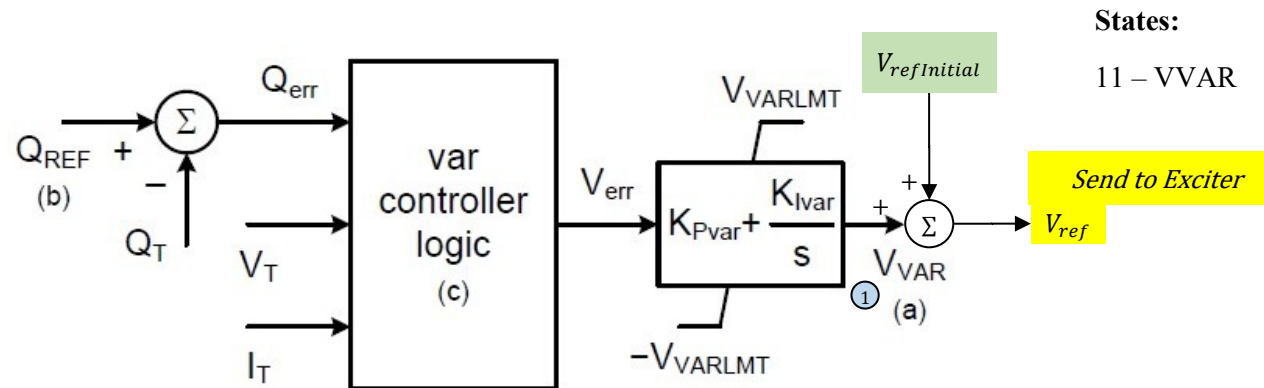


Plant Controller VAR2

IEEE Std 421.5-2016 Var Controller Type 2



footnotes:

- (a) The output of the model (V_{VAR}) is an incremental variable that should be added to the voltage reference setpoint (V_{REF}) in the excitation system model.
- (b) The reactive power output of the generator (Q_T) is assumed to be positive for overexcited and negative for underexcited operation. The signal Q_{REF} is the desired (reference) setpoint for the reactive power output of the unit.
- (c) The var controller logic uses user-selected parameters V_{ITmin} , V_{VTmin} and V_{VTmax} . It also requires the signals Q_{err} and the magnitudes of the generator terminal voltage (V_T) and current (I_T). The logic also depends on the status of the excitation limiters, OEL, UEL and/or SCL.

```

V_err = 0
IF OEL and UEL and SCL are inactive
  IF ( $I_T > V_{ITmin}$ ) and ( $V_T > V_{VTmin}$ ) and ( $V_T < V_{VTmax}$ )
    V_err = Q_err
  ENDIF
ENDIF
  
```