$Mvar := 1\ MW$ Unit definition of Mvar

$V_S := 13.8\ kV$

$V_R := 13.8\ kV$

$\delta := 5\ °$

$X_L := 0.1\ \Omega$

Base case values of P and Q

$$P := \frac{V_S \cdot V_R \cdot \sin(\delta)}{X_L} \qquad P = 166\ MW$$

$$Q := \frac{V_S \cdot V_R \cdot \cos(\delta) - {V_R}^2}{X_L} \qquad Q = -7\ Mvar$$

Values of P and Q with 5% increase in sending end voltage, with power angle constant

$V_{S1} := 1.05 \cdot 13.8\ kV$

$$P_1 := \frac{V_{S1} \cdot V_R \cdot \sin(\delta)}{X_L} \qquad P_1 = 174\ MW$$

$$Q_1 := \frac{V_{S1} \cdot V_R \cdot \cos(\delta) - {V_R}^2}{X_L} \qquad Q_1 = 88\ Mvar$$

Note that both P and Q change, but Q changes much more than P for the change in sending end voltage

Values of P and Q with 5% increase in power angle, with sending end voltage constant

$\delta_2 := 1.05 \cdot 5\ °$

$$P_2 := \frac{V_S \cdot V_R \cdot \sin(\delta_2)}{X_L} \qquad P_2 = 174\ MW$$

$$Q_2 := \frac{V_S \cdot V_R \cdot \cos(\delta_2) - {V_R}^2}{X_L} \qquad Q_2 = -8\ Mvar$$

Note that both P and Q change, but P changes much more than Q for the change in power angle