

Metering system for natural gas and associated liquids (oil, water) based on the ROC809 controller, Rosemount MVS flow meters and ultrasonic gas meters and turbine liquid meters + SCADA WinCC (Siemens)

(the village of Sokolova Balka, Novosanzharsky district, Poltava region).

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LLC VOTUM performed work on the joint venture Poltava Petroleum Company (JV PPC), for the system of collection and visualization of information from flow meters of raw materials, which is sent for processing from wells and metering units of finished products.

The system is based on WinCC version 7.4 from Siemens, ROC809 from Emerson and gas flow metering and volume corrector units Daniflow.

The system allows the selection of a separate well to enter and store information about the chemical and component composition of raw materials. The program automatically enters this information into the measuring unit when a well is selected for separation. If necessary, the configuration of the measuring unit is automatically entered into the gas flow metering unit (diaphragm diameter, pipe characteristics, etc.), which corresponds to the characteristics of its well.

WinCC receives and processes process data once a second and saves information throughout the year about pressure, delta pressure, temperature, gas flow, water flow, condensate flow, volume corrected gas flow and other important information from flow metering units and uses it to visualize on the operator station, trend formation and report creation.

Visualization can be executed in Ukrainian and English languages and at the same time reproduce information at the operator station about physical and chemical processes in the system in SI units and the English system of measurement for the oil industry.

The status of the main parameters of the system and flow for the last three hours is reproduced in Ukrainian or English on the WEB page. Only authorized users have access to the page.

The reporting system can output information in one of these languages about each individual well involved in the process, a separate metering unit at the outlet of the separator for the selected period of time.

To speed up reporting, hourly flow data, average physical values which was used in flow calculation and well data are stored in specially created WinCC database tables. These tables are accessed through SQL queries from VBS scripts.

The information in the report for the selected time period can be issued minute by minute for the current hour, and hourly for the current year.

Once a day, at the time set by the operator, the system automatically generates hourly reports on flow rate measuring units with flow data and average values.

The operator has the ability to generate report in available languages for any period of time, for any well or separator metering unit.

Reports can be created in EXCEL, PDF, HTML format.

Mimics

