



LEAD STORY

Irradiation Centers for the Philippines

Rosatom expands its international footprint with new products as its subsidiary Rusatom Healthcare signed a framework agreement with A Brown Company, Inc. to create a network of irradiation centers in the Philippines.

The framework agreement was signed by Rustam Rakhmatulin, Deputy CEO of Rusatom Healthcare, and ABCI's President Roel Z. Castro on the sidelines of Mindanao Business Conference 2017. It is yet another major step on the way towards full-scale cooperation initiated by the memorandum of understanding signed between ABCI and Rusatom International Network on 20 June 2017.

The agreement outlines the principles to be followed by the parties in constructing

the network of irradiation centers in the Philippines. Irradiation solutions will extend the shelf life of food products, prevent germination of vegetables, eliminate bacteria and pests, sterilize medical products and conduct research in a number of fields. "Rosatom's advanced technology and expertise will facilitate innovative development of our country," said ABCI's President Roel Z. Castro. "This project unlocks exciting commercial opportunities in many industries."

According to Denis Cherednichenko, CEO of Rusatom Healthcare, the global market shows much interest in adopting Russian irradiation technologies, and the new agreement proves it. "Rusatom Healthcare offers a turn-key irradiation solution that includes engineering, procurement and construction of an irradiation center, personnel training, and commissioning. With over 70 years of experience in the field of nuclear power, we hope that the technologies we offer

will contribute to the sustainable development of the Philippines,” said Rusatom Healthcare’s CEO Denis Cherednichenko. A pre-construction contract for the site preparation is

expected to be signed by the end of 2017. An EPC contract to cover design, engineering, construction and installation activities and machinery procurement is planned to be signed in 2018.

COOPERATION

At the Forefront of ITER Project

Alexei Likhachev: the ITER project is a testing ground for putting theoretic energy of the future into practice and an opportunity for Russia to reinforce its role on the global energy market.

Rosatom’s CEO Alexei Likhachev has visited a site in Cadarache (France) where the International Thermonuclear Experimental Reactor (ITER) constructed by an international team has approached the full-scale implementation phase. With the construction progressing visibly, procurement activities are also going full tilt. Russia produces key reactor components and other hi-tech equipment for ITER. Superconductors, gyrotrons, safety system components and diagnostic devices – a total of 25 systems – are the responsibility of Russian companies. Along with sharing its unique solutions, Rosatom receives access to the latest technologies of its international partners.

“Taming the energy of thermonuclear fusion will open up vast scientific and technological prospects for mankind. That is why Russia, which has an unparalleled expertise in nuclear and thermonuclear research, cannot afford to miss a chance of working at the forefront of the ITER project and makes a sizable contribution to its implementation. It is also worthy of note that the tokamak – the initial concept of this international project – was developed in our country,” Rosatom’s CEO said during his visit.



According to him, the ITER project is an exciting opportunity for Russian machinery manufacturers. “First of all, it generates new orders for Rosatom’s manufacturing subsidiaries and contributes to the creation of new products and acquisition of new competencies. Second, results obtained from the project improve Russia’s nuclear research potential. ITER is important for us as a ground where we can test energy solutions of the future and as an opportunity to strengthen Russia’s role on the global technology market,” said Alexei Likhachev.

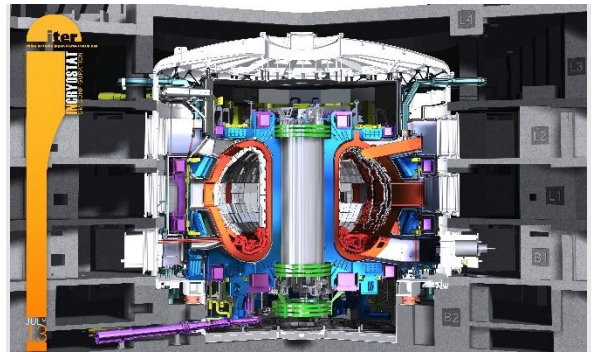
After his meeting with Alexei Likhachev, ITER Organization Director-General Bernard Bigot said that Russia had always been an exemplary partner that always meets all of its obligations on time. “Russia’s participation in the ITER project is a perfect chance to look beyond today’s technological horizon and lay a foundation for national projects in the thermonuclear fusion research,” he said.

Equipment shipped on time

In early September, the largest shipment of electrical equipment was sent off to the project site. High-current busbar components for the power supply

systems of ITER's superconducting magnet were delivered on six trucks to the seaport of St. Petersburg for transshipment and transportation to the construction site. The first two shipments of busbar components for the ITER project were sent off from St. Petersburg in 2015 and 2016. Produced by Rosatom's Efremov Research Institute (St. Petersburg), these busbars are the most expensive and complex out of the 25 systems supplied by Russia.

Anatoly Krasilnikov, Director of the ITER Project Center in Russia, said that this largest ever shipment of Russian-produced components was made on time and proved the commitment of Russian companies involved in the ITER project to their obligations. "We have demonstrated once again that Russia is a reliable partner to the world's largest R&D project," he said.



FOR REFERENCE

The ITER (International Thermonuclear Experimental Reactor) Agreement was signed in 2006. Around 45% of the project is financed by the European countries, with Russia contributing approximately 9% of the total budget by supplying hi-tech equipment. The ITER construction site is located near the Cadarache Research Center in Southern France. This is the first large-scale attempt to demonstrate the potential of thermonuclear fusion in commercial power production. If the ITER project is a success, the mankind will have an almost limitless source of power. The project involves a total of 35 countries, including 29 EU member states, China, India, Japan, Russia, South Korea and the USA. The launch of the reactor and obtaining the first plasma are expected in 2025.



STRATEGY



Rosatom Founded New Company to Implement Wind Projects

Recently founded SC NovaWind will take over the task of implementing Rosatom's strategy in wind generation. The charter capital of the new company is 1.101 billion rubles.

NovaWind will consolidate Rosatom's innovative technology programs in the new energy segment. At the initial stage, NovaWind will bring together all wind generation assets owned by Rosatom. The company will acquire Rosatom's indirect subsidiary VetroSGC, which is responsible for the wind generation business of the state nuclear corporation. VetroSGC has been involved in the 970 MW wind farm

construction project since 2016 and is now launching the largest wind turbine localization program in Russia. NovaWind will acquire OTEK's rights under the license agreement with Lagerwey and become its partner in the joint venture that will produce wind generator components in Russia. The thermal power business of OTEK will become a separate business unit.

Alexander Korchagin was appointed CEO of the new company. "The successful entry into domestic and international wind energy markets as well as the development of new products largely depends on full concentration of managerial efforts on the success of currently implemented energy programs. To meet these challenging goals, we have to obtain and develop a number of core competences, which are absolutely new to Russia. Among them there are construction and operational

management of wind farms, production of wind turbines, maintenance, after-sales support, marketing and sales. Considering the international cooperation with Lagerwey, we need to spin off have to separate our wind energy program into a new dedicated business,” Alexander Korchagin said while commenting on the foundation of NovaWind.

He said that OTEK’s management team achieved the goals set by Rosatom. “We’ve successfully implemented an effective business management model: it took us three years to double the profitability of Rosatom’s thermal power assets. Now we have to concentrate all our efforts on new energy projects,” Alexander Korchagin noted.

Wind in demand

Earlier VetroSGC and Lagerwey (Holland) jointly took part in HUSUM Wind 2017 in Germany. It is one of the most reputable marketing venues bringing together global leaders of the wind generation industry. “HUSUM Wind gives us a perfect chance to demonstrate how serious our partnership is and how committed we are to bringing Russian hi-tech products to the global market,” said Emin Askerov, Deputy CEO and Director for Development and International Business at OTEK (VetroSGC management company).

According to Sjoerd Sieburgh Sjoerdsma, Lagerwey’s Director for Licensing and

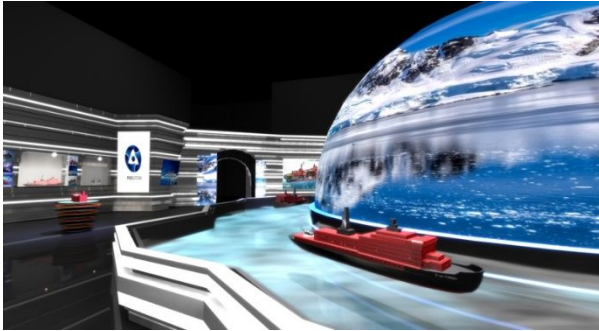
Ventures, it is important for Russian to quickly obtain competencies in the new industry and start serial production. He noted that many countries engaged in the development of wind generation strive to invest in producing wind turbines locally, rather than in importing them from abroad. “I am sure that Lagerwey wind generators manufactured in Russia will be sought after in Russia and neighboring countries. It is important for us to show the market that we are committed to success of the program,” Sjoerd Sjoerdsma said.

Local production will start with 2.5 MW generators. The plans for the future are to produce 4 MW turbines, which are currently tested by Lagerwey. According to the global forecast, wind generators with a capacity of 2.5–5 MW will be used mostly on the on-shore sites.

Non-nuclear points of growth

Wind surveys will soon be held at potential sites for the wind park construction project along the Black Sea coast in the Krasnodar Territory. In 2016, Rosatom won a contract to construct three wind farms with a total capacity of 610 MW in Adygea and Krasnodar. Following the renewable energy tender held this June, Rosatom won a new contract to build additional 360 MW of wind capacity. According to the first estimations the project will create nearly 1,000 new jobs in Russia’s Southern Federal District.

EVENTS



Russia's Pavilion Wins Golden Award at EXPO 2017

The Russian pavilion featuring Rosatom's exposition has won the golden award for the first time since 1851 when the first international fair took place in France.

The best EXPO 2017 pavilions were selected by an international panel of nine experts in architecture and trade fairs. Awards were given in two categories, the Best Design and the Best Interpretation of Theme. With 115 national pavilions and 22 pavilions of international organizations presenting their state-of-the-art renewable energy technologies and competing for recognition this year, the national pavilion of the Russian Federation was awarded gold in the Best Design category.

"We deserve this award. We are glad that after all the work done by our team and contributions made by our partners to the exposition, the Russian pavilion took top honors. I would like to give an honorable mention to our key partners, including our colleagues from Rosatom, who helped us make our Arctic exposition so exciting," said Georgy Kalamanov, Deputy

Minister of Industry and Trade of the Russian Federation.

The pavilion's design was centered around the Arctic and development of natural resources in Russia's North with advanced technologies. The Russian pavilion featured the Energy of Arctic, a water installation showing the Northern Sea Route with nuclear icebreaker models, including an innovative Leader nuclear icebreaker and a floating nuclear power plant.

The Leader nuclear icebreaker is a new dawn for the Russian icebreaker fleet. This icebreaker of the future will allow for year-round navigation in the Arctic, regardless of the weather. It is capable of breaking through 4-meter thick ice and traveling through 2-meter Arctic ice at a speed of 10 knots. This will greatly reduce the time in transit along the Northern Sea Route. The floating nuclear power plant can be used to supply power to settlements and production facilities located far away from the distribution grid.

FOR REFERENCE

The Russian state nuclear corporation Rosatom is an official partner of Astana EXPO 2017. Rosatom also organized the Nuclear Week, a themed exposition of Russian nuclear technologies. The exposition featured radiation technologies for agriculture, medicine, water desalination, water treatment, space exploration, closed nuclear fuel cycle, and thermonuclear fusion.

IN BRIEF

Russia and Japan Will Join to Decontaminate Nuclear Waste

A memorandum to this effect was signed by Rosatom's CEO Alexei Likhachev and Toshio Kodama, President of Japan Atomic Energy Agency (JAEA), at the Eastern Economic Forum in Vladivostok. The parties will cooperate to promote innovative energy technologies for nuclear waste management as one of the most crucial issues in modern nuclear. Transmutation of minor actinides, long lived isotopes of americium, curium and neptunium contained in nuclear wastes, will help considerably cut their amount and radiotoxicity. Transmutation is a process of burning up radionuclides either in fast breeder reactors or accelerator-based systems. Russian and Japanese nuclear centers experienced in waste management research and experiments are willing to join their efforts in this field, which is so important to both human and environmental safety

FNPP Dock Construction Began in Pevek

Construction of facilities, hydraulic structures and a coastal site for the world's only floating nuclear power plant (FNPP) has begun in Chukotka. According to Vitaly Trutnev, RosEnergoAtom's Director for FNPP, the work will be completed in 2019. "All of this will ensure safe docking of the FNPP and its connection to the onshore terminals to transmit electricity and heat to Pevek's power and heating systems," Mr. Trutnev explained. "The construction is running as planned and will be completed in the second half of 2019." It was announced on 12 September that comprehensive tests of the world's unique FNPP reactor were scheduled for late 2018.