

Project: SKM PTW
Scenario: Base Project
VAMC Erie
Erie, PA
Fault Current Study Update
with Arc Flash Analysis

DAPPER Fault Analysis Input Report (English)

Utilities

Contribution From Name	Bus Name	In/Out Service	Nominal Voltage	----- Contribution Data -----			PU (100 MVA Base)		
				Duty	Units	X/R	R PU	X PU	
UTIL: FRENCH RD.	001 UTIL B	In	12,470	3P:	4,140 Amps	4.41	Pos:	0.25	1.09
				SLG:	3,532 Amps	3.25	Zero:	0.66	1.58
UTIL: GLENWOOD (Backup)	002 UTIL A	In	12,470	3P:	2,955 Amps	2.56	Pos:	0.57	1.46
				SLG:	2,404 Amps	2.12	Zero:	1.32	2.31

Generators

Contribution From Name	Bus Name	In/Out Service	Nominal Voltage	----- Contribution Data -----			PU (100 MVA Base)		
				Base kVA	X"	X/R	R PU	X PU	
GEN: BP	BUS-0512	In	208	218.75	0.15	13.78	4.98	68.57	
					0.15	13.78	4.98	68.57	
					0.15	13.78	4.98	68.57	
GEN: QUARTERS	BUS-0551	In	208	125.00	0.15	10.21	11.76	120.00	
					0.15	10.21	11.76	120.00	
					0.15	10.21	11.76	120.00	
GEN-1	BUS-0026	In	208	775.00	0.15	23.42	0.83	19.35	
					0.15	23.42	0.83	19.35	
					0.15	23.42	0.83	19.35	
GEN-2	BUS-0028	In	208	750.00	0.15	23.15	0.86	20.00	
					0.15	23.15	0.86	20.00	
					0.15	23.15	0.86	20.00	

Motors

Contribution From Name	# of Motors	Bus Name	In/Out Service	Nominal Voltage	----- Contribution Data -----			PU (100 MVA Base)	
					Base kVA	Xd"	X/R	R PU	X PU
043 AIR COOL CONDO	1	043 AIR C.C. BUS0	In	208	6.58	0.2000	10.00	303.84	3038.43
AC UNIT CAT	1	BUS-0280	In	208	20.05	0.1692	10.00	84.37	843.73
AHU WH-209	1	038 AHU WH-209	In	208	19.31	0.2000	10.00	103.58	1035.83
FAN WH-209	1	039 FAN WH-209	In	208	10.53	0.2000	10.00	189.90	1899.02

Contribution From Name	# of Motors	Bus Name	In/Out Service	Nominal Voltage	----- Contribution Data -----			PU (100 MVA Base)	
					Base kVA	Xd"	X/R	R PU	X PU
HEAT RECOVERY	1	050 HEAT RECOVER	In	208	35.09	0.1692	10.00	48.21	482.13
MTR AHU 7W (missing)	1	BUS-0620	In	208	30.08	0.1692	10.00	56.25	562.49
MTR: 75T CH-1	1	BUS: 75T CH CP	In	208	29.14	0.1622	3.18	175.05	556.61
MTR: 75T CH-2	1	BUS: 75T CH CP	In	208	29.14	0.1622	3.18	175.05	556.61
MTR: 75T CH-3	1	BUS: 75T CH CP	In	208	29.14	0.1622	3.18	175.05	556.61
MTR: B1 200 WASHER	1	BUS-0505	In	480	25.07	0.1692	10.00	67.50	674.99
MTR: B1 3RD FLR N CHILLE	1	053 LS-3E	In	208	50.13	0.1692	10.00	33.75	337.49
MTR: B1 400 WASHER	1	BUS-0506	In	480	30.08	0.1692	10.00	56.25	562.49
MTR: B1 600 WASHER	1	BUS-0507	In	480	40.11	0.1692	10.00	42.18	421.87
MTR: B1 AC UNIT LAB	1	058 AC LAB	In	208	75.20	0.1692	10.00	22.50	225.00
MTR: B1 AHU 1	1	PNL: B1 MCC-EA	In	208	30.08	0.1692	10.00	56.25	562.49
MTR: B1 AHU-1	1	BUS-0201	In	208	15.04	0.1692	10.00	112.50	1124.98
MTR: B1 CHILLER 1	1	052 LS-PL	In	208	125.34	0.1692	10.00	13.50	135.00
MTR: B1 CHILLER 2	1	052 LS-PL	In	208	125.34	0.1692	10.00	13.50	134.96
MTR: B1 CHILLER RM SPD-2	1	040 CHILLER BUS	In	208	100.27	0.1692	10.00	16.87	168.75
MTR: B1 Elev P1	1	BUS-0111	In	260	20.05	0.1692	10.00	84.37	843.73
MTR: B1 Elev P2	1	BUS-0110	In	260	20.05	0.1692	10.00	84.37	843.73
MTR: B1 Elev S4	1	BUS-0109	In	260	40.11	0.1692	10.00	42.19	421.87
MTR: B1 ER AC COMP	1	BUS: ACCU-1	In	208	40.11	0.1692	10.00	42.18	421.87
MTR: B1 ER AC EVAP	1	BUS: ACCU-1	In	208	20.05	0.1692	10.00	84.37	843.73
MTR: B1 FIRE PUMP	1	BUS-0337	In	208	40.11	0.1692	10.00	42.19	421.87
MTR: B1 NURSING AC	1	047 AC NURSING	In	208	40.11	0.1692	10.00	42.19	421.87
MTR: B1 P-3	1	PNL: B1 MCC-EA	In	208	3.01	0.1692	10.00	562.49	5624.88
MTR: B1 RF-1	1	PNL: B1 MCC-EA	In	208	10.03	0.1692	10.00	168.75	1687.46
MTR: B7 BOOSTER PUMP 1	1	BUS-0538	In	480	25.07	0.1692	10.00	67.50	674.99
MTR: B7 BOOSTER PUMP 2	1	BUS-0540	In	480	25.07	0.1692	10.00	67.50	674.99
MTR: B7 COMP-1	1	TAP: B7 COMPRESS	In	208	15.04	0.1692	10.00	112.49	1124.98
MTR: B7 COMP-2	1	TAP: B7 COMPRESS	In	208	15.04	0.1692	10.00	112.49	1124.98
RTU 2-FLR	1	033 RTU 2-FLR	In	208	35.09	0.1692	10.00	48.21	482.13

Cables

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	Size	----- Cable Description -----			Per Unit (100 MVA Base)		
						Cond. Type	Duct Type	Insul	R pu	X pu	
BUS TIE MP1/2	032B MDP-2 032A MDP-1	In	1	12	4000	Copper	Busway	Epoxy	Pos:	0.09	0.05
									Zero:	0.54	0.28
Bus: 1200A	003A SWGR-1A 003B SWGR-1B	In	1	1	1200	Copper	Busway	Epoxy	Pos:	0.00	0.00
									Zero:	0.00	0.00
CBL 003	001 UTIL B 003B SWGR-1B	In	1	250	350	Copper	Non-Magnetic	EPR	Pos:	0.01	0.01
									Zero:	0.01	0.02
CBL 004	002 UTIL A 003A SWGR-1A	In	1	250	350	Copper	Non-Magnetic	EPR	Pos:	0.01	0.01
									Zero:	0.01	0.02

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	Size	----- Cable Description -----			Per Unit (100 MVA Base)		
						Cond. Type	Duct Type	Insul	R pu	X pu	
CBL 004A	003A SWGR-1A 004A QUARTERS	In	1	1,300	2	Copper	Non-Magnetic	XLP	Pos: 0.17 Zero: 0.27	0.05 0.12	
CBL 004B	003A SWGR-1A BUS: Laundry 12k	In	1	600	1/0	Copper	Non-Magnetic	EPR	Pos: 0.05 Zero: 0.08	0.02 0.05	
CBL 004C	003A SWGR-1A BUS: XRAY 12kV	In	1	750	1	Copper	Non-Magnetic	XLP	Pos: 0.08 Zero: 0.12	0.03 0.07	
CBL 005	003B SWGR-1B 005 T1B PRI	In	1	50	2	Copper	Magnetic	XLP	Pos: 0.01 Zero: 0.02	0.00 0.01	
CBL 006	003A SWGR-1A 006 T1A PRI	In	1	20	2	Copper	Magnetic	XLP	Pos: 0.00 Zero: 0.01	0.00 0.00	
CBL 009	007 SWBD-1B 009 SWBD-2B	In	7	425	500	Copper	Magnetic	PVC	Pos: 0.77 Zero: 2.44	1.23 3.02	
CBL 010	009 SWBD-2B 010 DP-BP-1	In	2	180	350	Copper	Non-Magnetic	PVC	Pos: 1.44 Zero: 2.29	1.54 3.90	
CBL 011	010 DP-BP-1 BUS-0601	In	1	15	350	Copper	Magnetic	PVC	Pos: 0.25 Zero: 0.78	0.32 0.79	
CBL 013	BUS-0613 014N ATS-1	In	2	40	350	Copper	Magnetic	PVC	Pos: 1.75 Zero: 5.51	2.27 5.59	
CBL 015	014 ATS-1 TAP: PNLS DNE,	In	2	5	350	Copper	Magnetic	PVC	Pos: 0.22 Zero: 0.69	0.28 0.70	
CBL 021	009 SWBD-2B BUS-0595	In	5	15	500	Copper	Magnetic	PVC	Pos: 0.04 Zero: 0.12	0.06 0.15	
CBL 023	007 SWBD-1B 023 DPG-2	In	1	30	500	Copper	Magnetic	PVC	Pos: 0.38 Zero: 1.21	0.61 1.49	
CBL 024	023 DPG-2 024 MP1	In	1	5	350	Copper	Magnetic	PVC	Pos: 0.08 Zero: 0.26	0.11 0.26	
CBL 025	007 SWBD-1A 025 DPG-1	In	1	40	500	Copper	Magnetic	PVC	Pos: 0.51 Zero: 1.61	0.81 1.99	
CBL 026	025 DPG-1 BUS-T3 Hi	In	1	15	1/0	Copper	Magnetic	PVC	Pos: 0.83 Zero: 2.63	0.35 0.87	
CBL 028	BUS-T3 Lo 028 PP1	In	1	15	4/0	Copper	Magnetic	PVC	Pos: 2.22 Zero: 6.99	1.72 4.24	
CBL 029	007 SWBD-1A 029 SWBD-2A	In	7	535	500	Copper	Magnetic	PVC	Pos: 0.98 Zero: 3.07	1.55 3.80	
CBL 030	029 SWBD-2A BUS-0593	In	5	15	500	Copper	Magnetic	PVC	Pos: 0.04 Zero: 0.12	0.06 0.15	
CBL 032A	BUS-0596 032A MDP-1	In	11	15	500	Copper	Magnetic	PVC	Pos: 0.09 Zero: 0.29	0.15 0.36	
CBL 032B	BUS-0594 032B MDP-2	In	11	15	500	Copper	Magnetic	PVC	Pos: 0.09 Zero: 0.29	0.15 0.36	
CBL 051	032A MDP-1 BUS-0280	In	2	50	1/0	Copper	Magnetic	PVC	Pos: 7.40 Zero: 23.31	3.12 7.68	
CBL 052	032A MDP-1 052 LS-PL	In	4	450	250	Copper	Magnetic	PVC	Pos: 14.35 Zero: 45.22	12.87 31.70	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	Size	----- Cable Description -----			Per Unit (100 MVA Base)			
						Cond. Type	Duct Type	Insul		R pu	X pu	
CBL 053	032A MDP-1 053 LS-3E	In	2	420	500	Copper	Magnetic	PVC	Pos: Zero:	14.27 44.95	22.62 55.67	
CBL 054	032A MDP-1 BUS-0605	In	2	25	500	Copper	Magnetic	PVC	Pos: Zero:	0.85 2.68	1.35 3.31	
CBL 055	032A MDP-1 BUS-0606	In	2	50	350	Copper	Magnetic	PVC	Pos: Zero:	2.18 6.88	2.84 6.99	
CBL 056	032A MDP-1 056 KPS	In	1	200	500	Copper	Magnetic	PVC	Pos: Zero:	13.59 42.81	21.54 53.02	
CBL 057	032A MDP-1 BUS-0607	In	1	75	500	Copper	Magnetic	PVC	Pos: Zero:	5.10 16.05	8.08 19.88	
CBL 058	032A MDP-1 058 AC LAB	In	1	50	500	Copper	Magnetic	PVC	Pos: Zero:	3.40 10.70	5.39 13.26	
CBL 059	032A MDP-1 059 OUTPATIENT	In	2	5	250	Copper	Magnetic	PVC	Pos: Zero:	0.32 1.00	0.29 0.70	
CBL 060	032A MDP-1 TAP: B1 N-4E	In	1	240	4/0	Copper	Magnetic	PVC	Pos: Zero:	35.50 111.89	27.57 67.90	
CBL 061	032A MDP-1 PNL: B1 N3W	In	1	430	3/0	Copper	Magnetic	PVC	Pos: Zero:	80.01 252.15	51.58 127.02	
CBL 062	032A MDP-1 062 PP9	In	1	180	4/0	Copper	Magnetic	PVC	Pos: Zero:	26.63 83.92	20.68 50.92	
CBL 063	032A MDP-1 PNL: B1 KP2	In	1	200	4/0	Copper	Magnetic	PVC	Pos: Zero:	29.59 93.24	22.98 56.58	
CBL 064	032A MDP-1 PNL: B1 C-WH10	In	1	250	4/0	Copper	Magnetic	PVC	Pos: Zero:	36.98 116.55	28.72 70.73	
CBL TIE SWBD-1	007 SWBD-1B 007 SWBD-1A	In	8	35	500	Copper	Magnetic	PVC	Pos: Zero:	0.06 0.18	0.09 0.22	
CBL-033	032B MDP-2 033 RTU 2-FLR	In	1	400	350	Copper	Magnetic	PVC	Pos: Zero:	34.95 110.11	45.40 111.78	
CBL-034	032B MDP-2 034 PP68-E-B9	In	1	120	500	Copper	Magnetic	PVC	Pos: Zero:	8.15 25.68	12.93 31.81	
CBL-035	032B MDP-2 035 N2B,2A1,2A2	In	1	450	500	Copper	Magnetic	PVC	Pos: Zero:	30.58 96.32	48.47 119.30	
CBL-036	032B MDP-2 036 OUTPATIENT	In	1	430	500	Copper	Magnetic	PVC	Pos: Zero:	29.22 92.03	46.32 114.00	
CBL-037	032B MDP-2 037 ATS-LS	In	1	25	500	Copper	Magnetic	PVC	Pos: Zero:	1.70 5.35	2.69 6.63	
CBL-038	032B MDP-2 038 AHU WH-205	In	1	25	2	Copper	Magnetic	PVC	Pos: Zero:	11.67 36.79	3.38 8.32	
CBL-039	032B MDP-2 039 FAN WH-209	In	1	25	8	Copper	Magnetic	PVC	Pos: Zero:	46.86 147.69	4.36 10.72	
CBL-040	032B MDP-2 040 CHILLER BU	In	2	50	300	Copper	Magnetic	PVC	Pos: Zero:	2.68 8.45	2.85 7.02	
CBL-041	032B MDP-2 041 P-4 (PP-4A)	In	2	350	500	Copper	Magnetic	PVC	Pos: Zero:	11.89 37.46	18.85 46.40	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	Size	----- Cable Description -----			Per Unit (100 MVA Base)			
						Cond. Type	Duct Type	Insul		R pu	X pu	
CBL-042	032B MDP-2 042 ATS-CC	In	2	25	500	Copper	Magnetic	PVC	Pos: Zero:	0.85 2.68	1.35 3.31	
CBL-043	032B MDP-2 043 AIR C.C. BUS	In	1	50	8	Copper	Magnetic	PVC	Pos: Zero:	93.73 295.38	8.71 21.45	
CBL-044	032B MDP-2 044 A-EE-200	In	1	25	1/0	Copper	Magnetic	PVC	Pos: Zero:	7.40 23.31	3.12 7.68	
CBL-045	032B MDP-2 045 M-P/S	In	1	30	4/0	Copper	Magnetic	PVC	Pos: Zero:	4.44 13.99	3.45 8.49	
CBL-046	032B MDP-2 046 LP-P/S	In	1	80	3/0	Copper	Magnetic	PVC	Pos: Zero:	14.89 46.91	9.60 23.63	
CBL-047	032B MDP-2 047 AC NURSINC	In	1	60	4/0	Copper	Magnetic	PVC	Pos: Zero:	8.88 27.97	6.89 16.97	
CBL-048	032B MDP-2 048 B-EE-200	In	1	35	4/0	Copper	Magnetic	PVC	Pos: Zero:	5.18 16.32	4.02 9.90	
CBL-049	032B MDP-2 049 P-8 FANS	In	1	420	4/0	Copper	Magnetic	PVC	Pos: Zero:	62.13 195.81	48.25 118.82	
CBL-050	032B MDP-2 050 HEAT RECO'	In	1	100	3/0	Copper	Magnetic	PVC	Pos: Zero:	18.61 58.64	12.00 29.54	
CBL-0524	BUS-0596 BUS-0619	In	2	500	500	Copper	Magnetic	PVC	Pos: Zero:	16.99 53.51	26.93 66.28	
CBL-Dental Unti	PNL: B1 CC-W2 BUS-B1 Dental U	In	1	20	6	Copper	Magnetic	PVC	Pos: Zero:	23.58 74.30	3.17 7.80	
F: B1 ES1-BW	TAP: B1 ES1-BW PNL: B1 ES1- BW	In	1	55	1	Copper	Magnetic		Pos: Zero:	20.34 64.10	7.25 17.84	
F: ATS-1	BUS-0512 BUS-0513	In	2	20	500	Copper	Magnetic	PVC	Pos: Zero:	0.68 2.14	1.08 2.65	
F: B1 200 WASHER	PNL: B1 BB BUS-0505	In	1	15	8	Copper	Magnetic		Pos: Zero:	5.28 16.64	0.49 1.21	
F: B1 3E, 6E, 8N, LS-PNL:	B1 DP-LS-E PNL: B1 LS-BE	In	1	70	1/0	Copper	Magnetic		Pos: Zero:	20.71 65.27	8.74 21.50	
F: B1 400 WASHER	PNL: B1 BB BUS-0506	In	1	15	6	Copper	Magnetic		Pos: Zero:	3.32 10.46	0.45 1.10	
F: B1 5E, 6E	TAP: B1 N-4E TAP: B1 N-5E	In	1	15	4/0	Copper	Magnetic	PVC	Pos: Zero:	2.22 6.99	1.72 4.24	
F: B1 600 WASHER	PNL: B1 BB BUS-0507	In	1	15	4	Copper	Magnetic		Pos: Zero:	2.09 6.59	0.41 1.01	
F: B1 6E	TAP: B1 N-5E TAP: B1 N-6E	In	1	15	4/0	Copper	Magnetic	PVC	Pos: Zero:	2.22 6.99	1.72 4.24	
F: B1 75T CH	041 P-4 (PP-4A) BUS: 75T CH CP	In	1	25	500	Copper	Magnetic	PVC	Pos: Zero:	1.70 5.35	2.69 6.63	
F: B1 A	BUS-TR B1 Pnl A L PNL: B1 A (laundi	In	1	15	2/0	Copper	Magnetic		Pos: Zero:	3.54 11.14	1.85 4.55	
F: B1 AHU 7W	049 P-8 FANS BUS-0620	In	1	1	2	Copper	Magnetic	PVC	Pos: Zero:	0.47 1.47	0.14 0.33	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	Size	----- Cable Description -----			Per Unit (100 MVA Base)		
						Cond. Type	Duct Type	Insul	R pu	X pu	
F: B1 AHU-1	PNL: B1 ES-8N BUS-0201	In	1	1	2	Copper	Magnetic		Pos: 0.47 Zero: 1.47	0.14 0.33	
F: B1 AIR COND ER	PNL: B1 XRAY 208 BUS: ACCU-1	In	1	100	3/0	Copper	Magnetic	PVC	Pos: 18.61 Zero: 58.64	12.00 29.54	
F: B1 ATS-CC	PNL: B1 EM-DP TAP: B1 CC-2W-1	In	2	25	500	Copper	Magnetic	PVC	Pos: 0.85 Zero: 2.68	1.35 3.31	
F: B1 ATS-EL	PNL: B1 EM-DP BUS-0015	In	2	25	500	Copper	Magnetic	PVC	Pos: 0.85 Zero: 2.68	1.35 3.31	
F: B1 ATS-ES	PNL: B1 EM-DP BUS-0012	In	2	25	500	Copper	Magnetic	PVC	Pos: 0.85 Zero: 2.68	1.35 3.31	
F: B1 ATS-ES-1	PNL: B1 EM-DP BUS-0013	In	1	25	500	Copper	Magnetic	PVC	Pos: 1.70 Zero: 5.35	2.69 6.63	
F: B1 ATS-LS	PNL: B1 EM-DP BUS-0014	In	1	25	500	Copper	Magnetic	PVC	Pos: 1.70 Zero: 5.35	2.69 6.63	
F: B1 BB	PNL: B1 AA PNL: B1 BB	In	1	20	500	Copper	Magnetic		Pos: 0.26 Zero: 0.80	0.40 1.00	
F: B1 BB0	PNL: B1 AA BUS-TR B1 Pnl A	In	1	20	4	Copper	Magnetic		Pos: 2.79 Zero: 8.78	0.55 1.35	
F: B1 C	PNL: B1 WB-H PNL: B1 C	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B1 C2	TAP: B1 CA, CB, C PNL: B1 C2	In	1	45	3/0	Copper	Magnetic		Pos: 8.37 Zero: 26.39	5.40 13.29	
F: B1 CA	TAP: B1 CA, CB, C PNL: B1 CA	In	1	6	3/0	Copper	Magnetic		Pos: 1.12 Zero: 3.52	0.72 1.77	
F: B1 CB	PNL: B1 CA PNL: CB	In	1	15	3	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B1 CC1-2LW	TAP: B1 ESE-1 PNL: B1 CC1-2LV	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26	
F: B1 CC1-2LW,4LW	PNL: B1 DP-CC-E1 TAP: B1 ESE-1	In	1	95	500	Copper	Magnetic		Pos: 6.46 Zero: 20.33	10.23 25.19	
F: B1 CC1-3E2	TAP: B1 CC1-4E2 PNL: B1 CC1-3E2	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26	
F: B1 CC1-3E2,4E2,5LW	PNL: B1 DP-CC-E1 TAP: B1 CC1-4E2	In	1	50	500	Copper	Magnetic		Pos: 3.40 Zero: 10.70	5.39 13.26	
F: B1 CC1-4E2	TAP: B1 CC1-4E2 TAP: B1 CC1-4E2	In	1	10	500	Copper	Magnetic		Pos: 0.68 Zero: 2.14	1.08 2.65	
F: B1 CC1-4E2-1	TAP: B1 CC1-4E2-1 PNL: B1 CC1-4E2	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26	
F: B1 CC1-4LW	TAP: B1 ESE-1-1 TAP: B1 CC1-4LV	In	1	20	500	Copper	Magnetic		Pos: 1.36 Zero: 4.28	2.15 5.30	
F: B1 CC1-4LW-1	TAP: B1 CC1-4LW- PNL: B1 CC1-4LV	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26	
F: B1 CC1-5EA	TAP: B1 CC1-4E2-1 TAP: B1 CC1-5EA	In	1	10	500	Copper	Magnetic		Pos: 0.68 Zero: 2.14	1.08 2.65	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu
F: B1 CC1-5EA-1	TAP: B1 CC1-5EA PNL: B1 CC1-5EA	In	1	8	4/0	Copper	Magnetic	Pos: Zero:	1.18 3.73	0.92 2.26
F: B1 CC1-5LW	TAP: B1 CC1-4LW- TAP: B1-CCW-5L	In	1	10	500	Copper	Magnetic	Pos: Zero:	0.68 2.14	1.08 2.65
F: B1 CC1-5LW-1	TAP: B1-CCW-5LW PNL: B1 CC1-5LV	In	1	8	4/0	Copper	Magnetic	Pos: Zero:	1.18 3.73	0.92 2.26
F: B1 CC1-6EA	TAP: B1 CC1-5EA PNL: B1 CC1-6EA	In	1	15	500	Copper	Magnetic	Pos: Zero:	1.02 3.21	1.62 3.98
F: B1 CC1-EA	PNL: B1 DP-CC-E1 PNL: B1 CC1-EA	In	1	60	3/0	Copper	Magnetic	Pos: Zero:	11.16 35.18	7.20 17.72
F: B1 CC-1N-ER	TAP: B1 CC-1N-ER PNL: B1 CC-1N-E	In	1	8	4/0	Copper	Magnetic	Pos: Zero:	1.18 3.73	0.92 2.26
F: B1 CC-1N-ER, CCTAP: B1 2W-ER TAP: B1 CC-1N-E		In	1	10	4/0	Copper	Magnetic	Pos: Zero:	1.48 4.66	1.15 2.83
F: B1 CC2-BW	TAP: B1 CC-1N-ER PNL: B1 CC2-BW	In	1	10	4/0	Copper	Magnetic	Pos: Zero:	1.48 4.66	1.15 2.83
F: B1 CC-2W-ER	TAP: B1 2W-ER PNL: B1 CC-2W-I	In	1	8	4/0	Copper	Magnetic	Pos: Zero:	1.18 3.73	0.92 2.26
F: B1 CC-2W-ER, 2WPNL: B1 DP-CC-E TAP: B1 2W-ER		In	1	60	500	Copper	Magnetic	Pos: Zero:	4.08 12.84	6.46 15.91
F: B1 CC-2WERA	PNL: B1 CC-2W-EF PNL: B1 CC-2WE	In	1	8	2	Copper	Magnetic	Pos: Zero:	3.74 11.77	1.08 2.66
F: B1 CC-3E	PNL: B1 DP-CC-E PNL: B1 CC-3E	In	1	55	2/0	Copper	Magnetic	Pos: Zero:	12.97 40.86	6.78 16.68
F: B1 CC3-N, NB, NCPNL: B1 DP-CC-E PNL: B1 CC3-N		In	1	75	500	Copper	Magnetic	Pos: Zero:	5.10 16.05	8.08 19.88
F: B1 CC3-NB	PNL: B1 CC3-N PNL: B1 CC3-NB	In	1	6	6	Copper	Magnetic	Pos: Zero:	7.07 22.29	0.95 2.34
F: B1 CC3-NC	PNL: B1 CC3-N PNL: B1 CC3-NC	In	1	6	3/0	Copper	Magnetic	Pos: Zero:	1.12 3.52	0.72 1.77
F: B1 CCA	PNL: B1 DP-CC-E PNL: B1 CCA	In	1	105	250	Copper	Magnetic	Pos: Zero:	13.40 42.20	12.01 29.58
F: B1 CCA-1	PNL: B1 CCA PNL: B1 CCA-1	In	1	6	250	Copper	Magnetic	Pos: Zero:	0.77 2.41	0.69 1.69
F: B1 CCB	PNL: B1 DP-CC-E PNL: B1 CCB	In	1	75	3/0	Copper	Magnetic	Pos: Zero:	13.96 43.98	9.00 22.15
F: B1 CC-E1-7W	PNL: B1 CC-E1-DW PNL: B1 CC-E1-7	In	1	130	2/0	Copper	Magnetic	Pos: Zero:	30.65 96.57	16.02 39.42
F: B1 CC-E1-7W-A	PNL: B1 CC-E1-DW PNL: B1 CC-E1-7	In	1	145	4/0	Copper	Magnetic	Pos: Zero:	21.45 67.60	16.66 41.02
F: B1 CC-E1-DWB	PNL: B1 DP-CC-E1 PNL: B1 CC-E1-D	In	1	130	500	Copper	Magnetic	Pos: Zero:	8.83 27.82	14.00 34.47
F: B1 CC-W1, W2	PNL: B1 DP-CC-E PNL: B1 CC-W1	In	1	135	3/0	Copper	Magnetic	Pos: Zero:	25.12 79.16	16.19 39.88

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu
F: B1 CC-W2	PNL: B1 CC-W1 PNL: B1 CC-W2	In	1	8	3/0	Copper	Magnetic		Pos: 1.49 Zero: 4.69	0.96 2.36
F: B1 CT SCAN	PNL: B1 XRAY 48C PNL: B1 CT Scan	In	1	40	1	Copper	Magnetic	PVC	Pos: 2.78 Zero: 8.75	0.99 2.44
F: B1 DENTAL	PNL: B1 ES-BW BUS-0217	In	1	8	10	Copper	Magnetic		Pos: 21.82 Zero: 68.76	1.58 3.89
F: B1 DP-BE	032A MDP-1 PNL: B1 DP-BE	In	1	120	500	Copper	Magnetic	PVC	Pos: 8.15 Zero: 25.68	12.93 31.81
F: B1 DP-CC-E	PNL: B1 DP-CC-E1 PNL: B1 DP-CC-E	In	2	15	500	Copper	Magnetic		Pos: 0.51 Zero: 1.61	0.81 1.99
F: B1 DP-CC-E1	BUS-0041 PNL: B1 DP-CC-E	In	2	30	500	Copper	Magnetic		Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 DP-ES-E1	BUS-0039 PNL: B1 DP-ES-E	In	2	30	500	Copper	Magnetic		Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 DP-ES-R1	PNL: B1 DP-ES-E1 PNL: B1 DP-ES-R	In	1	170	4/0	Copper	Magnetic		Pos: 25.15 Zero: 79.26	19.53 48.10
F: B1 EM-DP	BUS-0027 BUS-0338	In	5	160	500	Copper	Magnetic	PVC	Pos: 2.17 Zero: 6.85	3.45 8.48
F: B1 EM-DP Bus	BUS-0338 TAP: B1 FIRE PU	In	1	120	2000	Copper	Busway	Epoxy	Pos: 1.83 Zero: 10.87	0.97 5.19
F: B1 EM-DP-1	TAP: B1 FIRE PUM PNL: B1 EM-DP	In	4	6	500	Copper	Magnetic	PVC	Pos: 0.10 Zero: 0.32	0.16 0.40
F: B1 EM-LR	PNL: B1 DP-ES-E1 PNL: B1 EM-LR	In	1	55	500	Copper	Magnetic		Pos: 3.74 Zero: 11.77	5.92 14.58
F: B1 ES1	PNL: B1 ES2-BN PNL: B1 ES1	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99
F: B1 ES1- CNC	TAP: B1 ES1-CNC PNL: B1 ES1-CNC	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 ES-1, 2WA	PNL: B1 DP-ES-E1 PNL: B1 ES1-2W	In	1	115	4/0	Copper	Magnetic		Pos: 17.01 Zero: 53.61	13.21 32.54
F: B1 ES1-1	PNL: B1 ES1-BW PNL: B1 ES1-1	In	1	8	4	Copper	Magnetic		Pos: 5.94 Zero: 18.71	1.17 2.88
F: B1 ES1-1WA	PNL: B1 OP PNL: B1 ES1-WA	In	1	35	4/0	Copper	Magnetic		Pos: 5.18 Zero: 16.32	4.02 9.90
F: B1 ES1-BW	PNL: B1 CC-E1-DW PNL: B1 ES1-BW	In	1	20	3/0	Copper	Magnetic		Pos: 3.72 Zero: 11.73	2.40 5.91
F: B1 ES1-CNA	TAP: B1 ES2-BN PNL: B1 ES1-CN	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 ES1-CNA, CNB	PNL: B1 DP-ES-E1 TAP: B1 ES2-BN	In	1	100	500	Copper	Magnetic		Pos: 6.80 Zero: 21.40	10.77 26.51
F: B1 ES1-CNB	PNL: B1 ES1-CNA PNL: B1 ES1-CNI	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 ES-2	PNL: B1 DP-ES-E PNL: B1 ES-2E	In	1	30	500	Copper	Magnetic		Pos: 2.04 Zero: 6.42	3.23 7.95

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)			
					Size	Cond. Type	Duct Type	Insul	R pu	X pu	
F: B1 ES2- BN, ES1, ITAP: B1 ES2-BN TAP: B1 ES1-CNC		In	1	8	500	Copper	Magnetic	Pos: Zero:	0.54 1.71	0.86 2.12	
F: B1 ES2-BN	TAP: B1 ES1-CNC PNL: B1 ES2-BN	In	1	30	1	Copper	Magnetic	Pos: Zero:	11.09 34.96	3.95 9.73	
F: B1 ES-8N	PNL: B1 DP-ES-E PNL: B1 ES-8N	In	1	160	1/0	Copper	Magnetic	Pos: Zero:	47.34 149.19	19.97 49.15	
F: B1 ES-BE	PNL: B1 DP-ES-E PNL: B1 ES-BE	In	1	65	4/0	Copper	Magnetic	Pos: Zero:	9.62 30.30	7.47 18.39	
F: B1 ES-BN	PNL: B1 DP-ES-E PNL: B1 ES-BN	In	1	130	3/0	Copper	Magnetic	Pos: Zero:	24.19 76.23	15.59 38.40	
F: B1 ES-BW	PNL: B1 DP-ES-E PNL: B1 ES-BW	In	1	150	3/0	Copper	Magnetic	Pos: Zero:	27.91 87.96	17.99 44.31	
F: B1 ESE-1	TAP: B1 ESE-1 TAP: B1 ESE-1-1	In	1	30	500	Copper	Magnetic	Pos: Zero:	2.04 6.42	3.23 7.95	
F: B1 ESE-1-1	TAP: B1 ESE-1-1 PNL: B1 ESE-1	In	1	8	4/0	Copper	Magnetic	Pos: Zero:	1.18 3.73	0.92 2.26	
F: B1 ESE-16W	TAP: B1-CCW-5LW PNL: B1 ESE-16W	In	1	15	4/0	Copper	Magnetic	Pos: Zero:	2.22 6.99	1.72 4.24	
F: B1 ESE-1-K1	PNL: B1 DP-ES-E1 PNL: B1 ESE-1-K	In	1	120	250	Copper	Magnetic	Pos: Zero:	15.31 48.23	13.73 33.81	
F: B1 ESE-1-K2	PNL: B1 ESE-1-K1 PNL: B1 ESE-1-K	In	1	35	1	Copper	Magnetic	Pos: Zero:	12.94 40.79	4.61 11.35	
F: B1 ESE-1-K-3A	PNL: B1 ESE-1-K-3 PNL: B1 ESE-1-K	In	1	15	250	Copper	Magnetic	Pos: Zero:	1.91 6.03	1.72 4.23	
F: B1 ESE-L-K-3	PNL: B1 DP-LS-E PNL: B1 ESE-1-K	In	1	95	250	Copper	Magnetic	Pos: Zero:	12.12 38.19	10.87 26.77	
F: B1 ES-PH	PNL: B1 DP-ES-E PNL: B1 ES-PH	In	1	30	4/0	Copper	Magnetic	Pos: Zero:	4.44 13.99	3.45 8.49	
F: B1 ES-PH2	PNL: B1 ES-PH PNL: B1 ES-PH2	In	1	8	6	Copper	Magnetic	Pos: Zero:	9.43 29.72	1.27 3.12	
F: B1 ES-SB	PNL: B1 ES-BN PNL: B1 ES-SB	In	1	30	3	Copper	Magnetic	Pos: Zero:	14.01 44.14	4.06 9.99	
F: B1 ES-SPD	PNL: B1 DP-ES-E PNL: B1 ES-SPD	In	1	30	4/0	Copper	Magnetic	Pos: Zero:	4.44 13.99	3.45 8.49	
F: B1 FIRE PUMP	BUS-0024 BUS-0337	In	1	15	4	Copper	Magnetic	PVC	Pos: Zero:	11.13 35.07	2.19 5.39
F: B1 FIRE PUMP_EITAP: B1 FIRE PUM	BUS-0022	In	1	15	3/0	Copper	Magnetic	PVC	Pos: Zero:	2.79 8.80	1.80 4.43
F: B1 FIRE PUMP_EIBUS-0022	BUS-0023	In	1	120	3/0	Copper	Magnetic	PVC	Pos: Zero:	22.33 70.37	14.40 35.45
F: B1 GEN-1	BUS-0026 BUS-0025	In	5	30	500	Copper	Magnetic	PVC	Pos: Zero:	0.41 1.28	0.65 1.59
F: B1 GEN-2	BUS-0028 BUS-0029	In	5	15	500	Copper	Magnetic	PVC	Pos: Zero:	0.20 0.64	0.32 0.80

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu
F: B1 LAUNDRY SEIBUS-XF: Laundry L BUS-0501		In	2	40	500	Copper	Magnetic		Pos: 0.26 Zero: 0.80	0.40 1.00
F: B1 LE-1C	TAP: B1 LE-1C PNL: B1 LE-1C	In	1	55	1	Copper	Magnetic		Pos: 20.34 Zero: 64.10	7.25 17.84
F: B1 LE-1D	034 PP68-E-B9 PNL: B1 LE-1D	In	1	75	1/0	Copper	Magnetic	PVC	Pos: 22.19 Zero: 69.93	9.36 23.04
F: B1 LP-7	PNL: B1 LP-7E PNL: B1 LP-7	In	1	40	2	Copper	Magnetic		Pos: 18.68 Zero: 58.86	5.41 13.31
F: B1 LP-7E	PNL: B1 DP-ES-E1 PNL: B1 LP-7E	In	1	105	4/0	Copper	Magnetic		Pos: 15.53 Zero: 48.95	12.06 29.71
F: B1 LS1-2EB	TAP: B1 LSA-E1 TAP: B1 LS1-2EB	In	1	10	4/0	Copper	Magnetic		Pos: 1.48 Zero: 4.66	1.15 2.83
F: B1 LS1-2EB-1	TAP: B1 LS1-2EB-1 PNL: B1 LS1-2EB	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 LS1A	PNL: B1 DP-LS-E PNL: B1 LS1A	In	1	125	2	Copper	Magnetic		Pos: 58.36 Zero: 183.93	16.90 41.61
F: B1 LS1-BEA	PNL: B1 LS2-BE PNL: B1 LS1-BE#	In	1	8	6	Copper	Magnetic		Pos: 9.43 Zero: 29.72	1.27 3.12
F: B1 LS1-EA	TAP: B1 LSA-E1 PNL: B1 LS1-EA	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 LS1-EA, 2EB, IPNL: B1 DP-CC-E TAP: B1 LSA-E1		In	1	35	500	Copper	Magnetic		Pos: 2.38 Zero: 7.49	3.77 9.28
F: B1 LS2-BE	TAP: B1 LS1-2EB-1 PNL: B1 LS2-BE	In	1	20	4/0	Copper	Magnetic		Pos: 2.96 Zero: 9.32	2.30 5.66
F: B1 LS-2N	PNL: B1 LS-BN PNL: B1 LS-2N	In	1	45	6	Copper	Magnetic		Pos: 53.05 Zero: 167.17	7.12 17.55
F: B1 LS-3E	TAP: B1 LS-6E, LS- PNL: B1 LS-3E	In	1	5	4	Copper	Magnetic		Pos: 3.71 Zero: 11.69	0.73 1.80
F: B1 LS-3E, 6E, 8N	PNL: B1 LS-BE TAP: B1 LS-6E, L	In	1	60	1/0	Copper	Magnetic		Pos: 17.75 Zero: 55.94	7.49 18.43
F: B1 LS-3W	TAP: B1 LS-3W PNL: B1 LS-3W	In	1	40	1	Copper	Magnetic		Pos: 14.79 Zero: 46.62	5.27 12.97
F: B1 LS-6E	TAP: B1 LS-6E, LS- PNL: B1 LS-6E	In	1	55	2	Copper	Magnetic		Pos: 25.68 Zero: 80.93	7.44 18.31
F: B1 LS-8N	PNL: B1 LS-6E PNL: B1 LS-8N	In	1	65	8	Copper	Magnetic		Pos: 121.84 Zero: 384.00	11.33 27.88
F: B1 LSBN	PNL: B1 DP-LS-E PNL: B1 LS-BN	In	1	145	1	Copper	Magnetic		Pos: 53.62 Zero: 168.98	19.10 47.02
F: B1 LS-BW	TAP: B1 LS-3W PNL: B1 LS-BW	In	1	8	6	Copper	Magnetic		Pos: 9.43 Zero: 29.72	1.27 3.12
F: B1 LS-BW, 3W	PNL: B1 DP-LS-E TAP: B1 LS-3W	In	1	132	1	Copper	Magnetic		Pos: 48.82 Zero: 153.83	17.39 42.81
F: B1 LSGR	TAP: B1 LE-1C PNL: B1 LSGR	In	1	8	3/0	Copper	Magnetic		Pos: 1.49 Zero: 4.69	0.96 2.36

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu
F: B1 LSGR, LE-1C	PNL: B1 DP-LS-E TAP: B1 LE-1C	In	1	40	3/0	Copper	Magnetic		Pos: 7.44 Zero: 23.46	4.80 11.82
F: B1 MCC-EA	PNL: B1 DP-ES-E PNL: B1 MCC-EA	In	1	175	500	Copper	Magnetic		Pos: 11.89 Zero: 37.46	18.85 46.40
F: B1 N- 6E	TAP: B1 N-6E PNL: B1 N-6E	In	1	8	2	Copper	Magnetic	PVC	Pos: 3.74 Zero: 11.77	1.08 2.66
F: B1 N1A	PNL: B1 N2A-1 PNL: B1 N1A	In	1	100	6	Copper	Magnetic	PVC	Pos: 117.88 Zero: 371.49	15.83 38.99
F: B1 N1B	PNL: B1 N2A-1 PNL: B1 N1B	In	1	1	2	Copper	Magnetic	PVC	Pos: 0.47 Zero: 1.47	0.14 0.33
F: B1 N2A	035 N2B,2A1,2A2 PNL: B1 N2A-1	In	1	5	4/0	Copper	Magnetic	PVC	Pos: 0.74 Zero: 2.33	0.57 1.41
F: B1 N2A-2	PNL: B1 N2A-1 PNL: B1 N2A-2	In	1	3	4/0	Copper	Magnetic	PVC	Pos: 0.44 Zero: 1.40	0.34 0.85
F: B1 N2B	035 N2B,2A1,2A2 PNL: B1 N2B	In	1	8	4/0	Copper	Magnetic	PVC	Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 N-4E	TAP: B1 N-4E PNL: B1 N-4E	In	1	8	2	Copper	Magnetic	PVC	Pos: 3.74 Zero: 11.77	1.08 2.66
F: B1 N4W	TAP: B1 N4W PNL: B1 N4W	In	1	8	4/0	Copper	Magnetic	PVC	Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 N4W,5W,6W	036 OUTPATIENT TAP: B1 N4W	In	1	15	500	Copper	Magnetic	PVC	Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 N-5E	TAP: B1 N-5E PNL: B1 N-5E	In	1	8	2	Copper	Magnetic	PVC	Pos: 3.74 Zero: 11.77	1.08 2.66
F: B1 N5W	TAP: B1 N5W PNL: B1 N5W	In	1	8	4/0	Copper	Magnetic	PVC	Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 N5W, 6W	TAP: B1 N4W TAP: B1 N5W	In	1	15	500	Copper	Magnetic	PVC	Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 N6W	TAP: B1 N5W PNL: B1 N6W	In	1	15	500	Copper	Magnetic	PVC	Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 OP	TAP: B1 ES1-BW PNL: B1 OP	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 OP, ES1-1WA, PNL: B1 DP-ES-E1	PNL: B1 DP-ES-E1 TAP: B1 ES1-BW	In	1	130	4/0	Copper	Magnetic		Pos: 19.23 Zero: 60.61	14.93 36.78
F: B1 P1	BUS-0108 BUS-0111	In	1	10	2	Copper	Magnetic		Pos: 2.99 Zero: 9.42	0.87 2.13
F: B1 P2	BUS-0107 BUS-0110	In	1	10	2	Copper	Magnetic		Pos: 2.99 Zero: 9.42	0.87 2.13
F: B1 P2M	036 OUTPATIENT PNL: B1 P2M	In	1	8	4/0	Copper	Magnetic	PVC	Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 PNL 1BWA DIS	PNL: B1 XRAY 208 PNL: B1 1BWA	In	1	60	3/0	Copper	Magnetic	PVC	Pos: 11.16 Zero: 35.18	7.20 17.72
F: B1 PNL A1	BUS-0102 PNL: B1 A1	In	1	8	2	Copper	Magnetic		Pos: 2.39 Zero: 7.53	0.69 1.70

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----			Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu
F: B1 PNL AA	BUS-0501 PNL: B1 AA	In	2	1	500	Copper	Magnetic		Pos: 0.01 Zero: 0.02	0.01 0.02
F: B1 PNL CA, CB, CBUS-0362	TAP: B1 CA, CB,	In	1	30	4/0	Copper	Magnetic		Pos: 4.44 Zero: 13.99	3.45 8.49
F: B1 PNL DP-ES-E	BUS-0036 PNL: B1 DP-ES-E	In	2	30	500	Copper	Magnetic		Pos: 1.02 Zero: 3.21	1.62 3.98
F: B1 PNL DP-LS-E	BUS-0032 PNL: B1 DP-LS-E	In	1	30	500	Copper	Magnetic		Pos: 2.04 Zero: 6.42	3.23 7.95
F: B1 PNL EM-1	PNL: B1 DP-LS-E PNL: B1 EM-1	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99
F: B1 PNL PP	PNL: B1 XRAY 208 PNL: B1 PP	In	1	45	3/0	Copper	Magnetic	PVC	Pos: 8.37 Zero: 26.39	5.40 13.29
F: B1 PNL PP-4B	041 P-4 (PP-4A) PNL: B1 PP-4B	In	1	60	1	Copper	Magnetic	PVC	Pos: 22.19 Zero: 69.92	7.90 19.46
F: B1 PNL PP-4C	041 P-4 (PP-4A) PNL: B1 PP-4C	In	1	110	1/0	Copper	Magnetic	PVC	Pos: 32.54 Zero: 102.57	13.73 33.79
F: B1 PNL SUB PNL	PNL: B1 LSGR PNL: B1 SUB-PAI	In	1	18	3/0	Copper	Magnetic		Pos: 3.35 Zero: 10.56	2.16 5.32
F: B1 PNL W1-72	PNL: B1 XRAY 208 PNL: B1 W1-72	In	1	40	3/0	Copper	Magnetic	PVC	Pos: 7.44 Zero: 23.46	4.80 11.82
F: B1 PNL-A	BUS-0101 PNL: B1 A (on AT	In	2	160	350	Copper	Magnetic		Pos: 6.99 Zero: 22.02	9.08 22.36
F: B1 PP-1	PNL: B1 CC-E1-DW PNL: B1 PP-1	In	1	45	2	Copper	Magnetic		Pos: 21.01 Zero: 66.21	6.08 14.98
F: B1 PP-10	034 PP68-E-B9 PNL: B1 PP-10	In	1	200	1	Copper	Magnetic	PVC	Pos: 73.96 Zero: 233.08	26.35 64.86
F: B1 PP-11	041 P-4 (PP-4A) PNL: B1 PP-11	In	1	8	4/0	Copper	Magnetic	PVC	Pos: 1.18 Zero: 3.73	0.92 2.26
F: B1 PP-2	PNL: B1 DP-ES-E1 PNL: B1 PP-2	In	1	130	4/0	Copper	Magnetic		Pos: 19.23 Zero: 60.61	14.93 36.78
F: B1 PP-8a	049 P-8 FANS PNL: B1 PP-8	In	1	2	4/0	Copper	Magnetic	PVC	Pos: 0.30 Zero: 0.93	0.23 0.57
F: B1 S4	BUS-0106 BUS-0109	In	1	10	1/0	Copper	Magnetic		Pos: 1.89 Zero: 5.97	0.80 1.97
F: B1 TOSH EQUIP	PNL: B1 XRAY 48C PNL: B1 Tosh Rm	In	1	40	1	Copper	Magnetic	PVC	Pos: 2.78 Zero: 8.75	0.99 2.44
F: B1 TR-A1	PNL: B1 A (on ATS BUS-0113	In	1	12	2	Copper	Magnetic		Pos: 5.60 Zero: 17.66	1.62 3.99
F: B1 UPS	PNL: B1 PP-2 PNL: B1 UPS	In	1	1	2	Copper	Magnetic		Pos: 0.47 Zero: 1.47	0.14 0.33
F: B1 UPS-1	PNL: B1 EM-LR BUS-0361	In	1	1	4/0	Copper	Magnetic		Pos: 0.15 Zero: 0.47	0.11 0.28
F: B1 UPS-1-1	BUS-0361 BUS-0362	In	1	6	4/0	Copper	Magnetic		Pos: 0.89 Zero: 2.80	0.69 1.70

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----				Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu	
F: B1 WB-H, C	PNL: B1 EM-LR PNL: B1 WB-H	In	1	85	4/0	Copper	Magnetic		Pos: 12.57 Zero: 39.63	9.76 24.05	
F: B1 WH-207	PNL: B1 DP-CC-E1 PNL: B1 WH-207	In	1	30	4/0	Copper	Magnetic		Pos: 4.44 Zero: 13.99	3.45 8.49	
F: B1 XF-P1	PNL: B1 A (on ATS BUS-0112	In	1	20	4/0	Copper	Magnetic		Pos: 2.96 Zero: 9.32	2.30 5.66	
F: B1 XF-P2	PNL: B1 A (on ATS BUS-0104	In	1	20	4/0	Copper	Magnetic		Pos: 2.96 Zero: 9.32	2.30 5.66	
F: B1 XF-S4	PNL: B1 A (on ATS BUS-0103	In	1	20	4/0	Copper	Magnetic		Pos: 2.96 Zero: 9.32	2.30 5.66	
F: B1 XRAY 208 DISBUS-0542	PNL: B1 XRAY 20	In	3	50	500	Copper	Magnetic	PVC	Pos: 1.13 Zero: 3.57	1.80 4.42	
F: B10	PNL: B10A DIST P1 BUS-0611	In	1	35	4/0	Copper	Non-Magnetic	PVC	Pos: 5.12 Zero: 8.14	2.69 6.83	
F: B10 DIST PNL MABUS-0553	PNL: B10A DIST	In	1	15	350	Copper	Magnetic	PVC	Pos: 1.31 Zero: 4.13	1.70 4.19	
F: B10 GEN PNL	PNL: B10A DIST P1 PNL: B10 GEN	In	1	15	6	Copper	Non-Magnetic	PVC	Pos: 17.68 Zero: 28.16	1.58 4.03	
F: B10A DIST PNL	BUS-0549 BUS-0550	In	1	15	500	Copper	Magnetic	PVC	Pos: 1.02 Zero: 3.21	1.62 3.98	
F: B2 1ST FL	PNL: B2 DIST PNL: B2 1ST FL	In	1	25	8	Copper	Magnetic		Pos: 46.86 Zero: 147.69	4.36 10.72	
F: B2 2ND FL	PNL: B2 DIST PNL: B2 2ND FL	In	1	35	6	Copper	Magnetic		Pos: 41.26 Zero: 130.02	5.54 13.65	
F: B2 BASEMENT	PNL: B2 DIST PNL: B2 BASEMI	In	1	6	2	Copper	Magnetic		Pos: 2.80 Zero: 8.83	0.81 2.00	
F: B2 DIST PNL	PNL: B10A DIST P1 BUS-0557	In	1	250	3/0	Copper	Magnetic		Pos: 46.52 Zero: 146.60	29.99 73.85	
F: B2 DIST PNL (M)	BUS-0557 PNL: B2 DIST	In	1	8	4/0	Copper	Magnetic		Pos: 1.18 Zero: 3.73	0.92 2.26	
F: B3 DIST PNL	PNL: B10A DIST P1 PNL: B3 DIST	In	1	125	3/0	Copper	Magnetic		Pos: 23.26 Zero: 73.30	15.00 36.92	
F: B3A L-1F	PNL: B3 DIST PNL: B3A L-1F	In	1	25	1/0	Copper	Magnetic		Pos: 7.40 Zero: 23.31	3.12 7.68	
F: B3A L-2F	PNL: B3A L-1F PNL: B3A L-2F	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B3B R-1F	PNL: B3 DIST PNL: B3B R-1F	In	1	30	1/0	Copper	Magnetic		Pos: 8.88 Zero: 27.97	3.74 9.22	
F: B3B R-2F	PNL: B3B R-1F PNL: B3B R-2F	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B4 L-1F0	TAP: B4 PNL: B4 L-1F	In	1	20	1/0	Copper	Magnetic		Pos: 5.92 Zero: 18.65	2.50 6.14	
F: B4 L-1F1	TAP: B4 PNL: B4 L-1F0	In	1	20	1/0	Copper	Magnetic		Pos: 5.92 Zero: 18.65	2.50 6.14	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----				Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu	
F: B4 TAP	PNL: B10A DIST P TAP: B4	In	1	85	3/0	Copper	Magnetic		Pos: 15.82 Zero: 49.84	10.20 25.11	
F: B4 BSMT	TAP: B4 PNL: B4 BSMT	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B4 L-2F	PNL: B4 L-1F PNL: B4 L-2F	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B4 L-2F0	PNL: B4 L-1F0 PNL: B4 L-2F0	In	1	15	2	Copper	Magnetic		Pos: 7.00 Zero: 22.07	2.03 4.99	
F: B5 ADULT DAYC	PNL: B5 DIST PNL: B5 MH3-1	In	1	65	4/0	Copper	Magnetic		Pos: 9.62 Zero: 30.30	7.47 18.39	
F: B5 BSMT PNL	PNL: B5 DIST PNL: B5 BSMT	In	1	5	4	Copper	Magnetic		Pos: 3.71 Zero: 11.69	0.73 1.80	
F: B5 DIST PNL	PNL: B10A DIST P PNL: B5 DIST	In	1	237	500	Copper	Non-Magnetic	PVC	Pos: 15.12 Zero: 23.99	20.43 54.73	
F: B5 MH1	PNL: B5 DIST PNL: B5 MH1	In	1	65	4/0	Copper	Magnetic		Pos: 9.62 Zero: 30.30	7.47 18.39	
F: B5 PAUVILION	PNL: B5 DIST PNL: B5 PAUVIL	In	1	75	2	Copper	Magnetic		Pos: 35.02 Zero: 110.36	10.14 24.96	
F: B6 B	PNL: B6 A PNL: B6 Bsmt Sut	In	1	25	8	Copper	Non-Magnetic	PVC	Pos: 46.86 Zero: 74.50	3.48 8.86	
F: B6 C	PNL: B6 Bsmt SubP PNL: B6 "C" in H	In	1	15	4	Copper	Magnetic	PVC	Pos: 11.13 Zero: 35.07	2.19 5.39	
F: B6 DIST	PNL: B7 NEW CAR PNL: B6 A	In	1	200	1/0	Copper	Non-Magnetic	PVC	Pos: 58.71 Zero: 93.33	19.97 50.80	
F: B7 COMPRESSOR	PNL: B7 DNE TAP: B7 COMPRI	In	1	100	3/0	Copper	Magnetic	PVC	Pos: 18.61 Zero: 58.64	9.18 22.61	
F: B7 DNE-A	TAP: PNLS DNE, D BUS-0614	In	2	15	350	Copper	Magnetic	PVC	Pos: 0.66 Zero: 2.06	0.85 2.10	
F: B7 DNE-B	BUS-0614 PNL: B7 DNE	In	2	135	350	Copper	Magnetic	PVC	Pos: 5.90 Zero: 18.58	7.66 18.86	
F: B7 DP-BP-2	TAP: PNLS DNE, D 015 DP-BP-2	In	2	1	350	Copper	Magnetic	PVC	Pos: 0.04 Zero: 0.14	0.06 0.14	
F: B7 ESBH	PNL: B7 MCC PNL: B7 ESBH	In	1	8	1/0	Copper	Magnetic	PVC	Pos: 2.37 Zero: 7.46	1.00 2.46	
F: B7 LC	PNL: B7 MCC PNL: B7 LC	In	1	30	1/0	Copper	Magnetic	PVC	Pos: 8.88 Zero: 27.97	3.74 9.22	
F: B7 MCC	PNL: B7 DNE PNL: B7 MCC	In	2	75	350	Copper	Magnetic	PVC	Pos: 3.28 Zero: 10.32	4.26 10.48	
F: B7 NEW CARP SH	PNL: B7 DNE PNL: B7 NEW CA	In	1	270	4/0	Copper	Non-Magnetic	PVC	Pos: 39.50 Zero: 62.78	24.84 63.16	
F: B7 OLD CARP SH	015 DP-BP-2 PNL: B7 OLD CA	In	1	325	3/0	Copper	Magnetic	PVC	Pos: 60.47 Zero: 190.58	38.99 96.00	
F: B7 P-13, 14	015 DP-BP-2 TAP: B7 PP-14	In	1	200	4/0	Copper	Magnetic	PVC	Pos: 29.59 Zero: 93.24	22.98 56.58	

Cable Name	From Bus To Bus	In/Out Service	Qty /Ph	Length Feet	----- Cable Description -----				Per Unit (100 MVA Base)		
					Size	Cond. Type	Duct Type	Insul	R pu	X pu	
F: B7 PNL A	PNL: B7 NEW CAR PNL: B7 A	In	1	25	4/0	Copper	Non-Magnetic	PVC	Pos: 3.66 Zero: 5.81	1.92 4.88	
F: B7 PNL B9-A	PNL: B7 DNE BUS-0523	In	1	350	350	Copper	Magnetic	PVC	Pos: 30.58 Zero: 96.35	39.72 97.81	
F: B7 PNL B9-B	BUS-0523 BUS-0609	In	1	200	4/0	Copper	Magnetic	PVC	Pos: 29.59 Zero: 93.24	22.98 56.58	
F: B7 PNL H	015 DP-BP-2 PNL: B7 H	In	1	25	4/0	Copper	Magnetic	PVC	Pos: 3.70 Zero: 11.66	2.87 7.07	
F: B7 PNL NE1	PNL: B7 DNE PNL: B7 NE1	In	1	80	3/0	Copper	Magnetic	PVC	Pos: 14.89 Zero: 46.91	9.60 23.63	
F: B7 PP-13	TAP: B7 PP-14 PNL: B7 PP-13	In	1	10	4/0	Copper	Magnetic	PVC	Pos: 1.48 Zero: 4.66	1.15 2.83	
F: B7 PP-14	TAP: B7 PP-14 PNL: B7 PP-14	In	1	80	4/0	Copper	Magnetic	PVC	Pos: 11.83 Zero: 37.30	9.19 22.63	
F: B7 R1/R2	PNL: B7 DNE PNL: B7 R1	In	1	30	3/0	Copper	Magnetic	PVC	Pos: 5.58 Zero: 17.59	3.60 8.86	
F: B7 R2	PNL: B7 R1 PNL: B7 R2	In	1	8	3/0	Copper	Magnetic	PVC	Pos: 1.49 Zero: 4.69	0.96 2.36	
F: B7 XF-1	PNL: B7 A BUS-XF-1 B7 Hi	In	1	15	1/0	Copper	Magnetic	PVC	Pos: 4.44 Zero: 13.99	1.44 3.53	
F: B7 XF-2	PNL: B7 A BUS-0539	In	1	15	1/0	Copper	Magnetic	PVC	Pos: 4.44 Zero: 13.99	1.44 3.53	
F: GEN QUARTERS	BUS-0551 BUS-0552	In	1	15	350	Copper	Magnetic	PVC	Pos: 1.31 Zero: 4.13	1.70 4.19	
F: XRAY 480 DIST	BUS-0541 PNL: B1 XRAY 4	In	2	50	350	Copper	Magnetic	PVC	Pos: 0.41 Zero: 1.29	0.53 1.31	

2-Winding Transformers

Xformer Name	In/Out Service	-----Primary & Secondary-----				Nominal kVA	Z PU (100 MVA Base)		
		Bus	Conn.	Volts	FLA		R pu	X pu	
T1A VPI OA/FFA	In	006 T1A PRI	D	12,470	154	2,500.0	Pos: 0.42	2.24	
		007 SWBD-1A	WG	480	3,999		Zero: 0.42	2.24	
T1B VPI OA/FFA	In	005 T1B PRI	D	12,470	154	2,500.0	Pos: 0.42	2.26	
		007 SWBD-1B	WG	480	3,999		Zero: 0.42	2.26	
T2A	In	BUS-0593	D	480	1,804	1,500.0	Pos: 0.58	3.79	
		BUS-0594	WG	208	4,164		Zero: 0.58	3.79	
T2B	In	BUS-0595	D	480	1,804	1,500.0	Pos: 0.58	3.79	
		BUS-0596	WG	208	4,164		Zero: 0.58	3.79	
T3	In	BUS-T3 Hi	D	480	90	75.0	Pos: 14.50	45.76	
		BUS-T3 Lo	WG	208	208		Zero: 14.50	45.76	
T4	In	BUS-0601	D	480	271	225.0	Pos: 10.22	22.67	
		BUS-0613	WG	208	625		Zero: 10.22	22.67	

Xformer Name	In/Out Service	-----Primary & Secondary-----				Nominal kVA	Z PU (100 MVA Base)		
		Bus	Conn.	Volts	FLA		R pu	X pu	
TR: B1 PNL A	In	BUS-TR B1 Pnl A Hi 48	D	480	54	45.0	Pos:	44.91	130.25
		BUS-TR B1 Pnl A Lo	WG	208	125		Zero:	44.91	130.25
XF: B1 A1	In	BUS-0113	D	208	208	75.0	Pos:	14.50	45.76
		BUS-0102	WG	260	167		Zero:	14.50	45.76
XF: B1 DENTAL	In	BUS-0217	D	208	208	7.5	Pos:	161.96	365.75
		PNL: B1 DENTAL PU	WG	240	180		Zero:	161.96	365.75
XF: B1 P1	In	BUS-0112	D	208	175	63.0	Pos:	18.22	55.83
		BUS-0108	WG	260	140		Zero:	18.22	55.83
XF: B1 P2	In	BUS-0104	D	208	175	63.0	Pos:	17.74	55.99
		BUS-0107	WG	260	140		Zero:	17.74	55.99
XF: B1 S4	In	BUS-0103	D	208	208	75.0	Pos:	14.50	45.76
		BUS-0106	WG	260	167		Zero:	14.50	45.76
XF: LAUNDRY	In	BUS: Laundry 12kV	D	12,470	29	500.0	Pos:	2.67	12.52
		BUS-XF: Laundry Lo	WG	480	752		Zero:	2.67	12.52
XF: QUARTERS	In	004A QUARTERS	D	12,470	9	150.0	Pos:	10.82	38.79
		BUS-0549	WG	208	520		Zero:	10.82	38.79
XF: XRAY 208V	In	BUS: XRAY 12kV Tap	D	12,470	27	500.0	Pos:	1.70	7.98
		BUS-0542	WG	208	1,596		Zero:	1.70	7.98
XF: XRAY 480V	In	BUS: XRAY 12kV Tap	D	12,470	27	500.0	Pos:	2.04	9.59
		BUS-0541	WG	480	692		Zero:	2.04	9.59
XF-1 B7	In	BUS-XF-1 B7 Hi	W	208	83	30.0	Pos:	66.60	181.50
		BUS-0538	D	480	36		Zero:	333300.00	333,300.00
XF-2 B7	In	BUS-0539	W	208	83	30.0	Pos:	66.60	181.50
		BUS-0540	D	480	36		Zero:	333300.00	333,300.00