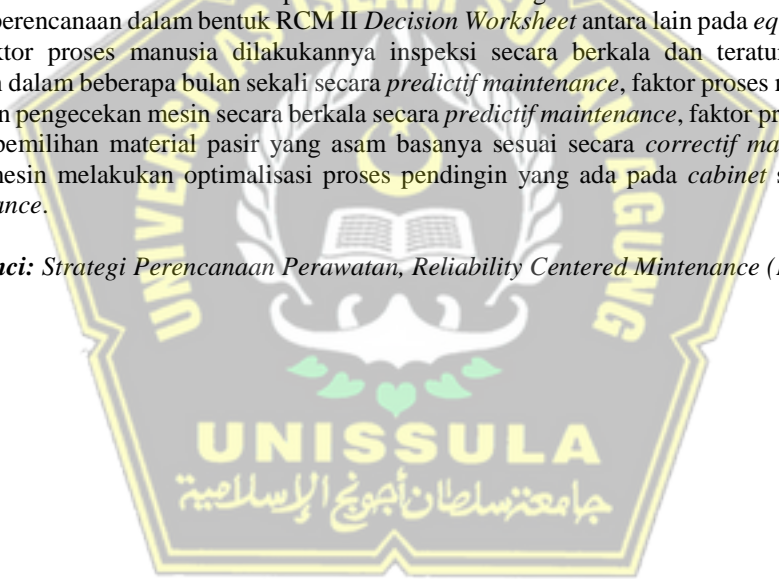# ABSTRAK

Produksi yang terus menerus menyebabkan mesin – mesin bekerja tanpa henti yang mengakibatkan resiko penurunan produktifitas mesin di PT Sinar Semesta. PT Sinar Semesta pernah mengalami pemberhentian pada saat proses produksi, karena terdapat beberapa mesin yang mengalami kerusakan yang diakibatkan belum terjadwalnya mesin. Pada tahun 2020 mesin tanur mengalami *downtime* selama 37 hari dalam 1 tahun, mesin *computer numerical control* (CNC) mengalami *downtime* selama 25 hari dalam 1 tahun, mesin bubut *downtime* selama 17 hari dalam 1 tahun, mesin bor mengalami *downtime* selama 12 hari dalam 1 tahun, mesin hoist mengalami *downtime* selama 8 hari dalam 1 tahun. Fokus penelitian ini adalah peleburan logam pada mesin tanur yang sering mengalami kegagalan dan pada mesin tersebut merupakan mesin yang kritis dalam proses produksi yang akan mempengaruhi efektifitas produksi secara keseluruhan. Berdasarkan analisa RCM II pada tahap FMEA diperoleh nilai RPN tertinggi pada *equipment furnance* dengan nilai RPN 112. *Equipment* tersebut kemudian dianalisa dengan LTA untuk mengetahui kekritisan suatu kegagalan maupun konsekuensinya. Setelah dianalisa dengan fishbone diagram diperoleh akar penyebab antara lain muka tungku pecah atau terkikis karena material pasir yang digunakan kadar asam dikasih material besi tidak sesuai dan dengan panasnya *temperature* yang tinggi yang disebabkan oleh sistem pendinginan kurang bagus dan tidak adanya inspeksi maupun perawatan mesin secara berkala. Berdasarkan penelitian tersebut menghasilkan usulan tindakan dalam bentuk strategi perencanaan dalam bentuk RCM II *Decision Worksheet* antara lain pada *equipment furnance* pada faktor proses manusia dilakukannya inspeksi secara berkala dan teratur, dan dilakukan pelatihan dalam beberapa bulan sekali secara *predictif maintenance*, faktor proses metode dilakukan dilakukan pengecekan mesin secara berkala secara *predictif maintenance*, faktor proses material mel akukan pemilihan material pasir yang asam basanya sesuai secara *correctif maintenance*, faktor proses mesin melakukan optimalisasi proses pendingin yang ada pada *cabinet* secara *preventive maintenance*.

Kata kunci: *Strategi Perencanaan Perawatan, Reliability Centered Mintenance (RCM) II, Tanur*

ABSTRACT

Continuous production causes machines to work non-stop which results in the risk of decreasing machine productivity at PT Sinar Semesta. PT Sinar Semesta had experienced a stop during the production process, because there were several machines that were damaged due to unscheduled machines. In 2020, kiln machines experienced 37 days of downtime in 1 year, computer numerical control (CNC) machines experienced 25 days of downtime in 1 year, lathes experienced 17 days of downtime in 1 year, drilling machines experienced 12 days of downtime in 1 year , the hoist machine is downtime for 8 days in 1 year. The focus of this research is the smelting of metal in the kiln machine which often fails and the machine is a critical machine in the production process which will affect the overall production effectiveness. Based on the RCM II analysis at the FMEA stage, the highest RPN value was obtained in the equipment furnance with an RPN value of 112. The equipment was then analyzed by LTA to determine the criticality of a failure and its consequences. After analyzing with a fishbone diagram, the root causes were found, among others, the furnace face was broken or eroded because the sand material used had an acid content that was not suitable for iron and with high temperatures caused by a poor cooling system and the absence of periodic inspections and maintenance of the machine. Based on this research, it resulted in proposed actions in the form of planning strategies in the form of RCM II Decision Worksheets, among others, on furnance equipment on human process factors, periodic and regular inspections were carried out, and training was carried out every few months with predictive maintenance, process factors were carried out by checking machines. periodically predictive maintenance, the material process factor selects the acid-base sand material according to corrective maintenance, the machine process factor optimizes the cooling process in the cabinet with preventive maintenance.

Key word: *Maintenance Planning Strategy, Reliability Centred Maintenance (RCM)II, Tanur.*