

Extended Abstract

According to the characteristics of both steam and power supplied in a paper mill power plant, the optimal running model of the coal-fired power-heat system was researched in this paper. The power plant's physical structure was researched, the superstructure was established, and the boiler and turbine running model was analyzed. With the help of mathematical programming, the optimal loads for each turbine unit were obtained when the same power and steam were produced; moreover, the minimum coal cost for each boiler unit was calculated with the optimal load distribution. The case study of one paper mill showed that the optimization model was helpful and that coal consumption can decrease 4.7% using the model.