ABSTRACT

Jasapower Indonesia Inc. is one of the subsidiary companies of Adaro Energy Inc., which is a mining service provider company, especially for overburden materials management by using covering stones conveyance technic that is *Pit Crushing and Conveying System (PCC)* method, with coals mining area of PT Adaro Indonesia which is included on mining concession areas in Eksploitasi DU. 182/Kal-Sel with 35.549 acre width.

There are some units of crusher in *Overburden Crushing Station (OCS),* such as *: hopper, apron feeder,* and *roll crusher,* which have influence to support PCC productivity target achievement. In 2017, PT Jasapower Indonesia is targeting the productivity of *Pit Crushing and Conveying Sistem (PCC)* to be as much as 3.280 bcm/hour. In the other hand, the actual productivity of conveyance system in PCC currently is 2933 bcm/hour. According to the field condition, feeder censor is exist if the materials in hopper is less than 50 %, therefore the system of PCC would be stop operating which cause the feed rate to be fluctuated and decreased the productivity of PCC.

The research conducted at PT JPI is in Overburden Crushing Station (OCS-Charlie) only focused on the crusher unit that is: hopper and apron feeder which is internal factor PCC. Based on the study, the cause of productivity non-achievement is caused by a functioning feeder sensor caused the rate of apron feeder to stop in distributing the material. Then based on the analysis obtained to lower the material from the level of 80% of 344 tons to 98.9ton (capacity haultruck) takes 57.86 seconds at 58% level, and it takes 28.93 seconds each time to fill the material in the hopper when the material level in the hopper below 80% before reaching the 50% level at a safe level of 58% material. The effect of feed rate on PCC productivity is: The higher of the feed rate so the productivity of the apron feeder will be maximal,then to achieve the productivity of apron feeder 3280 bcm/h or 6888ton/hr is 21 m/min with productivity capability of 6960 ton/h.