

Effect of Leading Power Factor

The effect of Power Factor on a system with and without power factor compensation is shown in the image below.

If the power factor is low in lead side, there will be line loss problems as in the lag P.F case. But, instead of voltage drop there will be voltage increase in the line, particularly in light load conditions. Hence, the receiving end voltage will be higher than the sending end voltage. Ultimately, the end consumers face high voltage problem.

Such lead P.F happens since the line capacitive reactance is predominant than the load inductance when the line is loaded lightly. Or, it can also happen if there is over compensation for P.F using capacitors.