The Coal Conveyor Belts Functioning Modelling of the Energy Block by 330 MW

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Abstract— In this paper, the authors, with Matlab – Simulink programs help, achieve the energy performances modelling of the mills conveyor belts, that assure the fuel flow require to the energy block functioning by 330 MW, for three characteristic loads: 96%, 82% and 65%. In this purpose, starting up real, functional and constructive parameters of the six coal conveyor belts and, considering the constant transported coal density, with computer simulation help, the variation curves of the power absorbed by gear motors of the coal conveyor belts were traced in function of the usual speed of their functioning. A calculation algorithm, which is based on the simulation, aims at determining idle consumption of the conveyor belt and values for different power consumption categories, such as: for horizontal movement of the material transported, for vertical movement of the material, for overcoming friction between the conveyor belt and the discharge chute guides, for overcoming resistance of the belt unloaders of type two drums. Based on these powers calculated and taking into account the belt transmission speed variation, the variation graphs for the powers absorbed from the electric network have been withdrawn the MATLAB-SIMULINK Program.