

ETAP FAQ # 28

How do you generate load lists for an incomplete system?

Description: The Load Analyzer module is designed as a generalized load-list to report load-schedules for power system components such as switchgear, MCC, transformers, cables, lines, panels, and more.

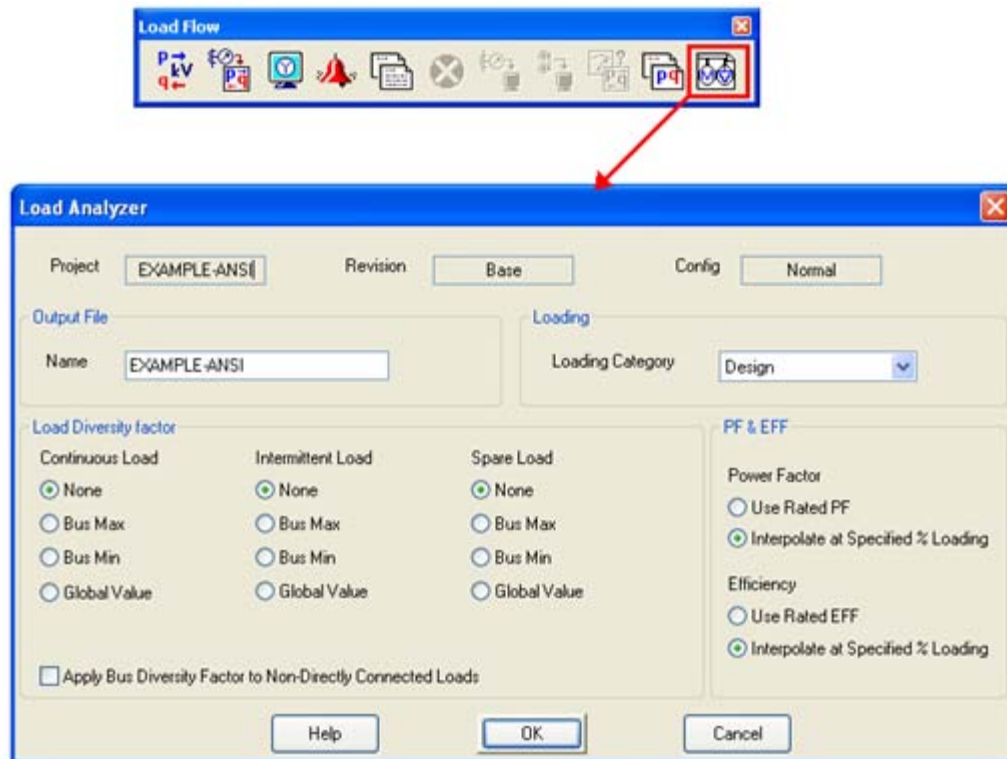
Version: ETAP 7.0

Published: July 30, 2009

Load Analyzer

The Load Analyzer module is designed as a generalized load-list to report load-schedules for power system components such as switchgear, MCC, transformers, cables, lines, panels, etc. Different reports provide informative data regarding all loads connected downstream to equipment.

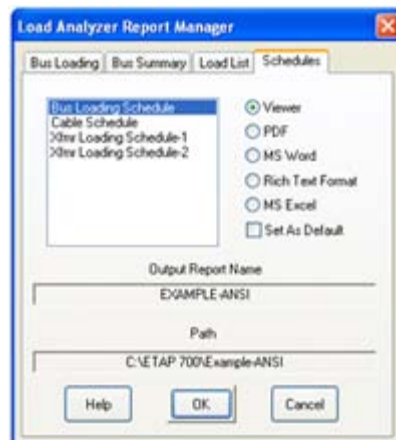
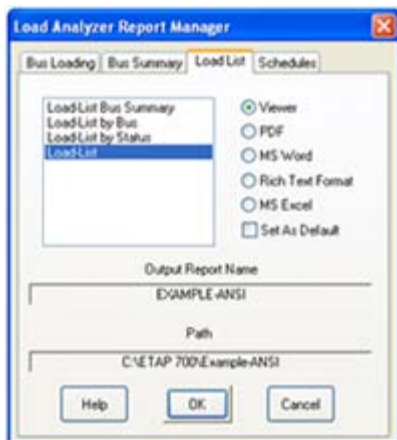
In addition and in contrast with the regular Load Flow analysis, the Load Analyzer allows a deeper study of the different loads present in a system. This gives the user more flexibility in analyzing individual loads using Minimum/Maximum Bus Loading, or to simply determine the actual connected and operating loads in a given system.



To generate a load list or create a loading schedule, the one line diagram must be energized but the source information is not required.

1. Go to the Load Flow toolbar and click on the Load Analyzer icon.
2. Enter the output report database filename. By default, ETAP enters the same name as the project name.
3. Select one of the ten Loading Categories for the current Load Analyzer study. With the selection of any category, ETAP uses the percent loading of individual motors and other loads as specified for the selected category.

4. Choose whether to apply a Load Diversity Factor for each Demand Factor.
5. For all induction and synchronous motors in the system, the user can select to either use the Rated Power Factor (PF) and Efficiency of motors, or to use interpolated values for the specified motor % loading.
6. Once all options are selected, click Ok.
7. From the Load Analyzer Report Manager, click the load list tab and select Load List.
8. Click the Schedules tab and select Bus Loading Schedule.

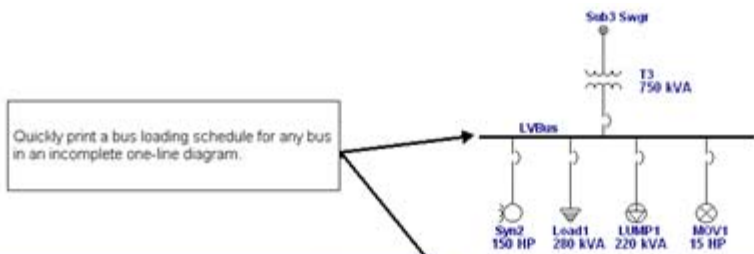


9. Click Ok.

Load List

ID	Bus ID	Data Type	Nameplate Rating	Unit	Status	Operating Loads		
						kW	kvar	kVA
CAP1	Sub 3	Estimate	450.00	kVA	C	0.00	-450.00	450.00
Charger1	Bus2	Estimate	500.00	kVA	C	425.00	263.39	500.00
Load1	LVBUS	Estimate	280.41	kVA	C	250.00	127.00	280.41
Load2	Bus10	None	175.00	kVA	C	175.00	0.00	175.00
LTG Load	MCC1	Estimate	100.00	kVA	C	100.00	0.00	100.00
LUMP1	LVBUS	Estimate	220.00	kVA	C	191.40	108.47	220.00
LUMP2	Sub22	Typical	3500.00	kVA	C	2975.00	1843.74	3500.00
LUMP3	Bus4	Typical	120.00	kVA	C	0.00	0.00	0.00
LUMP4	Bus23A	Typical	500.00	kVA	C	425.00	263.39	500.00
LUMP6	Bus9	Typical	500.00	kVA	C	425.00	263.39	500.00
MOV1	LVBUS	Estimate	15.00	HP	S	18.24	10.09	20.85
Mtr1	Bus23A	Typical	100.00	kW	C	108.06	47.52	118.05
Mtr2	Sub2B	Typical	2500.00	HP	C	1906.15	781.27	2060.05
Mtr3	MCC1	Estimate	75.00	HP	C	60.47	26.93	66.20
Mtr4	MCC1	Estimate	125.00	HP	C	100.77	44.40	110.12
Mtr5	MCC1	Estimate	50.00	HP	C	40.96	19.39	45.32
Mtr6	MCC1	Estimate	120.00	HP	C	97.61	44.98	107.47
Pump 1	Sub3 Swgr	Estimate	500.00	HP	C	407.16	184.44	446.99
Syn1	Sub2A	Estimate	1250.00	HP	C	994.85	-616.55	1170.41
Syn2	LVBUS	Estimate	150.00	HP	C	120.80	-58.51	134.22

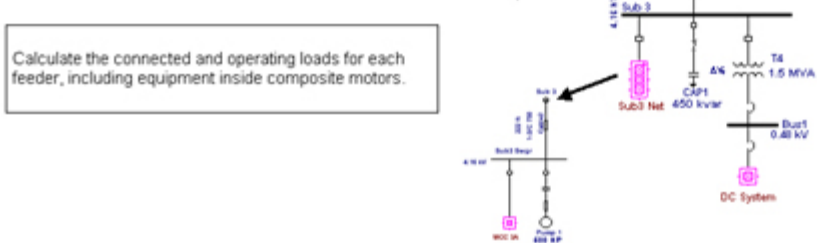
Bus Loading Schedule



Bus kV:	0.480	Bus ID:	LVBus	Loading Category:	Design
Cont. Amp:	1600	Fed From:	Sub3 Swgr		

Equipment ID	Status	Motor Rated HP	Motor Break HP	Non-MTR Rated I-V-A	Non-MTR Rated kVA	Rated kV	RPM	% EFF	% PF	% Ld	Operating Loads				
											kVA	kW	kvar	Amp	
Load1	C	----	----	280	250	0.480	---	100.0	89.2	100	280.41	250.00	127.00		
LUMP1	C	----	----	220	191	0.460	---	100.0	87.0	100	220.00	191.40	108.47		
MOV1	S	15.00	15.00	----	----	0.460	1800	86.7	87.5	100	20.85	18.24	10.09		
Syn2	I	150	150	----	----	0.460	1800	92.6	-90.0	100	134.22	120.80	-58.51		
Total Connected Load:															
Total Connected Load X %Loading:											95.2	603.85	575.10	184.10	726
Total Connected Load X %Loading X DF:											92.5	542.52	501.80	206.22	653
Total Connected Load X %Loading X DF X Div.:											91.5	699.82	640.03	283.03	842

Bus Feeder Loading



Bus ID: Sub 3

Voltage: 4.16 kV Rating: 600 A, 4323 kVA

Connected Feeders & Loads	Status	Connected Loads			Operating Loads				
		kW	kvar	kVA	kW	kvar	kVA	% PF	% EFF
CAP1	C	0.00	-450.00	450.00	0.00	-450.00	450.00	0.00	100.00
Cable2	C	1490.55	635.80	1620.49	1490.55	635.80	1620.49	91.98	
	I	527.96	125.93	542.77	527.96	125.93	542.77	97.27	
T4	S	46.76	7.13	47.30	52.10	10.09	53.07	98.18	
	C	200.00	96.35	222.00	200.00	96.35	222.00	90.09	
	I	425.00	263.39	500.00	425.00	263.39	500.00	85.00	
	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Bus Summary	Continuous	1690.55	282.16	1713.93	1690.55	282.16	1713.93		
	Intermittent	952.96	389.33	1029.42	952.96	389.33	1029.42		
	Spare	46.76	7.13	47.30	52.10	10.09	53.07		
Bus Totals		2690.27	678.62	2774.54	2518.21	549.06	2577.38	97.70	

Operation Technology, Inc.

