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The Latest Technologies for Process Control and Automation in Blast Furnace

Yunosuke Maki, Akihiro Inayama, Katsumi Ino

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Synopsis :

Kawasaki Steel has modernized blast furnace control systems featuring an integrated instrumentation and electrical system for each sub-process, a human-machine interface through a single window, and a distributed process computer system. A furnace diagnostic system, the "GO-STOP system", has been developed into a knowledge-based system that provides appropriate action guidance. For burden distribution control, controllability and flexibility have been improved by the use of a bell-less-top charging device. For hot stove control, the automatic setting of combustion gas flow rate and improved efficiency have been achieved by a fuzzy control system. Furthermore, the recent remote operation of cast house equipment has helped to improve the working environment and efficiency at Chiba Works No. 6 blast furnace.

# The Latest Technologies for Process Control and Automation in Blast Furnace\*



*Synopsis:*

*Kawasaki Steel has modernized blast furnace control systems featuring an integrated instrumentation and electrical system for each sub-process a human-*

New central operation room

Central computer



Long-term database



Long-term database

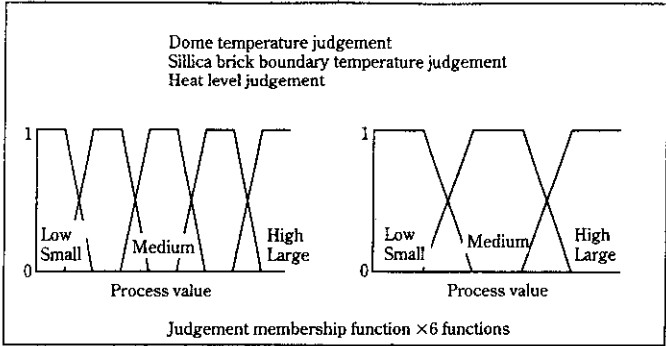
words, the purpose has been changing from the preven-

At Chiba Works No. 6 blast furnace, a similar system

Setting of  
mixed gas

Setting of  
secondary COG

Blast ends



Inference of input heat value action

	High	Dome temp.			Low
High	↓	↓	↓	↓	↓

Inference of mixed gas calorie action

	High	Dome temp.			Low
High	↓	↓		↑	↑

Table 2 Feature of the renewal on cast house equipm.

control system for the auxiliary equipment such as slag

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circulation, dust collecting, and desilicization was

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