

INTERNATIONAL COMPETITIVENESS OF THE RUSSIAN NUCLEAR POWER INDUSTRY

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The problems of energy supply and energy security are one of the most actual in the modern world economy and international economic relationships. The stocks of traditional organic energy carriers are decreasing, the contradictions between the exporting countries and the importing countries of various energy resources are also increasing.

One of the directions of solving these problems is the large-scale development of energy production, which is not connected with organic fuel. At the same time, the need to include a reliable, environmentally and competitive source of electric power capable of carrying the basic load into the world energy balance allows us to talk about the non-alternative nature of the development of nuclear power in the coming decades.

Russia is one of the world leaders in the peaceful use of nuclear energy, and it is necessary to say that this role in the world nuclear energy market should grow with the growing role of nuclear power in global economic processes.

Currently, the world market of nuclear fuel cycle (NFC) services has a strong competition. In this regard, Russia needs a whole range of measures to improve own competitiveness in nuclear power plant construction markets, nuclear fuel production and processing, nuclear technologies, and the training of highly qualified personnel.

For this, there are all possibilities. Russia is the largest nuclear power and has a large number of nuclear power plants, facilities for the production and processing of nuclear fuel. The presence of high technology, a significant raw material base, skilled workers, relatively low production costs, geographical location and stable economic growth of the industry are the competitive advantages of the nuclear power industry of the Russian Federation. Since 2007, there has been a large-scale reform of the Russian nuclear industry.

It is necessary to develop new uranium deposits, introduce modern highly efficient and environmentally friendly energy-efficient nuclear technologies, to more efficiently and actively use the export potential of the Russian atom in the construction and engineering of nuclear power plants, supply and reprocessing of nuclear fuel.

Currently, there are a lot of new nuclear energy markets, such as China, India, Indonesia, Vietnam, Iran, Brazil, Venezuela, South Africa, Egypt, Malaysia and other countries. The competitive struggle for these markets will become a serious test for Russian companies because the main rivals are France, Germany, the United States, Japan, and the United Kingdom.

Currently, there is a global rethinking of the part of nuclear power in the world energy balance and plans to build more nuclear power stations in the World. At the heart of the current large-scale demand for nuclear power are the following main trends:

- Violation of the balance of supply and demand for fossil fuels. Reduction of primary oil and gas supplies due to limited resources and insufficient investment in development within the previous decades against the backdrop of growing demand from rapidly developing national economies.
- Increasing requirements for energy security, the strategic priority of most national economies is the diversification of sources of energy production. Unlike organic fuel, uranium, which is the basic element of nuclear energy, is evenly distributed geographically and has a high energy intensity, which makes it possible to create strategic reserves of raw materials much more efficiently and on a long-term basis.
- Climate change and reduction of greenhouse gas emissions. The need to create sources of energy production that do not produce CO₂ allows us to talk about nuclear energy, along with hydropower, as a non-alternative and environmentally friendly source capable of operating under the base load regime.

For the period that passed after the Chernobyl nuclear power plant accident in 1986, both the technological and operational safety of the nuclear energy has increased significantly. Security systems have undergone serious modernization at all operating power units, and modern nuclear power plants are built using multi-level security systems, including passive ones.

The globalization processes taking place in the world affect the world nuclear energy. As experience of leading states shows, nuclear energy is international, and its further development is directly connected with international economic cooperation and cooperation. At present, nuclear companies and firms are merging into transnational corporations in different regions of the world, the development of which was the development of world nuclear centers.

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INVESTIGATION OF SEARCH POINTS FOR THE POINT OF MAXIMUM POWER FOR THE INCREASING SIGNAL INVERTER VOLTAGE TRANSDUCER

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The relevance of the work is determined by the need to increase the energy efficiency indicators of power conversion devices for the needs of alternative energy. Currently, more attention is being paid to alternative sources of energy, including so-