Disadvantage of overvoltage limitation methods in shunt reactor switching by circuit breakers according to IEEE

- Opening resistor: Adds significantly to mechanical complexity of the CB; not viable - technically or economically - on single pressure SF6 CB; reignitions can still occur.
- SA to ground at shunt reactor: Effective only for CB producing suppression peak overvoltages in excess of the surge arrester protective level
- Surge arrester across CB: Adds to complexity of CB; SA must be able to withstand forces associated with circuit breaker operation; some reignitions will still occur, albeit at low voltage levels.
- Surge capacitor: Does not influence ka for CBs other than vacuum type; leads to increased chopping current but not necessarily increased suppression peak

source: https://switchgearcontent.com
Disadvantage of overvoltage limitation methods in shunt reactor switching by circuit breakers according to IEEE

- overvoltages; does not eliminate reignitions; may have the effect of reducing the minimum arcing time such that probability of reignitions is unchanged; require space.
- Controlled switching: Suitable only for mechanically consistent CBs with appropriate minimum arcing times; some applications require independent pole operation.
- CB with higher voltage rating: Increased cost, increased space requirement.

source: https://switchgearcontent.com