# ABSTRACT

Nowadays, the public transportation takes an important role for people in Bangkok, especially electric train either sky train or metro train. Both electric trains are popular public transportations among people in the downtown because they are time-saving and free from traffic jam. Moreover, they are controlled by a system which manages the availability and punctuality of the trains. However to maintain the service level, the maintenance group is tasks to operate perfectly according to the designed maintenance plan and following the maintenance strategy. This activity incurs very high cost which reduces the company's margin.

In this research study, the researcher has proposed an alternative maintenance strategy which aims to reduce the maintenance cost of electric trains. The alternative maintenance strategy is the consequence of several learning, for example Preventive Maintenance (PM) strategy as current maintenance strategy, the Failure Mode and Effects Analysis (FMEA) as the theory for classifying the spare part types, Condition Base Maintenance (CBM), and other maintenance strategies as maintenance alternative and maintenance cost structure.

Towards the end of the chapter, the maintenance costs are simulated and compared between the current and the proposed maintenance strategy. Cost saving is the factor used to analyze the efficiency and effectiveness the proposed maintenance strategy. Suggestion would finally be made by the management of the company to consider Condition Base Maintenance cost instead of Preventive Maintenance in possible spare part group in order to have maintenance cost savings in electric train operations.