

Project: ETAP
Location: 19.0.1C
Contract:
Engineer:
Filename: PROPOSED-DESIGN
Study Case: LF

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Revision: Base
Config.: Normal

Bus Loading Summary Report

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	V	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
SGEN B	240.00													
01 B	240.00		3.366	2.086	4.238	2.627					8.946	85.0	22.5	
02 B	240.00		26.168	16.218	5.990	3.712					37.833	85.0	95.1	
03 B	240.00				8.744	5.419					10.287	85.0	25.9	
3F4F B	240.00										63.589	85.0	157.9	
04 B	240.00				1.235	0.765					1.453	85.0	3.6	
05 B	240.00		22.313	13.828							26.250	85.0	65.3	
06 B	240.00		11.921	7.388							14.025	85.0	34.7	
07 B	240.00		22.313	13.828							26.250	85.0	65.1	
ACU1 B	240.00		10.041	6.223							11.813	85.0	29.3	
BSMT B	240.00				1.365	0.846					1.606	85.0	4.0	
CLINIC B	240.00		3.512	2.177	6.095	3.777					11.303	85.0	28.1	
DP ML B	240.00										75.839	85.0	190.6	
DP-01 B	240.00										189.592	85.0	467.6	
DP-2 B	240.00										228.476	85.1	563.6	
DP-3F B	240.00										63.582	85.0	157.9	
EDP1 B	240.00										189.731	84.9	467.6	
EDP2 B	240.00										228.602	85.1	563.6	
EE/ECE B	240.00		8.774	5.438	8.310	5.150					20.099	85.0	49.7	
G1 B	240.00										189.731	84.9	467.6	
G2 B	240.00										228.602	85.1	563.6	
HS LIB B	240.00		3.548	2.199	0.843	0.522					5.165	85.0	12.7	
JHS ME B	240.00										60.275	85.2	148.7	
L-ACU B	240.00		28.651	17.756							33.707	85.0	83.7	
L4F B	240.00		0.082	0.051	0.696	0.431					0.915	85.0	2.3	
L373 B	240.00				13.522	8.380					15.908	85.0	39.5	
L374 B	240.00				13.507	8.371					15.891	85.0	39.5	
L375 B	240.00				13.488	8.359					15.869	85.0	39.5	
L376 B	240.00				13.469	8.348					15.846	85.0	39.4	
LG1 B	240.00				14.026	8.693					16.502	85.0	41.5	
LG2 B	240.00				1.896	1.175					2.231	85.0	5.6	
MAIN B	240.00										418.605	85.0	1031.2	
MDP DNY B	240.00										99.822	85.0	247.9	
MDP SAL B	240.00										24.730	85.0	61.9	
MDP-CLPH-B	240.00										53.375	85.1	132.1	
ME LAB B	240.00		0.050	0.031	0.048	0.030					0.116	85.0	0.3	
ME157 B	240.00		3.766	2.334	0.895	0.554					5.482	85.0	13.5	
OB B	240.00		2.344	1.453	5.186	3.214					8.859	85.0	21.9	
PB-ACU-1 B	240.00		6.451	3.998							7.589	85.0	18.8	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	V	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
PB-ACU-2 B	240.00		14.298	8.861							16.821	85.0	41.8	
PB-LB B	240.00										18.744	85.0	47.1	
PERICAN B	240.00				5.398	3.345					6.351	85.0	15.7	
PHYS B	240.00		4.582	2.839	6.404	3.969					12.924	85.0	32.2	
PO B	240.00		0.260	0.161	2.160	1.339					2.848	85.0	7.1	
PO B3	240.00		21.182	13.127	8.532	5.288					34.958	85.0	86.7	
R163 B	240.00				0.886	0.549					1.042	85.0	2.6	
R164 B	240.00		0.597	0.370	0.337	0.209					1.099	85.0	2.8	
R165 B	240.00		0.866	0.537	0.089	0.055					1.124	85.0	2.8	
RO B	240.00		0.485	0.301	4.024	2.494					5.304	85.0	13.3	
SAL-2F B	240.00		0.440	0.273	3.650	2.262					4.812	85.0	12.1	
SAL-3F B	240.00		0.220	0.136	1.826	1.132					2.408	85.0	6.0	
SAL 4F B	240.00		0.293	0.182	2.435	1.509					3.210	85.0	8.0	
SALGF B	240.00		0.394	0.244	2.041	1.265					2.865	85.0	7.2	
TAC B	240.00										15.883	85.1	39.3	
TR B	240.00		0.805	0.499	3.033	1.880					4.516	85.0	11.2	
TR/AUDI B	240.00										53.807	85.1	132.7	
VECO B	23000.00										428.680	84.0	10.8	
XFORMER B	240.00										421.220	84.9	1031.2	

* Indicates operating load of a bus exceeds the bus critical limit (100.0% of the Continuous Ampere rating).
Indicates operating load of a bus exceeds the bus marginal limit (95.0% of the Continuous Ampere rating).

Branch Loading Summary Report

CKT / Branch		Busway / Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (kVA)	Loading (input)		Loading (output)	
						kVA	%	kVA	%
DP-01 C	Cable	959.72	467.62	48.72					
DP-02 C	Cable	959.72	563.63	58.73					
DP-LINK -3F	Cable	674.11	157.95	23.43					
EDP1 C	Cable	959.72	467.62	48.72					
EDP2 C	Cable	959.72	563.63	58.73					
EE/ECE C	Cable	498.56	49.68	9.97					
HS LIB C	Cable	498.56	12.75	2.56					
LG-02 C	Cable	57.73	5.61	9.72					
LINK C	Cable	498.56	247.94	49.73					
MAIN C	Cable	1200.00	1031.25	85.94					
MAIN LIB C	Cable	575.22	190.62	33.14					
MDP-CLPH C	Cable	498.56	132.14	26.50					
ME LAB C	Cable	498.56	0.29	0.06					
ME157&158 C	Cable	498.56	13.53	2.71					
OB C	Cable	498.56	21.89	4.39					
PERICAN C	Cable	498.56	15.68	3.15					
3-167 kVA	Transformer				501.0	428.7	85.6	421.2	84.1

* Indicates a branch with operating load exceeding the branch capability.

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Branch Losses Summary Report

Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	kw	kvar	kw	kvar	kW	kvar	From	To	
04 C	-1.2	-0.8	1.2	0.8	0.0	0.0	97.4	97.5	0.07
3-167 kVA	360.0	232.8	-357.5	-222.8	2.5	10.0	100.0	98.3	1.74
DP-01 C	-161.1	-100.0	161.2	100.1	0.1	0.1	97.5	97.6	0.07
DP-02 C	-194.5	-119.8	194.6	119.9	0.1	0.1	97.5	97.6	0.05
DP-LINK -3F	54.1	33.5	-54.1	-33.5	0.0	0.0	96.9	96.8	0.01
EDP1 C	-161.2	-100.1	161.2	100.2	0.0	0.1	97.6	97.6	0.04
EDP2 C	-194.6	-119.9	194.7	120.1	0.1	0.2	97.6	97.6	0.08
EE/ECE C	17.1	10.6	-17.1	-10.6	0.0	0.0	97.5	97.3	0.22
HS LIB C	4.4	2.7	-4.4	-2.7	0.0	0.0	97.5	97.5	0.05
L-ACU C	-28.7	-17.8	28.7	17.8	0.0	0.0	96.8	96.9	0.01
LG-01 C	-14.0	-8.7	14.0	8.7	0.0	0.0	95.6	95.7	0.06
LG-02 C	-1.9	-1.2	1.9	1.2	0.0	0.0	95.7	95.7	0.03
LINK C	85.4	53.1	-84.9	-52.6	0.5	0.5	97.5	96.9	0.68
LRAC-ACU1 C	-10.0	-6.2	10.1	6.2	0.1	0.0	96.9	97.5	0.66
MAIN C	-355.9	-220.3	357.5	222.8	1.5	2.5	97.6	98.3	0.61
MAIN LIB C	-64.5	-39.9	65.8	40.5	1.3	0.6	95.7	97.5	1.81
MDP-CLPH C	45.6	28.2	-45.4	-28.1	0.1	0.1	97.5	97.2	0.36
MDP-SAL C	21.4	13.1	-21.0	-13.0	0.4	0.1	97.5	96.0	1.48
ME C1	29.9	18.4	-29.7	-18.4	0.2	0.0	97.5	96.9	0.57
ME LAB C	0.1	0.1	-0.1	-0.1	0.0	0.0	97.5	97.5	0.00
ME157&158 C	4.7	2.9	-4.7	-2.9	0.0	0.0	97.5	97.5	0.04
OB C	7.5	4.7	-7.5	-4.7	0.0	0.0	97.5	97.4	0.16
PB-01 C	-7.6	-4.7	7.6	4.7	0.0	0.0	95.5	95.7	0.21
PB-02 C	-32.2	-19.9	32.2	19.9	0.0	0.0	95.7	95.7	0.02
PB-03 C	-8.7	-5.4	8.7	5.4	0.0	0.0	95.7	95.7	0.02
PB-05 C	-22.3	-13.8	22.5	13.9	0.2	0.1	96.7	97.5	0.81
PB-06 C	-11.9	-7.4	12.0	7.4	0.0	0.0	97.3	97.5	0.25
PB-07 C	-22.3	-13.8	22.5	13.9	0.1	0.0	97.0	97.5	0.55
PB-ACU-1 C	6.5	4.0	-6.5	-4.0	0.0	0.0	97.2	97.0	0.13
PB-ACU-2 C	14.4	8.9	-14.3	-8.9	0.1	0.0	97.2	96.8	0.36
PB-BSMT C-	-1.4	-0.8	1.4	0.8	0.0	0.0	96.8	96.9	0.01
PB-CLINIC C	-9.6	-6.0	9.7	6.0	0.1	0.0	96.7	97.2	0.50
PB-LINK-373 C	13.5	8.4	-13.5	-8.4	0.0	0.0	96.8	96.8	0.01
PB-LINK-374 C	13.5	8.4	-13.5	-8.4	0.0	0.0	96.8	96.8	0.07

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Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	kw	kvar	kw	kvar	kW	kvar	From	To	
PB-LINK-375 C	13.5	8.4	-13.5	-8.4	0.0	0.0	96.8	96.7	0.13
PB-LINK-376 C	13.5	8.4	-13.5	-8.3	0.0	0.0	96.8	96.6	0.20
PB-LINK-4F C	-0.8	-0.5	0.8	0.5	0.0	0.0	96.8	96.9	0.03
PB-PHYS C	11.1	6.8	-11.0	-6.8	0.1	0.0	97.2	96.5	0.64
PB-PO C	2.4	1.5	-2.4	-1.5	0.0	0.0	96.0	96.0	0.03
PB-RO C	4.5	2.8	-4.5	-2.8	0.0	0.0	96.0	96.0	0.04
PB-SAL-2F C	4.1	2.5	-4.1	-2.5	0.0	0.0	96.0	96.0	0.01
PB-SAL-3F C	2.0	1.3	-2.0	-1.3	0.0	0.0	96.0	96.0	0.02
PB-SAL-4F C	2.7	1.7	-2.7	-1.7	0.0	0.0	96.0	96.0	0.02
PB-SAL-GF C	2.4	1.5	-2.4	-1.5	0.0	0.0	96.0	95.6	0.42
PB-SAL-GF-R163 C	0.9	0.5	-0.9	-0.5	0.0	0.0	96.0	95.9	0.11
PB-SAL-R164 C	0.9	0.6	-0.9	-0.6	0.0	0.0	96.0	96.0	0.03
PB-SAL-R165 C	1.0	0.6	-1.0	-0.6	0.0	0.0	96.0	96.0	0.05
PB-TROOM C	3.8	2.4	-3.8	-2.4	0.0	0.0	97.2	97.0	0.14
PERICAN C	5.4	3.4	-5.4	-3.3	0.0	0.0	97.5	97.4	0.13
					7.9	14.6			

* This Transmission Line includes Series Capacitor.

Alert Summary Report

	% Alert Settings	
	Critical	Marginal
Loading		
Bus	100.0	95.0
Cable / Busway	100.0	95.0
Reactor	100.0	95.0
Line	100.0	95.0
Transformer	100.0	95.0
Panel	100.0	95.0
Protective Device	100.0	95.0
Generator	100.0	95.0
Inverter/Charger	100.0	95.0
Bus Voltage		
OverVoltage	110.0	105.0
UnderVoltage	90.0	95.0
Generator Excitation		
OverExcited (Q Max.)	100.0	95.0
UnderExcited (Q Min.)	100.0	

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
STANDBY GEN	Generator	Under Excited	0.000	kvar	0.000	0.0	3-Phase
STANDBY GEN	Generator	Under Power	0.000	kW	0.000	0.0	3-Phase

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SUMMARY OF TOTAL GENERATION , LOADING & DEMAND

	kW	kvar	kVA	% PF
Source (Swing Buses):	360.0	232.8	428.7	83.97 Lagging
Source (Non-Swing Buses):	0.0	0.0	0.0	
Total Demand:	360.0	232.8	428.7	83.97 Lagging
Total Motor Load:	197.7	122.5	232.6	85.00 Lagging
Total Static Load:	154.4	95.7	181.6	85.00 Lagging
Total Constant I Load:	0.0	0.0	0.0	
Total Generic Load:	0.0	0.0	0.0	
Apparent Losses:	7.9	14.6		
System Mismatch:	0.0	0.0		

Number of Iterations: 5