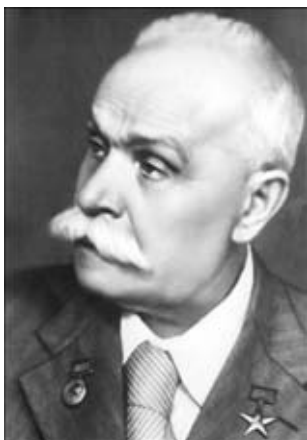


THE 3d PATON READINGS-2010



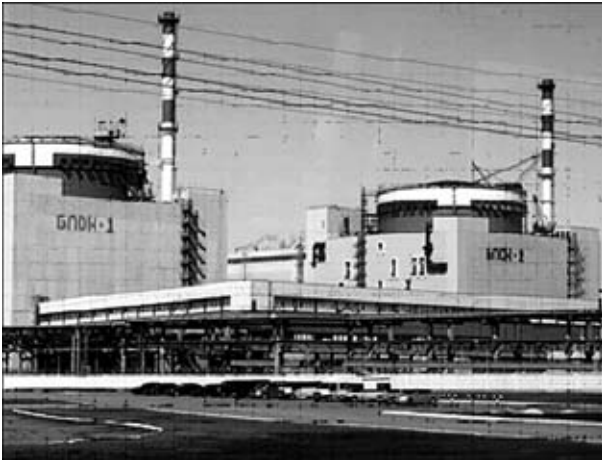
The 3d Paton Readings-2010 took place in Volgodonsk in the Information Center of Volgodonsk NPP on November 27, 2010. It was a meeting of young generation, students, future welders, metallurgist-technologists with scientists and specialists, workers and pedagogues, inventors and public figures. This event was marked by Paton phenomenon which includes a number of interdisciplinary trends of science and production and has appeared during almost secular way of development of metallurgy and welding. The Paton welding and metallurgical technologies were made the main innovation factors of progress by thousands of scientists and specialists for many enterprises of metallurgy, power engineering, nuclear engineering, aircraft construction, aerospace branch, shipbuilding, oil and gas branches, agricultural engineering, transport engineering that allowed reaching the new level of materials science and construction, obtaining of the materials and new quality of welding and metallurgical processes.

Many scientists and specialists from the higher institutes of education, including Omsk State Technical University, Lipetsk State Technical University as well as secondary vocational training, including Volgodonsk Polytechnic School – branch of the National Research Nuclear University MIFI: RI and DB, including VNIIAEP, DB of special metallurgy of FSUF «Torij», P.A. Yudin Metallurgical Center, CJSC NTTs and SPC SKIBR (Moscow–Dubna), enterprises of nuclear power engineering complex, including ATOMMAShEKSPORT with educational Center for training and certification of welders, V. Tudvasev School (PE TsPiAS OJSC «Atommashek-

sport», Belgorod Plant of Power Machine Building (BZEM «Energomash»), «Energomash-Atomash» plant with Engineering Center of «Energomashcorporatsii», Lipetsk BCD CJSC «Kislordmontazh», Welding-erection company MONREM, Service of chief engineer of Volgodonsk/Rostov NPP on repair and service reliability, Volgodonsk Plant of Metallurgical and Power Equipment, enterprises of business and management, welders with 40–50 years' experience, specialists of welding centers, students and trainees, activists of the Russian Nuclear Society responded to participation in the Paton Readings.

Specialists of welding production, lecturers and students, leaders of creative collectives and productions, public activists gave the reports and information during the readings.

Welding standards, including SNIps, staff, research and technological innovations in relation to a strategy of nuclear generation and construction of reactors for NPP in a period up to 2020, the problems of international cooperation, raw material trend of economy, stopping development of welding, power engineering, metallurgical and building capacities, the problems of management modernization and innovation economy were primarily discussed. The reports on the following themes were made: «The Paton world historical experience of establishment of welding metallurgical productions and interdisciplinary cooperation between the scientists and specialists», «Training of welding staff for nuclear industry in the ranges of nuclear strategy of Russia up to 2020–2030», «Organizing of works on repair welding technologies and reengineering on service reliability of NPP equip-



ment», «Why I've chosen a welding occupation», «Equipment for electroslag welding of case-shaped parts and pieces of equipment for nuclear power designation», «Application of Russian repair tribotechnologies for modernization of the aircraft engines of helicopters and planes of transport aviation of Russia and tool manufactures of Ukraine, Belarus and Kazakhstan», «Coordination of technical works and preparation of welding production during filling of important orders for foreign companies and manufacture of pipeline elements for HPS, NPP and oil-and-gas complex», «Innovation equipment for reducing of heat emission in arc welding process», «Design support of welding-erection works on the energy blocks of Rostov NPP under construction», «Scientific and technological complex for production of modern materials and technologies of special electrometallurgy» and many others.

Interesting discussion and exchange of experience arose in the course of reports in such issues as practical welding without «commercial secrets», complexities of flaw detection, examination and certification of the latest technologies in the field of special electrometallurgy and fast education of details of welding work, problems with re-teaching of students.

The papers indicated that the development of welding science is characterized by wide application of the achievements of related branches of knowledge: solid-state physics and chemistry, electrical engineering and electronics, materials science and metallurgy, mechanics and mathematics. There is a necessity under market conditions that many welding and thermal sets to be designed and constructed mobile for application under field conditions and in transportable variant in equipping by the mobile laboratories, capable by a radial method to service the consumers that do not have the possibility to reequip for manufacture of single products, but capable to find the means for carrying out one-time work (services) using high-efficiency devices on wheels or flights.

Welder-scientists, based on the achievements of natural and technical sciences, successfully solve the

tasks, related with advancement of technology for welding metallic and non-metallic materials, development of welded joints, assemblies and structures operating safely under the most complex and various conditions of modern production.

Technical condition of Russian welding production is determined by advanced welding sub-sector. It includes number of leading centers of welding science and engineering: Russian Institute of Welding (VNIIESO), P.A. Yudin Metallurgical center, VNII ETO, TsNIIT-MASH, St.-Petersburg Electrotechnical University, the Alliance of Welders of St.-Petersburg and North-West region, V.P. Vologdin VNII TVCh, TsNII CM «Prometej», Plasma-Center, Laser Association for CIS, «Tena» Technological Center, Pskov Factory of Welding Equipment, FSUE «Torij», Novozybkov «Induktor», Novocherkassk Plant of Welding Electrodes, National Attestation Committee on Welding and many others. Metallurgical branches, surviving capacities of special electrometallurgy and new productions of laser-plasma technologies of metal treatment have a great potential.

All the participants of the readings are convinced in the necessity of renewal of tutorship during education of top-level welders since the graduates often do not have enough theoretical knowledge for fulfillment of critical works. It is necessary to overcome «dependence» on raw materials and financial errors for carrying out staff, educational and technological modernization.

Modernization of management in all spheres, including science, education, industry and economy takes place in Russia despite the economy crisis grips. Present Paton Readings took place on the eve of reaching the design power on the 2nd reactor of Volgodonsk NPP. Number of welders today have good professional opportunities and will have in the following years during development of equipment and construction of the 3rd and 4th reactors of VNPP.

N.I. Bakumtsev, Organizer of the Readings and scientific coordinator of the Program