

ABSTRACT

Train is one of transportation in Indonesia. To operate a train requires a sistem that consists of several parts such as locomotives, carriages, wheels, train lines and train signaling sistem. Solid State Interlocking (SSI) is a signaling sistem that is located in Indonesia. The purpose of this research is to determine the reliability, availability, and maintainability of the sistem signaling SSI using Blocksim 9.0, and also to know the equipment which has a high percentage to cause sistem failure by RS FCI and RS DTCl. The results to be obtained from the simulation Blocksim is to know the equipment that has the highest level of RS FCI and RS DTCl. Based on simulation results with a time of 8760 hours, Blocksim found that the sistem reliability when 0% is obtained at the time of 1510 hours with availability of the sistem is 99.46% . Based on RS FCI, equipment that has a high percentage to cause sistem failure signaling SSI is MPM C, MPM B, PPM A, MPM A, PPM B, while based on RS DTCl, equipment that has a high percentage to cause sistem failure signaling SSI is SIN, PPM A, PPM B, MPM A, and MPM B. To prevent failure of the sistem can be done by setting up the equipment which has the highest percentage based on RS FCI and RS DTCl and arranged it in parallel.

Keywords: Reliability, Availability, Maintainability, SSI, Blocksim 9.0