

# Achievement

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# Background

In 2011, we received an offer to implement System Pipeline 2011 in the civil engineering bureau Gazproekt which designed gas distribution and consumption systems in Kranodar Krai (Russian Federation). The designing department of the company was composed of 8 engineers and the head of the department.

The department was overloaded with work and badly short of time. The engineers spent most of the time on drawing up and making alterations to project documentation according to varying conditions. As we know, the process of passing of routes is rather slow but occasionally, one has to start the designing works before the "Act of Route Selection" is received.

As the result, an alteration of the gas pipeline route position at the middle stage of the project led to alterations to the project documentation carefully worked out for weeks and changes of the route stationing and longitudinal profile.

The engineers recalculated the gas pipeline marks, made alterations to intersections bills, turning angles bills, specifications of products and materials.

Consequently, many versions of drawing files appeared and the control over the status of the project documentation was lost. Because of the haste, the human factor also yielded its fruit.

The department specialists had to work using "raw" topographic materials; the results of engineering-geological surveys were received later, when the longitudinal profiles were already created and vertical planning of the pipe was at its final stage.



One could make the conclusion that the traditional format of designing did not allow to do things on time or increase the scope of engineering surveying works. This problem could be solved by employing more workers but it would not be a quality solution because the situation would repeat itself in the event of an increase of the work scope.

# Action



In view of the growing scope of works and terms of execution thereof, the company director made a decision to implement the methods of the modern automated design with the use of System Pipeline 2011.

By November, 2011, a leading engineer was assigned the work on the complicated project. He was able in 2.5 weeks to prepare the project documentation for the Project "Distribution Gas Pipelines of Dzhugba Settlement" of the total length of 12.5 kilometers! The data of the results of the engineering-geological surveys was incorporated in the project during the last few days and then, it took a few hours to adjust the vertical position of the gas pipeline on the longitudinal profiles in connection with the update of the project engineering data.

One should note that the conditions of the project implementation were the following: Raw topographic material prepared by a subcontractor was previously accepted as the planned subbase. It was changed several times in the course of work on the project. Upon approval of the topographic plan, 12 intersections with an underground cable of 10 kilovolt were included which led to alteration of the gas pipeline routes in the extent of 4 kilometers of the route.

# Results



As the result, the contractual terms of execution and transfer of the project documentation to the customer were observed. The company proceeded to a new level of work. The director gained confidence in its capability to implement large scope projects.

In December, 2011, successful performance of the designing department of SPKB Gazproekt was provided and ensured only by 5 workers. As of today, the department's staff have sufficient time for fulfilling complicated design tasks as they got rid of the routine.

The quality and accuracy of project documentation have increased.

The compatibility of the company is significantly higher now and has a good reputation of being capable of fulfilling complicated tasks.

And this is not the only example of implementation of the modern designing methods in the production process of civil engineering companies. In our opinion, it facilitates the realization of the Russian Federation's gasification programs.