
Development of utilization method of low HGI coal in pulverized coal-fired power plants

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Abstract

The utilization of low grade coals is important to expand the coal supply source and reduce fuel cost. It is necessary to evaluate not only combustibility but also grindability to apply low grade coals to power stations. Low HGI coal is one of low grade coals. Although the grindability of low HGI coal is low, the combustibility is high. Furthermore, the coal has a large reserves in Surat basin of Australia.

If low HGI coal be ground at the ordinary grinding condition of the normal bituminous coal which is burned in Japanese power plants, the grinding power exceeds the maximum permissible power of a roller mill. The grinding characteristics of low HGI coal was evaluated using a roller mill (coal grinding rate: 0.3 ton/h). The combustion characteristics of pulverized low HGI coal was investigated using two pulverized coal combustion test facilities (the facility with single burner: 0.1 ton-coal/h, another facility with three burners: 0.3 ton-coal/h). From these results, we found out the suitable utilization methods of low HGI coal considering both grindability and combustibility.