

Production Monitoring and Management System of “Decomposition-2” factory in Bogoslovsky Aluminium Plant

Specialists of “UralRTSoft” of CJSC “RTSoft” have developed and implemented control nodes of the Automatic Process Control System (APCS) “Replacement Battery” and “Filtration new” of “Decomposition-2” department of the aluminous shop of the Bogoslovsky Aluminium Plant (BAZ), subsidiary of OJSC “SUAL”. The Complex represents an automated system of decentralized control and management of all processes of decomposition of aluminate solution. In near future, implementation

of the full system is scheduled. The software and hardware complex of APCS of “Decomposition-2” demonstrates stability, high reliability and convenience during operation.

The automatic process control system solves the following tasks:

- Control and archiving of process parameters, their displaying on the operator’s work places, detecting and alarming of alert and pre-alert conditions;
- Automatic regulation/stabilization of process flows and control of key process parameters, including temperature of aluminate solution, initial temperature of decomposition, cooling mode of pulp in the batteries, concentration of solid phase in the seed pulp and at the stage of agglomeration;



- Providing authorised access of specialists to on-line information and data archive, information support at analysis of trends of process parameter and equipment characteristics change.

Within development of this APCS, employees of “UralRTSoft”, together with leading specialists of the Bogoslovsky Aluminium Plant, have developed algorithms of decomposition processes control, taking into consideration features of existing and newly implemented process equipment of high unit capacity of the “Decomposition-2” department.

Choice of sensors, actuators and low-level devices (instrumentation and control) during developing was made depending on properties of measured media and special conditions of operation. The software and hardware complex of APCS is made on the basis of open architectures of basic software complying with international standards. Multipurpose industrial controllers based on VME backbone, Wonderware System Platform including InTouch SCADA software,

as well as highly productive industrial database Historian were applied.

The Bogoslovsky Aluminium pays traditionally big attention to implementation of modern information technologies. Automation of aluminous production at some process parts has allowed increasing output of production and decreasing specific consumption of materials and power. “RTSoft” company has been actively cooperating with the BAZ for several years, implementing process monitoring and control systems at many plant sectors.



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