Multi-Objective Evolutionary Programming for Static VAR Compensator (SVC) in Power System Considering Contingencies (*N-m*)

Nor Rul Hasma Abdullah*, Mahaletchumi A/P Morgan*, Mahfuzah Mustafa*, Rosdiyana Samad*, Dwi Pebrianti*

* Faculty of Electrical & Electronics Engineering, Universiti Malaysia Pahang, Pahang, Malaysia

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ABSTRACT (10 PT)

Static VAR Compensators (SVCs) is a Flexible Alternating Current Transmission System (FACTS) device that can control the power flow in transmission lines by injecting capacitive or inductive current components at the midpoint of interconnection line or in load areas. This device is capable of minimizing the overall system losses and concurrently improves the voltage stability. A line index, namely *SVSI* becomes indicator for the placement of SVC and the parameters of SVCs are tuned by using the multi-objective evolutionary programming technique, effectively able to control the power. The algorithm was tested on IEEE-30 Bus Reliability Test System (RTS). Comparative studies were conducted based on the performance of SVC in terms of their location and sizing for installations in power system.