

## **ABSTRACT**

*PT Sinar Agung Selalu Sukses is one of the manufacturing industries engaged in the manufacture of spare parts on a national scale. One of the products produced by PT Sinar Agung Selalu Sukses is pipe intake manifold which is made in nakayama plant. In November 2019 – January 2021 the process at nakayama plant experienced downtime of more than 10000 minutes. Based on data from nakayama plant obtained system breakdown structure of the system namely Sand Core, Furnace Gravity, Finishing, Machining, Leaktest. From the five subsystems will be selected critical subsystems based on the results of Reliability analysis, Availability, Maintainability and Dependability so that the company knows the subsystems that require further maintenance to improve the performance of the system at nakayama plant.*

*The result of the data processing that has been done is known that the Reliability value of the system at the time of  $t = 8$  hours is 63.92%. Availability markov process value of 98.546%, Operational Availability of 97.150%, and Inherent Availability of 98.546%. The average value of Maintainability at the time of  $t = 8$  hours is 98.951%. The lowest Dependability and Dependability Ratio values are in the Gravity Furnace subsystem with values of 95.634% and 131.759. Therefore, it can be known that the critical subsystem in the system is gravity furnace so it needs to be maintained regularly and scheduled.*

*Keywords— [Reliability, Availability, Maintainability, Dependability, Markov Process]*