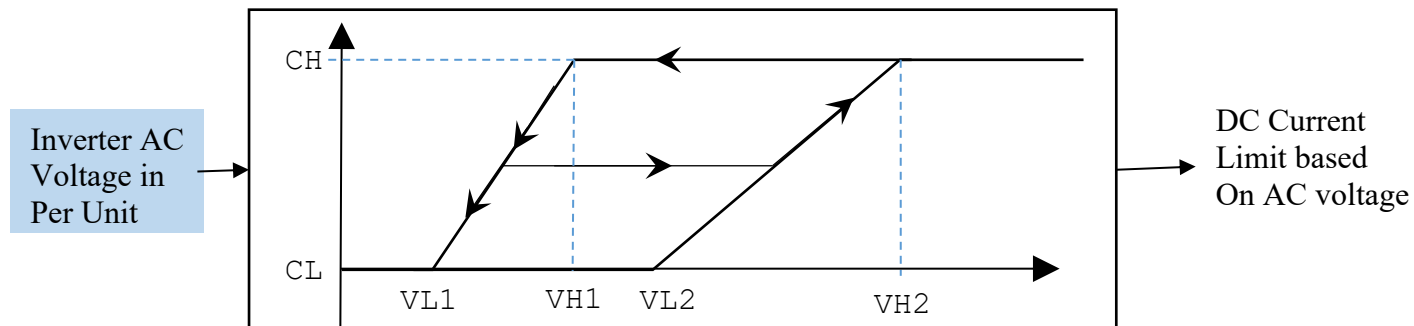


DC Line Model CMDWS2T

HVDC CMDWS2T *Two terminal D.C. Transmission*

This model has most of the same dynamic characteristics as CDC6T but with some modifications as follows.

- Auxiliary Signal Index 1 feeds into the current schedule. Auxiliary Signal 2 feeds into the voltage signal.
- An extra time constant T_{IODC} is added to provide a first order time delay applied to the current order as it varies when the controls are constant DC power.
- Input Parameter $dVdI$ can be specified to change the slope of DC voltage/DC current characteristic as a transition between the full current and drop due to current margin is done. See the Bridge and Line Simulation Logic in the CDC6T help. $dVdI$ represents the slope between points Y and X on that curve
- A Voltage-Dependent Current Order Limit based on the AC per unit voltage at the inverter is implemented. This includes a definite time delay that requires that the voltage drop below $VH2$ for $DELAYVDCL$ seconds before the current order limit starts being applied. Once the current order limit is active it follows the following curve described by CL , CH , $VL1$, $VL2$, $VH1$, and $VH2$ as below. Finally, if $SAMPLEVDCL$ is specified then this DCLVAC limit will be updated every $SAMPLEVDCL$ seconds.



- A Voltage-Dependent Current Order Limit based on the DC voltage at the rectifier.
 - The maximum value of the VDCOL for DC is the present setpoint.
 - The minimum value for the VDCOL for DC is the input parameter $RSCUR$
 - When the Rectifier DC voltage is higher than the input parameter $VRAMPI$, then the current limit will increase as a rate of $CRAMP$.
 - When the Rectifier DC voltage is lower than the input parameter $VRAMPI$, then the current limit will decrease as a rate of $-2*CRAMP$.
- Final DC current limit is the minimum of the DC current limit based on AC voltage and the one based on the DC voltage.

Model supported by PSSE

For a Detailed Treatment of how DC lines are implemented in the software see the help topic at https://www.powerworld.com/WebHelp/#TransientModels_HTML/Overview%20of%20HVDC%20Modelling.htm