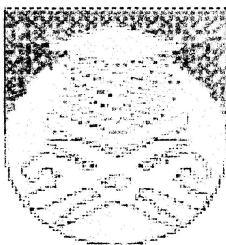


**RISK ANALYSIS OF TOTAL TRANSMISSION COST
ALLOCATION USING MONTE CARLO SIMULATION
TECHNIQUE**

This thesis is presented in partial of the fulfilment for the award of Bachelor of
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ABSTRACT

The key issue of electricity supply industry restructuring is the transmission access pricing that must be non-discriminatory, transparent and economically efficient. In the electricity transmission system, economic efficiency implies promoting an optimal utilisation of existing network, efficient siting of new generations and loads and promoting transmission investments. These require accurate transmission cost allocation that considers the uncertainty of system operating condition. In this final project, the cost for each circuit was allocated using the reverse MW-Mile approach, where the power flows in reverse direction were taken into account and the charge for each line was based on the net flows. The total transmission cost allocation was obtained by considering the uncertainty of loading conditions. The Monte Carlo technique was used to provide the loading with uncertainty in which it is utilised in determining the risk of the total transmission cost allocation and the total cost of the buses. A case study of 9-bus IEEE Reliable Test System (RTS) was carried out to verify the effectiveness of the transmission cost allocation approach in estimating the risk and total cost of the buses that considers the uncertainty of loading conditions.