ELECTRICAL ENGINEERING DEPARTMENT

EE-466 Project Semester (062)

Objective: Design the protective scheme of the power system shown below. It is required to size all the CTs, define type of protection and relay setting.
Procedure: You may use ETAP or EDSA software programs.

Steps

1. Draw the network with all the data as provided.
2. Run a load flow to determine your steady state conditions.
3. Perform short circuit analysis at different buses.
4. Select and size all CT
5. Connect relays where appropriate
6. Carry out . coordinating studies to adjust relay settings.
7. Check for relay operation for selected fault locations.

Report : Prepare a detailed report of your work.

Presentation : Prepare a PowerPoint presentation about your work. Presentations will be scheduled at a later time.

Power Grid
1000 MVAsc
X/R = 22

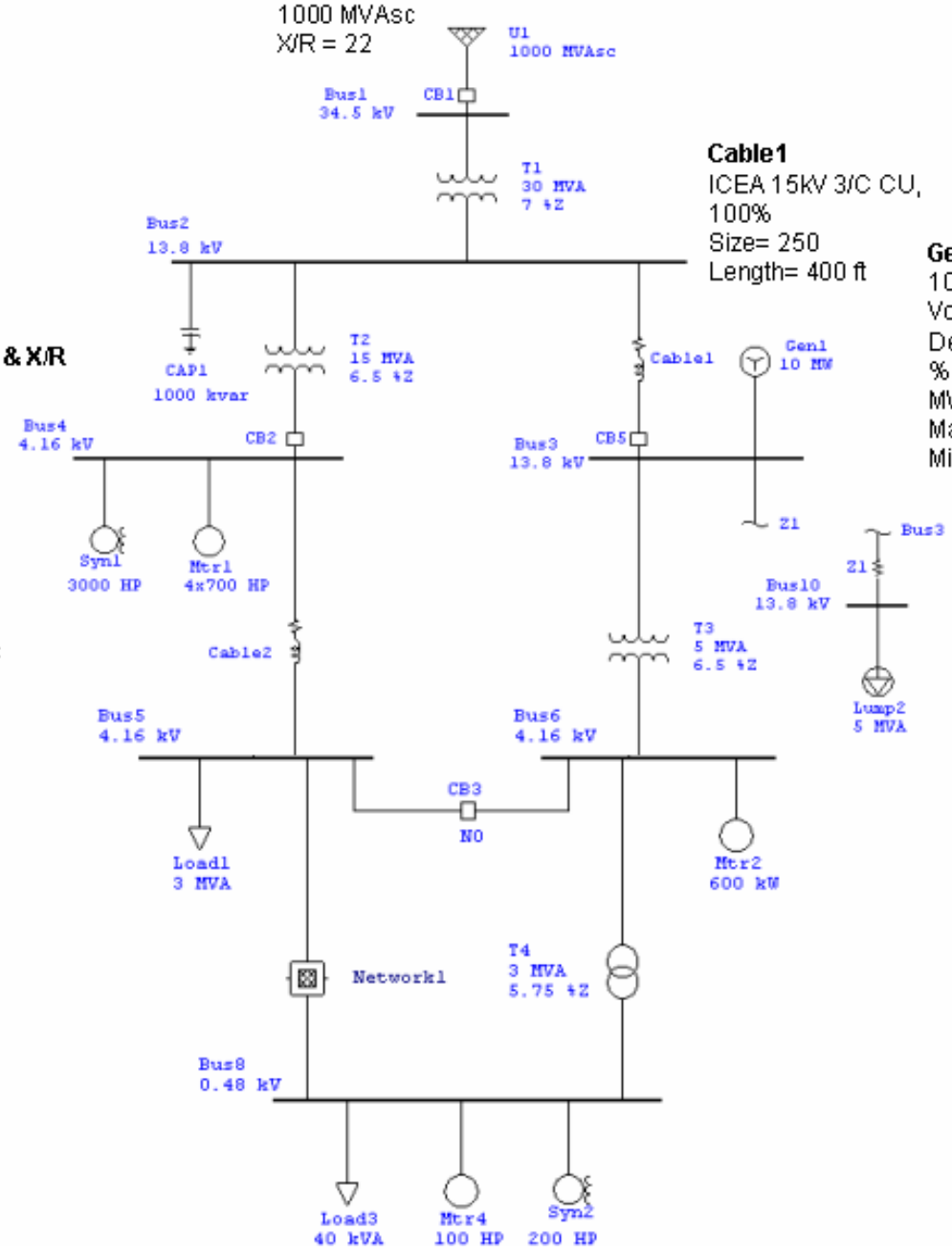
Transformers
T1 = 30 MVA
T2 = 15 MVA
T3 = 5 MVA
T4 = 3 MVA
T5 = 5 MVA
Select typical **%Z & X/R**

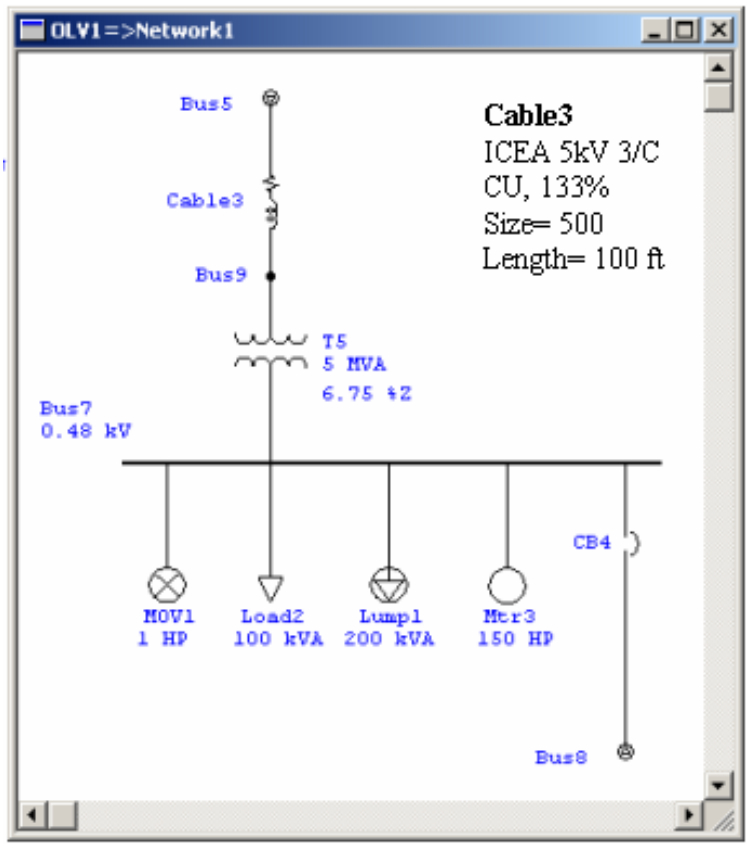
Cable1
ICEA 15kV 3/C CU, 100%
Size= 250
Length= 400 ft

Gen1
10 MW
Voltage Control
Design:
%Pf = 85
MW = 5
Max Q = 4
Min Q = -1

Cable2
KERITE 5kV 3/C CU, 100%
Size= 500
Length= 300 ft

Impedance Z1
13.8 kV
100MVA
% Z = 0.01+j1





NB. You may work in a group of two but no more

Report Submission May 31, 2007