

ABSTRACT

PT Telkomsel is the leading mobile telecommunication provider in Indonesia. PT Telkomsel is currently spread over 54,000 Base Transceiver Stations (BTS), which reaches 97% of the Indonesian population. BTS is a telecommunication infrastructure that facilitates wireless communication devices and network communication operators. Although the number of BTS reproduced, the equipment will definitely be damaged if it is continuously used. By the time the damage occurred, then some components will not be able to function and this results in BTS down. At the time of BTS down, the area could not use cellular service because there is no signal. PT Telkomsel will loss revenue when this happens. Therefore, in this study a method Risk Based Maintenance is used in order to get the value of risk and optimum treatment time.

Risk Based Maintenance (RBM) method aims to reduce the overall risks that may occur as a result of unexpected failure when the engine operates. Based on the determination of the critical subsystems that will be discussed further in this study, the selected transmission subsystems are DTF, infratel transmission, and transmission division. Subsystems was chosen because when the subsystem is down, it will make the whole system existing in the BTS to come down. Based on the risk calculation, 12 components of the BTS have greater value than the risk acceptance criteria. In this study, the criteria of acceptance of the company amounted to 0,42% of the total production apacity for 1 year. This study generates information on the cause of the failure , the type of damage and the risk BTS value of Rp . 766,483,306.66

Keywords: Base Transceiver Station, Risk Based Maintenance, preventive maintenance