

ROSATOM, The Russian State Atomic Energy Corporation, congratulated the team at Kudankulam nuclear plant, reaching the critical stage.



"Both Russia and India were waiting for a long time for this event – launching of the new power unit of Kudankulam NPP. Despite all difficulties it happened and now new horizons are being open to India. All new design solutions and technological systems provide an unprecedented level of safety for the nuclear power plants being built," said ROSATOM in a release on Monday.

It said today Kudankulam NPP is the most modern nuclear power plant project in the world; there the first unit has been able to generate the minimum controlled reactor power (MCRP). "After the official confirmation that everything functions without any problems the second unit will start generating power, too."

The AES-92 project was developed by the Atomenergoproekt institute in Moscow.

"It fully complies with the current regulatory and technical requirements of the Russian Federation and those of the IAEA. It has been certified for compliance with European Utility Requirements (EUR) for Nuclear Power Plants that were built after 2000," said ROSATOM.

The principal feature of the project is that it will implement, in addition to conventional active safety systems, a number of technical solutions based on "passive" principles, it said.

"These are generally accepted as the highest criteria, and best mirror the nuclear safety regulations for fourth-generation projects in India, where the project is being implemented."



ROSATOM said one of the most important issues for the local people and fishermen which provoked many disputes – how will fish and sea life be protected.

"The construction of the Kudankulam NPP took into account the tropical waters of the ocean, which are characterized by a large amount of marine vegetation, shellfish and wildlife. In particular, the water supply facilities of the Kudankulam NPP have a wide range of features, such as an original and effective system for the protection of fish.

"After the seawater is used for cooling and recycled, measures are taken so that 95% of the fish and sea life is protected, including plankton," it said.

ROSATOM said Kudankulam NPP also utilizes a water desalination system to fully meet the needs of the station.

"The Nuclear Power Corporation of India Limited (NPCIL), given the climatic conditions of the region and the need for developing agriculture, has decided to prohibit the use of water from local reservoirs and organized for the plant to use its own desalinated water.

"Sea water is treated at the desalination plant, and then enters the water treatment system for processing, which guarantees that the water meets all of the necessary parameters," it said.



ROSATOM said after the events at the nuclear power plant Fukushima Daiichi in Japan that followed the massive earthquake on 11 March 2011 and the accompanying tsunami, the Indian regulator AERB decided to equip all Indian plants, including Kudankulam Nuclear Power Plant, with additional security measures.

"In particular, there are additional tanks of fresh water totalling 8 million cubic meters in volume and mobile diesel power plants. Given the time required for the design and supply of equipment, the decision of the supervisory authority will be carried out according to standards established by the AERB for a period of 6 to 24 months," it said.

It said the working group examined the ability of the Kudankulam NPP to withstand extreme natural disasters, and developed a scenario that reflected the accident at the Fukushima plant.

"The test results showed that, thanks to advanced safety systems including a passive system for removing residual heat, the nuclear power plant has a very high ability to withstand catastrophic natural disasters that exceeds the available original design parameters (earthquakes, tsunamis/hurricanes, tidal waves, cyclones, shock waves, a plane crashing into in the main building and fire), including those similar to the one that occurred at the Fukushima Daiichi plant."

"The analysis of the possibilities for cooling the core of the Kudankulam NPP in the postulated scenario went beyond examining an accident with a tsunami which would lead to a failure of its power supply systems and water supply systems, such as those of the Fukushima nuclear power plant.

"It was determined that the Kudankulam NPP provides sufficient passive systems to cool the core temperature, as well as limit the spread of radioactivity, even in the event of prolonged water and power supply shortages," said ROSATOM.

The peer review team was comprised of 14 experts from eight countries, with three from the World Association of Nuclear Operators and WANO's coordination centre in London.

At the final meeting, the experts presented the station's management with areas for improvement that had been identified as a result of the peer review.

The Russian State Atomic Energy Corporation ROSATOM incorporates more than 250 enterprises and scientific institutions, including all civil nuclear companies of Russia, nuclear weapons complex's facilities, research organizations and the world's only nuclear-propelled fleet.

ROSATOM is the largest utility in Russia which produces more than 40 % of electricity in the country's European part.



ROSATOM holds leading positions in the world market of nuclear technologies being the 1-st in the world simultaneous nuclear build abroad; 2-nd in uranium reserves and 5-th in uranium mining; 4-th in

nuclear electricity generation, while providing 40% of the world uranium enrichment services and 17% of the world nuclear fuel market.

ROSATOM is also tasked to fulfill Russia's international obligations in the field of the peaceful uses of atomic energy and nuclear nonproliferation regime.

At present Rosatom has received orders for the construction of 19 nuclear power units in various countries of the world and by 2030, this portfolio is expected to grow to the worth of US\$ 80 billion.

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