ABSTRACT

PT XYZ is a company that produces cheese which has 6 product lines. One of its product is line 3 system. Based on total downtime caused by no spares available of each line, line 3 is the highest. Beside that, machine performance will give affect the production. The series of line 3 production start from cooking process in Stephan Kettle, filling process in Corazza FF100 and packing process in Corazza A452. Corazza FF100 and Corazza A452 have the highest number of failure frequency in line 3 system. It will greatly affect the production process. To support machine performance, needed of spares always available when there are component and part fail.

Criticality items is used to make the priority of spares provisioning. It will use Reliability Centered Spares (RCS). Beside that, needed of spares in one year is useful for ensure how much spare part will needed in one period. It will use Poisson Process. Minimum and maximum stock base on service level will help to ensure the spares when needed and will reduce the probability of stockout.

Base on RCS criticality analysis, obtained the requirement of critical spares for Corazza FF100 are 1 component and 18 parts and for Corazza A452 are 5 components and 8 parts which included in A and B criticality level. Furthermore from Poisson Process obtained the required amount of spares for 1 year period and based on service level, stock levels of minimum and maximum stock obtained for each of the components and parts. Total spare part inventory cost for taking into account the variable ordering cost, stockout cost, holding cost dan purchasing cost is Rp 485.127.352,20.

Keywords: Reliability Centered Spares, Poisson Process, Service Level