

From the Polytechnic University to Gazprom

Peter the Great St. Petersburg University has contacts with many Russian and foreign enterprises. One of the main strategic partners of the Polytechnic University in the field of power engineering is Gazprom. The contracts between SPbPU and some Gazprom subsidiaries refer to joint scientific research and theoretic development. However, Gazprom is interested not only in products and innovative development of the university, but also in training manpower for itself. Thus, today about 100 target students master technical majors in the Institute of Energy and Transport Systems (IETS), SPbPU.



The department “Turbines, Hydraulic Machines and Aviation Engines” of IETS headed by V.A. Rassokhin, Doctor of Technical Sciences, Professor, Member of the International Energy Academy, trains undergraduate, graduate and PhD students to work in Gazprom. In the interview V.A. Rassokhin told us about how to get employed by one of the most attractive companies of the country while still being a student and how to be useful for the Russian gas sector.

- How long have you been cooperating with Gazprom?

- We have been successfully cooperating with Gazprom both in terms of specialist training and in R&D. Our department started to train students for Gazprom in the 1980s. Since then we have trained more than 100 specialists. Many of our alumni have headed leading positions in different divisions of Gazprom.

In 2015 the basic department “Gas Turbine Aggregates for Gas Compressor Stations” was created and headed by the General Director of OOO “Gazprom Transgaz St. Petersburg”, Georgy Anatolievich Fokin. Since 2015 this basic department, jointly with our department (THM&AE) trains “applied” Bachelors, who have industrial placement in Gazprom companies and study in our university at the same time. In 2016, apart from enrollment of Bachelor’s students for the first year of studies, we will also open enrollment for Master’s students for the program “Gas Turbine Aggregates Gas Compressor Stations” to work in Gazprom divisions.

- Where exactly do the alumni of the Polytechnic University work?

- Many of our alumni work in OOO “Gazprom Transgaz St. Petersburg” (this is the largest company of Gazprom) and in mainstream gas pipelines in the north of Russia, Siberia, Central Russia and many other divisions of Gazprom, and, as I have already mentioned, occupy leading positions in various structures of the company.

- What scientific research is being done and what has been achieved yet?

- Our scientific cooperation with OOO “Gazprom Transgaz St. Petersburg” started quite a while ago, more than ten years.

The team of the department “Turbines, Hydraulic Machines and Aviation Engines”, OOO “Gazprom Transgaz St. Petersburg” and OOO “Microturbine Technology” has suggested a conception for using the energy of compressed natural gas to produce electricity in turbine generators for own needs of the gas transportation system and, probably, for external users. The suggested conception of turbine generators (TGs) with the use of compressed gas energy for own needs, allows creating green sources of electricity without burning additional fuel. Implementation of the conception will make it possible to settle issues, related to increasing energy efficiency of the gas transportation system, efficiency of using the potential of organic sources of heat energy – natural gas. Creation of electricity energy TGs for autonomous provision of the gas transportation system own needs, which have no counterparts in foreign and domestic engineering in terms of efficiency as well as mass and dimensions parameters, is very important in solving the urgent problem of import substitution in Russia. New technology solutions have made it possible to meet the stipulated requirements for TGs of the gas transportation system and ensure their broad use. Such solutions include application of highly-efficient economical turbines of the LPI structure, gas dynamic bearings and high speed electric generators with converters, etc.

For calculation, experimental and model field observation the department has created a cutting-edge material and technical basis, including powerful compressor equipment, unique experimental, automated units, author’s software and state-of-

the-art computing facilities.

- Is Transgaz happy with the cooperation?

- No doubt, it is. We are involved in effective interaction. The Polytechnic University does unique scientific theoretical and experimental research and development, there has been set up a scientific school of economical turbines. OOO "Gazprom Transgaz St. Petersburg" and the research center "Microturbine Technology" work hard for quick implementation of our ideas. I would like to emphasize the big roles of Georgy A. Fokin, General Director of OOO "Gazprom Transgaz St. Petersburg" and Nikolay A. Zabelin, Director of the Institute of Energy and Transport Systems, SPbPU, in this work.

Moreover, thanks to the experience in developing TGs which use compressed gas for their own needs, we have managed to win the contest for the federal special purpose program "R&D in priority trends of Russia's scientific and technology complex for years 2014-1020". The theme is "Development and creation of turbine generator units with electrical capacity of 1 and 30 kW, which use the energy of compressed natural gas of Russia's gas transportation system".

For more details visit: http://science.spbstu.ru/news/reportazh-iz-laboratorii/iz_politekha_v_gazprom/

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