

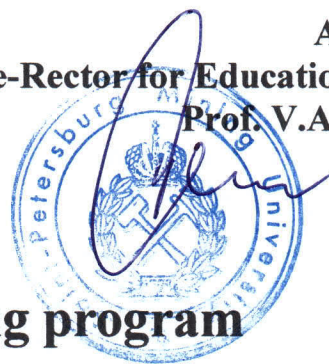
THE FIRST HIGHER TECHNICAL UNIVERSITY IN RUSSIA



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal State Budgetary Educational Institution of Higher Education  
"Saint-Petersburg Mining University"



Approved by  
Vice-Rector for Educational Activity  
Prof. V.A. SHPENST



01/12/2016


## Professional training program

« Dispatching of natural gas distribution system in Russia»

Specialization: 220700 - «*Automatization of technological processes*»

Priority: Modernization and Technological Development of Russia's Economy:  
Energy and Resources

Attendance: full-time

Program Manager:  PhD in Ec. sc. A. Blinov

Saint-Petersburg  
2016

**1. General provisions:**

<b>Training goal:</b>	Familiarization of foreign gas industry specialists with Russian gas distribution technological solutions
<b>Audience:</b>	Gas industry experts and other special-purpose technical specialists
<b>Training term:</b>	72 hours (8 hours per day)
<b>Training mode:</b>	full-time

**2. Short course structure:**

№	Module title	Total, hr.	Including		Knowledge examination form
			Lecture	Practical training	
1.	General theme	1	1		
2.	Module 1. The organization of natural gas transportation systems in Russia	5	5		
3.	Module 2. Gazprom company: Organization and management structure	26	16	10	
4.	Module 3. Common aspects of dispatching in natural gas distribution system of Gazprom Distribution	12	8	4	
5.	Module 4. Automatization of dispatching processes of natural gas distribution systems in Gazprom	10	10		
6.	Module 5. Technical characteristics of natural gas distribution systems	8	3	5	
7.	Module 6. Planning and commercial metering of gas consumption	8	8		
	Total hours:	70	51	19	
	Total knowledge examination:	2			Test
	Total result:	72			

**3. Detailed training information:**

Professional advanced training was elaborated for foreign gas industry specialists. Advanced training can help them to improve the following professional competences:

- Control, analysis and account of technological processes of gas distribution and gas transportation
- Coordination and control of safety use of Gas Supply System, dealing with incident related to safety defection.
- Solution for Gas Supply System capacity by changing conditions in technological processes
- Analysis of gas transportation mode based on requirements of safety instructions and manuals
- Reviews of periodic reports of gas pressure volume of gas pipeline to assure safe operation of pipelines
- Collection, organization and understanding of information related to the work task and its relevant safety procedures using drawing, diagrams, schedules, safety instructions and manuals
- Application of computer systems and applications to ensure quality and efficiency of assignments and documentation

#### 4. Detailed course structure

№	Module title	Total, hr	Including		Knowledge examination form
			Lecture	Practical training	
1.	<b>General theme</b>	1	1		
2.	<b>Module 1. The organization of natural gas transportation systems in Russia</b>	5	5		Test questions
2.1	Russian gas transportation companies	2	2		
2.2	Gasification Program of Russian Regions	1	1		
2.3	Unified Gas Supply System (UGSS) of Russia: basic elements, reliability, gas system capacity	2	2		
3.	<b>Module 2. Organization and management structure of Gazprom</b>	26	16	10	Test questions
3.1	Gazprom company: history, structure, business priorities, mission and strategic goals	2	* 2		
3.2	Gazprom natural gas transportation system	6	2	4	
3.3	Cooperation of Gazprom with foreign gas companies	2	2		
3.4	Gazprom gas distribution companies profile: history, structure, business priorities, mission and strategic goals	6	2	4	
3.5	Labour management (terms of work, quantity of working shifts, staff schedule)	2	2		
3.6	Duties of technical specialists and managers	2	2		
3.7	Interaction between staff and departments	2	2		
3.8	Cooperation with related organizations	4	2	2	
4.	<b>Module 3. Common aspects of dispatching in natural gas distribution system of Gazprom Distribution</b>	12	8	4	Test questions
4.1	Gazprom Central Operations and Dispatch Department	4	2	2	
4.2	Interaction between gas transportation dispatch centers and gas distribution dispatch centers	4	2	2	
4.3	Current issues of real-time technological communication	2	2		
4.4	Problems of gas distribution dispatch and ways of their solution	2	2		
5.	<b>Module 4. Automatization of dispatch processes of natural gas distribution systems in Gazprom</b>	10	10		Test questions

5.1	Automatic controlling systems of natural gas distribution: structure, main function, basic elements	2	2		
5.2	Review of main controlling instruments	2	2		
5.3	Information analysis systems of natural gas distribution processes	1	1		
5.4	Information transmission and protection in automatic systems of gas distribution	2	2		
5.5	Review of modeling and simulation tools of gas distribution processes	2	2		
5.6	Review of main operator training simulators	1	1		
6.	<b>Module 5. Technical characteristics of natural gas distribution systems</b>	8	3	5	<b>Test questions</b>
6.1	Technological scheme of gas distribution processes	3	2	1	
6.2	Description of gas distribution equipment	4	2	2	
6.3	Realization and methods of technological calculations	4	2	2	
6.4	Industrial safety	2	2		
6.5	Energy saving program	2	2		
6.6	Emergency service	2	2		
6.7	Sequence of emergency response actions	2	2		
7.	<b>Module 6. Planning and commercial metering of gas consumption</b>	8	8		
7.1	Policy of planning and commercial metering	2	2		
7.2	Price formation and tariffs	2	2		
7.3	System of Gazprom long-term contracts	2	2		
7.4	Control of gas supplies to customers	1	1		
7.5	Controlling organization	1	1		
	<b>Total hours:</b>	70	51	19	
	<b>Total knowledge examination:</b>	2			<b>Test</b>
	<b>Total result:</b>	72			

### 5. Academic staff

No	Name	Education	Professional experience
Training manager			
1	Blinov Alex	St. Petersburg State Polytechnical University, 2000, MSc in scientific fields «Information and Control Systems»	Head of Advanced training center of Mining university, PhD in Ec., 13 years of experience, author of more than 20 scientific works
2	Nikolaev Vladimir	Volga State University of Technology, 1995, Engineer,	Head of Gazprom Central Operations and Dispatch Department

		«Design and Technology of Electronic Devices»	
3	Sergeev Gleb	St. Petersburg State Polytechnical University, 1999, Engineer, Power- machine building	Head of Gazprom gas distribution dispatch centers
4	Yakovlev Roman	St. Petersburg State Polytechnical University, 1999, Engineer, Power- machine building	Head of Gazprom gas transportation dispatch centers.
5	Koteleva Natalia	National Mineral Resources University «Mining University», 2007, Engineer, «Automatization of technological process and production»	Teaching assistant of department of technological process and production Automatization of Mining university, PhD in Eng., 6 years of experience, author of more than 25 scientific works
6	Ivanov Pavel	National Mineral Resources University «Mining University», 2005, MSc in scientific fields «Metallurgical»	Teaching assistant of Department of technological process and production Automatization of Mining university, PhD in Eng., 8 years of experience, author of more than 15 scientific works
7	Gukovsky Uriy	National Mineral Resources University «Mining University», 2003, MSc in scientific fields «Electrical engineering »	Teaching assistant of Department of Electrical Engineering of Mining university, PhD in Eng., 10 years of experience, author more than 40 scientific works

#### 6. Programme facilities

Special Educational and Laboratory Complex of Center of Continuing Professional Education of the Mining University and industry objects of Gazprom company.