UNIVERSITI TEKNOLOGI MARA

SOLVING ECONOMIC DISPATCH WITH VALVE POINT LOADING EFFECT USING GREY WOLF OPTIMIZER ALGORITHM

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ABSTRACT

The aim of solving the problem of economic dispatch is to determine the optimal power of committed generation unit to minimize the total operational cost while meeting the system constraints. Economic dispatch in the power system is a non-convex, non–linear and non-differential problem due to the valve point effect, limitation of emission, and loss of transmission. This final year project report presents a solution using Grey Wolf Optimizer (GWO) to solve the economic dispatch problem by considering the valve point loading effect. The method is tested on six generation system with valve loading point effect and loss of transmission. The simulation result for the six-thermal unit system show that GWO is capable to solve economic dispatch with valve point effect.

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