



## Monitoring system of work of the blast furnace hearth

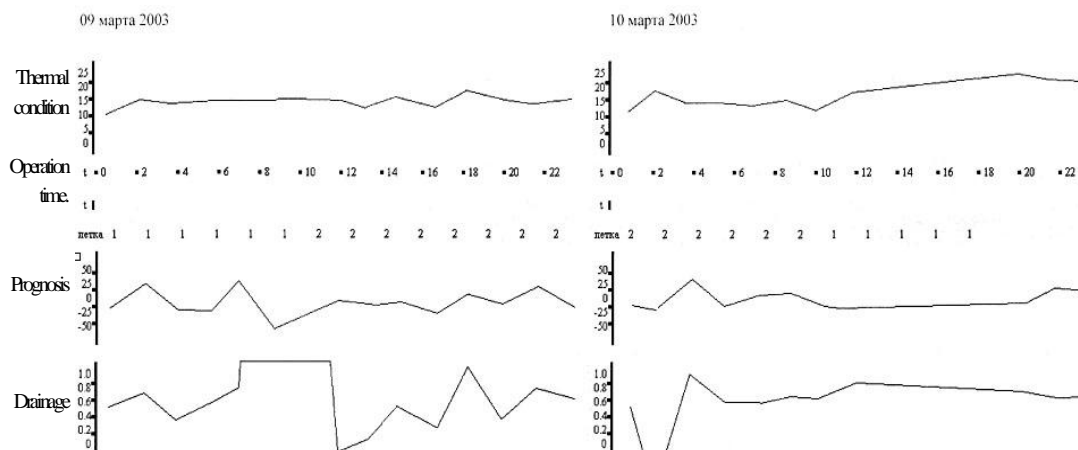
It is designed for:

- control for the difference of electric potentials on the jacket in the given sectors over the circle of blast furnace hearth;
- control of intensity of emission of melting products during their output from the hearth;
- definition the moments of the beginning and the finishing of pig-iron and slag output through pig-iron notch;
- control for changing of thermal condition of blast furnace;
- control for changing of drainage conditions in the hearth;
- control for changing of slag level over the circle of the hearth.

The system includes: electric potential controllers in the blast-furnace hearth; measuring blocks with power, filtration and input-signal-imitation modules and with multi-channel amplifier; PC with analog-input-signal adaptor.

The system has some variants, which differ in making complexity and functions realized. The needed variant is defined in accordance with a customer.

Information output by the system reflected on the display monitor are tabular or graphical, what is convenient for using in operational control of the blast furnace.



The system is performed in some variants varying on difficulty in producing and realized functions. The choice of the variant is determined in accordance with the Customer.

The information given out by system is displayed on the screen in tables and diagrams, the form of which is convenient for using during the operative control for the blast furnace.

Operation of system at concrete technological situations allows to carry out:

- optimization of output mode of liquid melting products, due to specification of their quantity and duration;
- stabilization of thermal condition of blast furnace bottom by changing the mode of loading of burden materials on furnace throat and air blast parameters;
- stabilization of drainage conditions in the hearth, due to organization of its washing out;
- control of circle operation irregularity of the furnace bottom and taking measures on its liquidation. The system has been improving for 20 years.

Systems are introduced on Public Corporation "Yenakiyevo Iron and Steel Works", Public Corporation "Alchevskij Iron and Steel Works", Public Corporation " Dnepropetrovsk Iron and Steel Works" named after Petrovskij.

The blast-furnace operation practice improvement on the basis of the system usage allows to get a 9% increase in efficiency, and to reduce the coke expenditures to 1.2%.