A logo for a company

Description automatically generated

**ENEL 674: Industrial and Commercial Power Systems**

**Group – 10**

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Total Continuous Load we got from previous Service Sizing calculation is *94.824 kW.*

After adding the EV charging station of *1.5 kW.*

30 HP fire pump with assuming 85% efficiency for the building is *19 kW*.

So,

𝑀𝑎𝑥. 𝑂𝑝𝑒𝑟𝑎𝑡𝑖𝑛𝑔 𝐿𝑜𝑎𝑑 *= 94.824+1.5+19 = 115.324 kW*

Now,

New Service Size for Operating Load is,

𝐴𝑚𝑝

In this case we must increase from a 100A, 347/600V, 3 phase service to a 150A, 347/600V, 3 phase service for this building.

So, the conductor sizing is affected by the addition of EV charging portal & motor pump. However, with the new service size we can now add 16 kW more load in the future and it will not affect the new 150 A conductor sizing. So, it becomes more robust and future proof.