

Exercise

Determine the nominal reactive power of a shunt capacitor bank capable to increase the voltage by 1 % when it is connected to a bus :

- of nominal voltage 150 kV with a short-circuit capacity of 10 000 MVA
- of nominal voltage 70 kV with a short-circuit capacity of 600 MVA ?

Use two methods:

- (i) the equivalent circuit directly, and
- (ii) the network QV curve (linear approximation).

The *nominal reactive power* of the capacitor bank is the three-phase reactive power it produces when operating under its nominal voltage.