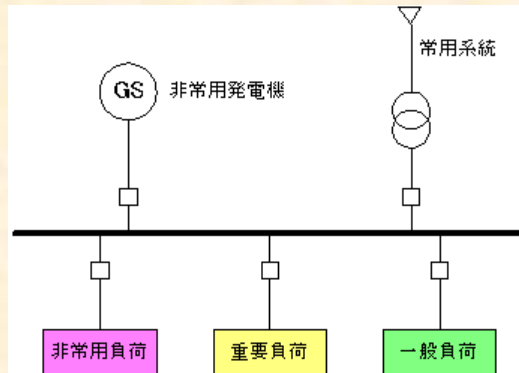


## Let's make full use of e-DPP / ETAP-DPP.

### “Key Points for Load Summary” (Topic #16) Part 5: Lumped Load Applications (Follow-up)

Previous issue discussed “Multiplying Factor” of Lumped Load, which are used for the facility capacity calculation and ETAP steady state analysis for e-DPP “Lumped Load Calculation no.1”. This issue discusses how to deal with Lumped Load which are connected with Emergency Systems.

Emergency System is usually configured that load connected with Normal System is backed-up by Emergency Generator or Spare Circuit.



It will be comprehensive if you categorize the load connected to emergency bus as “Normal Load”, “Critical Load” and “Emergency Load” as shown above. “Normal Load” is the less Critical Load which is to be shed and “Critical Load” is the load which is to be continuously operated during the emergency condition. “Emergency Load” is the one which is operated during only emergency condition, such as fire fighting pump and siren.

These loads are calculated as Lumped Load in e-DPP and exported to ETAP. ETAP assigns “Multiplying factors” such as %Loading and Demand Factor to each Lumped Load. Enter the %Loading first at the Loading Section of the Lumped Load Editor. For Lumped Load which %Loading varies during the emergency condition, enter the Loading value, of which Loading Category equals to Emergency.

Loading		Motor Load		Static Load		
	Loading Category	% Loading	MW	Mvar	MW	Mvar
6	Start Up	0	0.000	0.000	0.000	0.000
7	Emergency	85	1.517	0.940	1.106	0.685
8	Shutdown	0	0.000	0.000	0.000	0.000
9	Accident	0	0.000	0.000	0.000	0.000
10	Load Cat 10	0	0.000	0.000	0.000	0.000

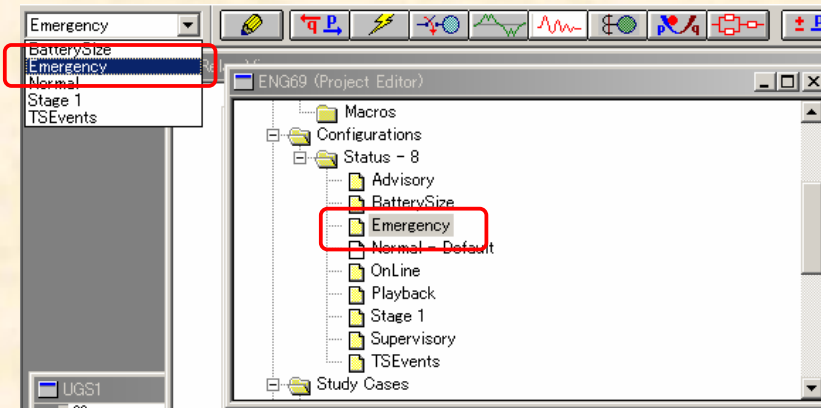
Operating Load: 0 MW + j 0 Mvar 0 MW + j 0 Mvar

<ETAP Lumped Load Editor – Part of Nameplate display >

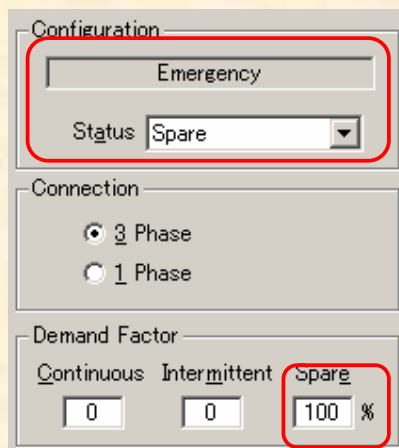
Set Loading Category = Emergency for the initial load flow condition of Load Flow, Motor Start or Transient Stability Study.

(Continue to next page)

Define Emergency Network Configuration using the ETAP Configurations Feature.



Designate Operation Status during Emergency Condition in each Lumped Load Editor. If the Emergency Load operates during the emergency conditions only, set “Status=Spare” and enter Operating Time Ratio (%) in “Demand Factor-Spare”. (\* See previous Technical report No. 15.)



<ETAP Lumped Load Editor – Part of Info display >

For “Critical Load” (Lumped Load), if Emergency Operating Status is not different from Normal, leave “Status=Continuous or Intermittent” and the same Demand Factor as Normal may be used.

Network Status	Normal Load	Critical Load	Emergency Load
Normal (Normal)	○ (Continuous or Intermittent)	○ (Continuous or Intermittent)	X (Stop)
Emergency (Emergency)	X (Stop)	○ (Continuous or Intermittent)	○ (Spare)

The next issue will discuss “Lumped Load Application – Follow-up 2” and deal with “Lumped Load as Base Load”.

If you have problems or requests and need solutions, please feel free to contact;

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