Vdc and |Vac| controllers

- Modified Power System

- DC generation/load change:

AC voltage control
Change in real power leads to change in reactive power:
- AC voltage transient due to step change in real power

- Change in dc voltage due to load change
- Change in voltage setpoint at POI

- Real and reactive power
**PSCAD/EMTDC**

Modified DC link:

- AC system
- Create IDREF
- Generate IQREF from AC voltage magnitude regulator.
EMTP-RV

[Diagram of electrical circuit with various components and labels such as R1, R3, C12, IACB, VSAVA, VSAVB, VSAVC, SW1, I0, etc.]
- DC source injection command

- Generate IDREF from dc bus voltage regulator
- Generate IQREF from ac voltage magnitude regulator