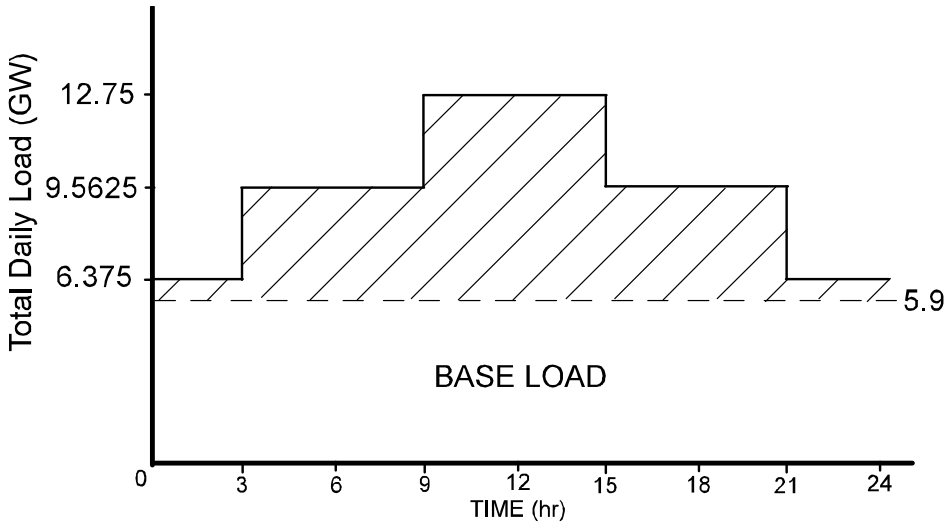
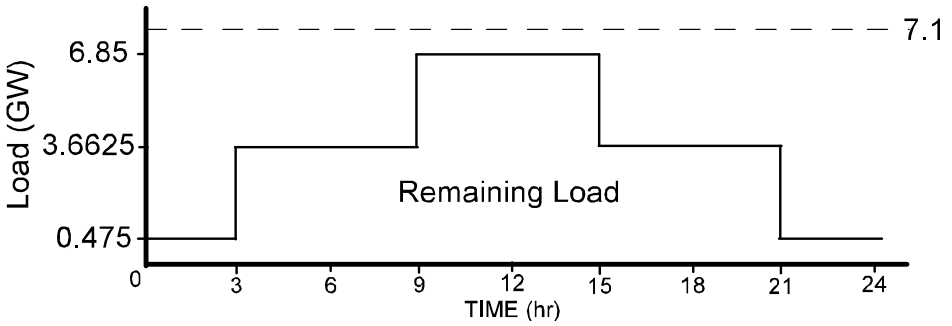
ECE473 CONTROL OF POWER SYSTEMS

Lab # 4 - Merged Operation

This lab will continue to use the **UNITCOM** software and the system data from labs 2 and 3. Recall that in lab 2 each utility was isolated and could not trade electricity, while in lab 3 they were interconnected and could trade electricity.

Assume now that the utilities have merged into one monster utility. You must collectively determine the correct unit commitment and economic dispatch profile for all units and determine the average energy cost. Since the program only allows a maximum of 10 units to be scheduled, you will have to simplify the unit commitment process. Do this by assuming that the most economic units are base-loaded following the ***priority order table***; subtract the base load from the actual load to give the remaining load to be scheduled. Run the program with the next 8 most economic units that will meet the remaining load requirement. Note that many units are repeated, e.g. there are 3 number 8 units and 2 of the rest except for number 2; these will, of course, have to be re-numbered.





When you have completed the three studies write a summary report, showing the inter-utility transactions, tabulate the average energy costs and indicate how they are affected by sales and purchases.