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Influence of the production fluctuation on the process energy intensity in iron and steel industry

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ABSTRACT

This paper mainly studies how the production fluctuation affects the process energy intensity in iron and steel industry. First of all, the production state is divided into five conditions according to the production volatility. Meanwhile, the process energy intensity model is constructed. And model analysis showed that operating rate and qualification rate are two key parameters that represent the production volatility. A case study showed that the process energy intensity is inversely proportional to the normal production operating rate and qualification rate, but proportional to the operating rate in the other production states. Moreover, the production halt operating rate and normal production qualification rate significantly influence the process energy intensity in terms of production volatility. And then, some management suggestions were introduced on how to reduce the fluctuation of the process production. The application of the model is quantitative analysis methods, which can describe influence of production fluctuation on the process energy intensity. Based on this, corresponding measures are adopted for reducing energy consumption, including adjustment of production planning and strategy etc.

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