

SVC for voltage control and improvement of stability



To improve the voltage control and stability on the Central Southern 115 kV tie line the Electricity Generating Authority of Thailand (EGAT) is operating a Static Var Compensator (SVC) at Chumphon Substation. This SVC was supplied by ABB and has been in operation since 1987. The dynamic operating range is from 60 Mvar capacitive to 20 Mvar inductive.

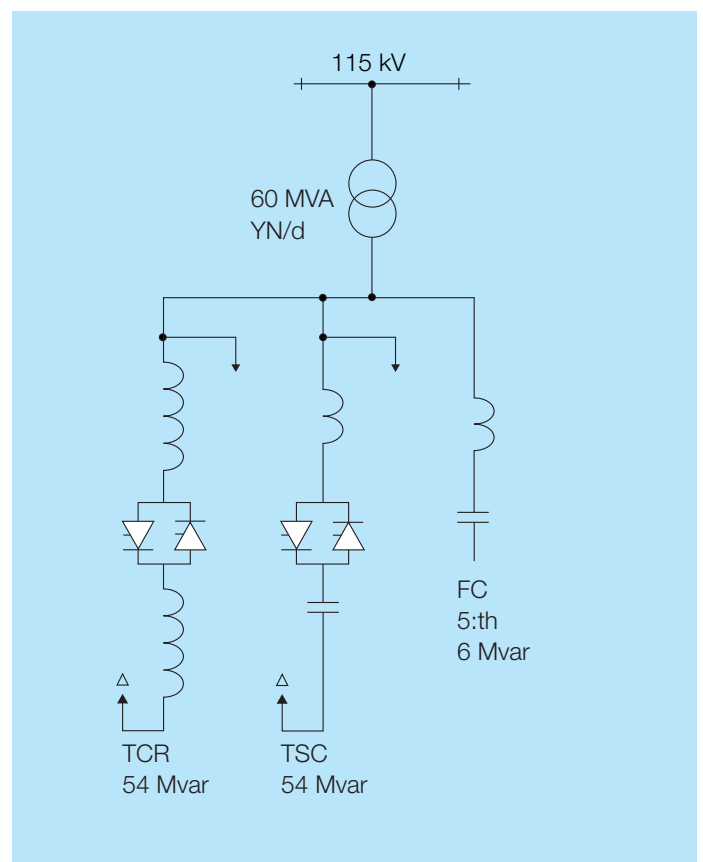
The SVC is an addition at the Chumphon Substation located along the 115 kV tie line approximately half way between Surat Thani and Prachuap Khiri Khan.

The main purpose of the compensator is to control the voltage in the 115 kV busbar at Chumphon.

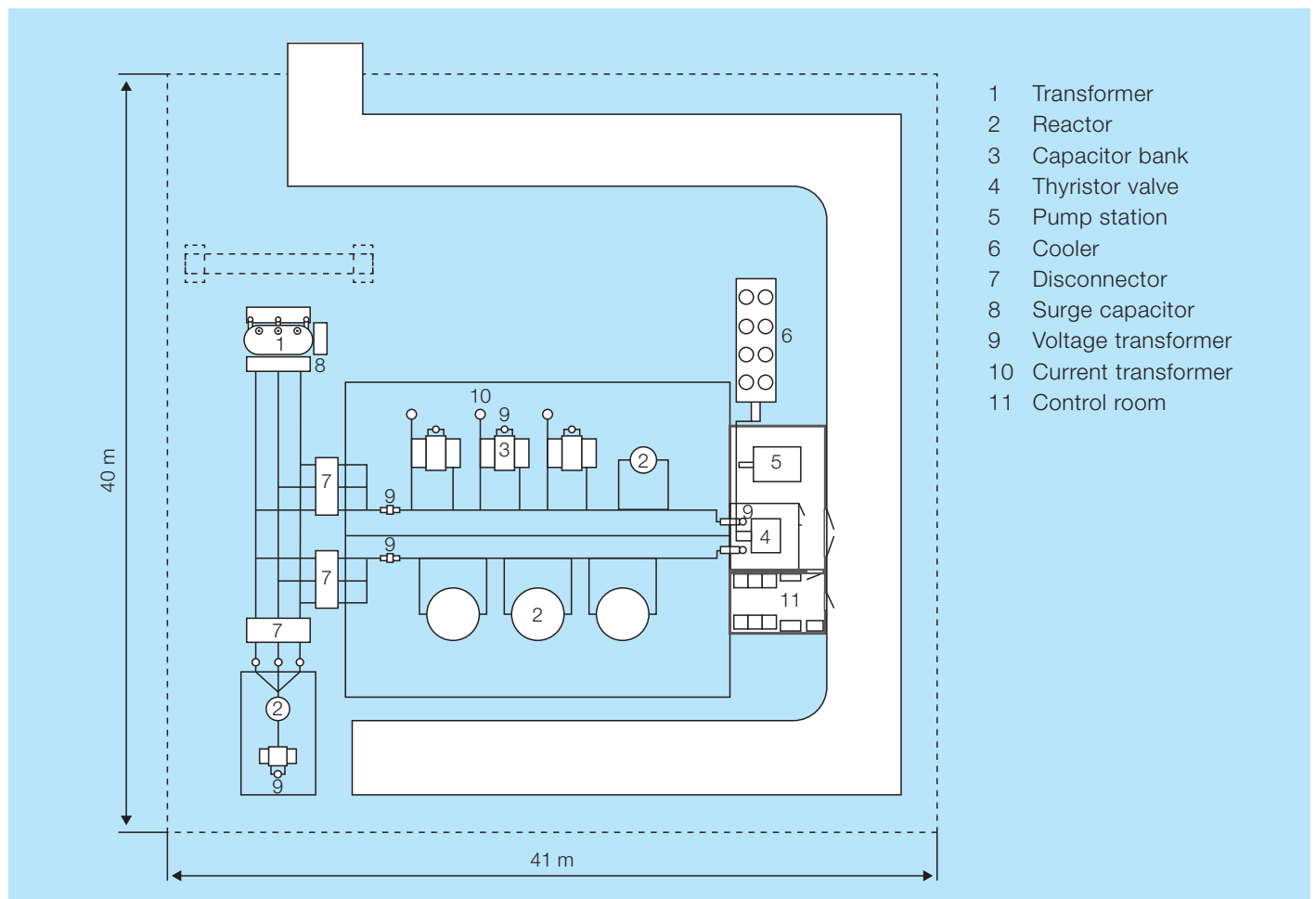
Before the advent of the SVC, conventional switched capacitor banks and reactors were used on the 22 kV level for reactive power control but no means for dynamic voltage control existed on the 115 kV level.

The ability of the SVC of continuously varying the reactive power absorption and/or generation on an instantaneous basis brings the following benefits to the operation of the network:

- Automatic compensation of voltage variations on a continuous basis enabling operation at the optimum voltage level.
- Stabilization of the network under abnormal load conditions.
- Less need for operation of circuit breakers, with subsequent savings of maintenance costs as well as increasing operational reliability.



Layout



Application Note, A02-0118 E, 2011-08, Elanders Sverige AB

Technical data

Controlled voltage	115kV
Rating	20 Mvar (inductive) to 60 Mvar (capacitive)
Control system	3-phase voltage control by means of a voltage regulator
Thyristor valves	Water cooled with outdoor dry type air/water heat exchanger

For more information please contact:

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