MCR-Based SVCs

Static Var Compensators or SVCs are described in [1], and "by the IEEE-CIGRE co-definition, an SVC is a Static Var Generator whose output is varied so as to maintain or control specific parameters (e.g., voltage, frequency) of the electric power system." [2].

Thyristor Controlled Reactors are usually abbreviated as TCRs [3], and we abbreviate **Saturated-Core Magnetically Controlled Shunt Reactor** as MCR.

Magnetic control here is a control over magnetization of the steel of the core of the reactor, thus– over differential magnetic permeability of the core steel, thus– over inductance of the reactor; and magnetization of the steel is being controlled by DC in control windings of the reactor thus achieving magnetic biasing of the steel.

SVC controlled by MCR we name as MCR-based SVC, or simply MCR-SVC, vs. SVC controlled by TCR we name TCR-based SVC or simply TCR-SVC.

[1] Erinmez, I.A., Ed., “Static Var Compensators,” Working Group 38-01, Task Force No. 2 on SVC, CIGRE, 1986.

[2] Narain G. Hingorani and Laczlo Gyugyi "Understanding FACTS– Concepts and Technology of Flexible AC Transmission Systems", IEEE Press - Piscataway - NJ, 2000, p. 144

[3] Ibid., p. 145.

[4] IEEE Special Stability Controls Working Group, "Static Var Compensator Models for Power Flow and Dynamic Performance Simulation," *IEEE Transactions on Power Systems*, Vol. 9, No. 1, pp. 229-240, February 1994.