3	-0.2	-0.1
FR KILLS	40	35.6	36.2	34.7	FR KILLS	40	35.8	36.3	34.8	-0.2	-0.1	-0.1
GRENWOOD	45	47.3	50.6	50.5	GRENWOOD	63	48.3	51.7	51.4	-1.0	-1.0	-0.9
HG 6	63	33.0	36.8	35.5	HG 6	63	26.8	29.6	28.7	6.2	7.2	6.8
HOLBROOK	52.22	45.4	45.1	42.8	HOLBROOK	52	47.1	47.1	45.3	-1.6	-2.0	-2.5
HOLTS GT	57.79	43.9	43.3	40.9	HOLTS GT	57.8	45.1	44.8	42.7	-1.2	-1.5	-1.7
HUDSON E	40	38.7	38.6	36.0	HUDSON E	40(1)	40.4	40.0	37.0	-1.7	-1.5	-1.0
JAMAICA	40	46.4	48.1	43.9	JAMAICA	40(1)	48.6	50.1	45.3	-2.2	-2.0	-1.4
LKE SCSS	57.79	39.2	37.2	31.6	LKE SCSS	57.8	38.8	36.9	31.3	0.4	0.3	0.4
MILLWOOD	20	19.2	18.8	17.2	MILLWOOD	20	18.9	18.5	17.0	0.3	0.3	0.2
NEWBRID	63	62.2	64.2	63.2	NEWBRID	63	57.3	57.9	54.1	4.9	6.3	9.1
NRTHPRT1	57.79	58.1	60.0	60.4	NRTHPRT1	56.2(1)	56.0	57.8	58.8	2.1	2.2	1.7
NRTHPRT2	57.79	40.4	42.5	43.8	NRTHPRT2	56.2	39.9	42.2	43.4	0.5	0.3	0.4
PILGRIM	57.79	58.0	59.6	51.8	PILGRIM	55.8(1)	55.3	57.1	49.7	2.7	2.6	2.1
QUEENSBG	45	34.1	38.1	37.4	QUEENSBG	45	27.6	30.3	30.1	6.5	7.8	7.3
RIVERHD	36.21	15.6	16.3	16.3	RIVERHD	35.9	15.8	15.6	15.1	-0.2	0.8	1.6
RULND RD	57.79	45.3	44.1	41.3	RULND RD	52	38.9	37.6	34.5	6.4	6.5	6.8
SHM CRK	63	37.9	39.1	33.6	SHM CRK	63	37.9	39.0	33.4	0.0	0.1	0.2
SHOREHAM	52.22	23.6	23.7	23.4	SHOREHAM	52	24.5	24.4	23.7	-1.0	-0.7	-0.3
SILLS ROAD	63	26.9	25.4	18.0	SILLS RD	40	34.9	35.5	35.4	-8.1	-10.1	-17.3
VERNON E	40	34.7	36.2	36.9	VERNON E	40	34.0	35.6	36.3	0.8	0.7	0.6
VERNON W	40	31.1	32.2	32.3	VERNON W	40	30.5	31.6	31.7	0.7	0.7	0.6
VLV STRM	57.79	49.4	50.8	48.5	VLV STRM	57.8	47.7	48.6	45.9	1.7	2.2	2.7
115 kV					115 kV							
ALBANY STM1	63	45.3	46.1	46.5	ALBANY STM1	63	45.6	46.6	46.9	-0.3	-0.4	-0.5
COOPERS CRN4	20.6	12.2	13.9	14.4	COOPERS CRN4	20.6	12.1	13.8	14.2	0.1	0.1	0.1
CORTLAND N.	23	6.2	5.5	3.7	CORTLAND N.	23	6.1	5.9	5.3	0.1	-0.4	-1.6
					FENNER WIND	40	6.5	6.1	5.0			
HARRISON	35.9	23.1	22.1	20.5	HARRISON	35.9	26.3	25.1	23.4	-3.1	-3.0	-2.9
HARRISONIPP1	35.9	21.3	20.3	18.7	HARRISONIPP1	35.9	24.1	23.0	21.4	-2.8	-2.7	-2.7
HARRISONIPP2	35.9	21.1	20.2	18.7	HARRISONIPP2	35.9	23.9	22.7	21.1	-2.7	-2.6	-2.5
ONEIDA	23	15.1	13.9	11.2	ONEIDA	23	14.9	13.8	11.2	0.2	0.1	0.0
					ONEIDA-M		6.3	5.9	4.5			
ROCK TAVERN	30.1	27.3	26.5	24.5	ROCK TAVERN	30.1	26.9	26.2	24.2	0.4	0.3	0.3
ROTT99G	40	31.9	32.6	32.7	ROTT99G	40	32.0	32.6	32.6	0.0	0.0	0.0
WHITMAN	10.5	7.9	7.1	4.7	WHITMAN		7.5	7.0	5.4	0.4	0.1	-0.7
69kV					69kV							
E RIVER	50	46.1	50.2	52.4	E RIVER	50(1)	45.9	50.0	52.2	0.2	0.2	0.2

Fault Duties on Other Buses in NYCA-CRPS Short Circuit Study (Year 2010) - Greater Than 80% of Lowest Breaker Rating												
138 kV					69kV							
ELWOOD 1	57.79	35.7	37.3	35.3	BRKHAVEN	26.07	25.3	26.0	26.4			
GOWS138	40	43.6	46.4	44.7	GRUMMANB	31.5	32.3	30.4	27.2			
LCST GRV	38.53	37.7	35.6	24.9	HOLBRK1	39.9	42.3	39.4	34.2			
SHORE RD	57.79	48.6	47.8	42.4	RULAND	39.9	46.5	42.7	31.5			
SYOSSET	38.88	33.0	31.7	25.4	TBG 5E	31.5	32.3	30.4	27.2			
					TBG 5EU-1	31.5	32.3	30.4	27.2			
					TBG 5EU-2	31.5	32.3	30.4	27.2			

Notes: Gray highlighted substations need to be investigated further through Individual Breaker Analysis; Individual Breaker Analysis was performed for Class 02 - ATRA [(1) Individual Breaker Analysis indicates: no breaker is overloaded; (2) Circuit Breakers at this substitution need to be replaced]; Blue highlighted area indicates positive kA value (CRP > Class 02). 09/01/05