

# **AUTOMATION OF MILL USING PLC & DRIVES TO INCREASE THE PRODUCTION, ENERGY SAVING & PROTECTION OF EQUIPMENTS (A CASE STUDY OF TMT MILL)**

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Mode of Study : F. Time

## **ABSTRACT**

The aim of this thesis work is to increase the production, energy saving & protection of equipments in a mill using PLC automation & drives. The mill Bharatam Tmt Bars Pvt. Ltd., Mandi Gobindgarh is going towards the danger of shutdown because of less production. For this work, a case study is done in which primarily all data regarding the reasons of faults in the mill responsible for the unnecessary shutdown for the year 2013-14 has been collected. Then before automation production of the mill has been calculated. On the basis of data collected, responsible factors by which the production of mill has been affected are analyzed. According to this analysis, automation has been done by using PLC to increase the production and protection of equipments. To achieve the objective of energy savings, data of different motors which are consuming high energy during daily production process has been collected. Production and performance of different equipments or motors before and after automation has been calculated and compared. Also production of the mill after automation has been calculated. Production of mill can be increased twice approximately and after automation of mill, approximately 20% of energy is saved and about 21% loading is reduced. Payback period and energy savings have been calculated.