

Technology for Prolonging Campaign Life of Blast Furnace*



Synopsis:

*The Chiba No. 6 blast furnace with an inner volume of
4 500 m³ has operated for 16 years without intermediate*

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3 Operating Technology for Prolonging Campaign Life

Chiba No. 5 BF

- Pulverized coal injection operation following start-up of PCI plant

Period: 6/10/2002

3.1 Operational Trend of Chiba No. 6 BF to Date

Ultra-high Fuel Rate⁸⁾

- Ultra-high fuel rate (≥ 530 kg/t-p) in considera-

The operational results of Chiba No. 6 BF from 1/10/2002

tion of West

is to the present time are shown in Fig. 2 and 3.



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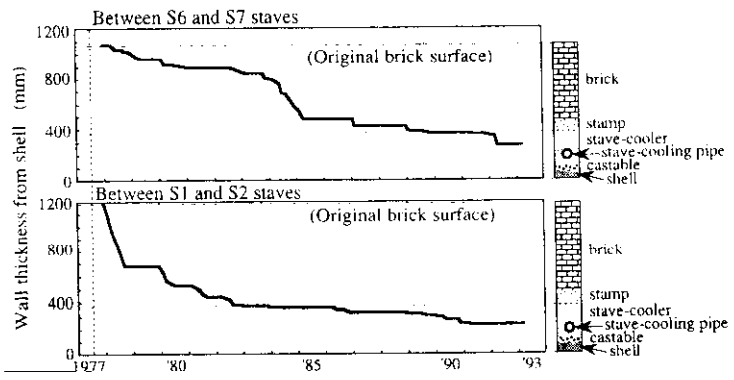
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gerously.¹⁶⁾ These measures are illustrated in Fig. 10.

4.1.2 Upper shaft refractory damage

Progressive wear of the upper shaft refractories caused changes in the gas flow distribution, as shown in the example in Fig. 11. After 1000 hours upper shaft

irregularities in the profile of the furnace wall.¹⁷⁾ The increased peripheral flow due to this type of decreased controllability of the gas flow distribution invites an increased heat load on the furnace body, and is therefore a major problem from the viewpoint of furnace body protection. Measures should be taken to prevent



(No. 6 BF)

Years after blow-in



stave-front refractory material has already disappeared in

the large bearing. A vibration sensor for the upper
reduction gear was also installed to monitor vibration.



side wall. When the stove temperature increases the

ton charging system and GO-STOP operating con-

temperature at the hearth side wall decreases. Moreover,

trol system.

(2) Elimination of obstacles to stable operation from the