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**Rogun Dam -A Realization of National Aspirations for  
Tajikistan**

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On 16th November 2018, the President of the Republic of Tajikistan His Excellency Emomali Rahmon graced the commissioning ceremony of the first hydro unit of the Roghun hydropower plant at Rogun City, Tajikistan. From Pakistan Federal Minister for Engery Omar Ayub Khan attended the ceremony. The representatives of Russia, Italy, India, Pakistan, Afghanistan, Belarus, Ukraine, Uzbekistan, Kazakhstan, and Kyrgyzstan as well as leading experts of regional and international organizations were invited to Tajikistan to participate in this historic event where H.E Emomali Rahmon, by pressing

the button put into operation a 500kV power transmission line “Dushanbe-Roghun” , thereby fulfilling the long-standing aspiration of the Tajik people.

The Rogun Dam Project in Tajikistan has a long history. Construction was first initiated in 1976, but progress slowed and eventually suspended due to the collapse of the Soviet Union. Since 1991, a series of disagreements, first with Russia and then with other basin riparians, effectively blocked financing for the project. A five-year civil war followed that ended in 1997 and in 2016 H.E Rakhmon jumped behind the wheel of a bulldozer to kickstart work on the project. In 2018, Tajikistan’s Roghun Dam, which for years generated only controversy, began producing electricity. This is only the first step of an initial phase of the ambitious national project has been ceremoniously brought online. Contributing to the delay in addition to funding and technical difficulties, the breakup of the Soviet Union, the Tajik civil war were Mother Nature, and objections from downstream countries amid UN fears that the dam could contribute to future regional water wars. Authorities say the Rogun Dam will be able to provide electricity for the whole country. They say the dam could also provide parts of Afghanistan and Pakistan with cheap electricity.

Achieving water, food and energy security in the context of increasing population and economic development is a key global challenge facing societies in many Asian countries today. The high degree of interconnection across the water, food and energy sectors further complicates this challenge. Meeting national water, energy and food needs might also require imports of some or all of these resources from neighboring

countries at priority or faraway places, often with differing strategic interests. Fresh water resources play an increasingly important role in the stability of economies and states in the region. Population growth, climate change and industrial needs exacerbate demands for water so, as is the case with all fundamental natural resources, geopolitical concerns arise. The construction of the Rogun Dam in Tajikistan is a significant energy event for Central Asia and water conflict around the world. The project will also stimulate the international community to strengthen, deepen and refine its best practices for mitigating water-based conflict.

Dams such as Rogun can serve a variety of purposes and have a wide range of positive and impacts on the region. Water storage projects can provide water for irrigation or other downstream uses at times of the year when water is scarce or during prolonged drought, produce electricity when water is released through hydropower turbines, and allow smoothing of flows to mitigate floods or ensure minimum supply to maintain ecosystem services. Although, socially optimal regime of water releases from control infrastructures may require a balancing of efficiency with equity across multiple affected parties. In this sense, the Rogun Dam raises important questions that relate to its potential impacts on the water, food and energy security of the region. Hydropower generation and releases are most beneficial in winter, when energy demand is high. Upstream countries tend to argue for increasing energy production while also suggesting that storage provides downstream gains in dry years when water supplies are lacking.

Total amount of 650 TJS was allocated for the construction of the 500kV power transmission line “Dushanbe-Roghun” , which was implemented in the framework of the restoration and construction of 500kV high-voltage transmission line through Districts of Republican Subordination (DRS)



Project. The project should be completed within specified deadlines, i.e. August 2021. Then, H.E Rahmon launched the gas-insulated high-voltage switchgear (GIS) for the Roghun hydropower plant which was completed on February 2018. There are 19 units of 500kV GIS and 4 units of 220kV GIS installed at this site. Energy can be transferred by integrated energy grid of the country through six 500 kV overhead transmission line. In addition, from this equipment the electricity will be transferred to the Roghun city power substation by one two-chain 220kV line. Germany-based Siemens AG has equipped the GIS for the Roghun hydropower plant. Namely, from this hall the electricity generated at the “Roghun” HPP will be supplied to the power transmission lines by means of equipment produced by reputable world companies. 57 units of 500kV poles of gas-insulated switches, 99 transformers, 30 extension modules, 168 units of distributors, 48 voltage transformers, 30 units of 500 kV voltage limiters are installed inside the building of the complete gas-insulated switchgears. Along with the

36th poles, medium power transmission modules are installed. All 500 kV poles are equipped with protective metal structures.

Environmentally-friendly energy produced by HPP will cover the energy needs of Tajikistan and give a new impetus to the economic development of the country. Building and restoration of this vital strategic construction will serve to ensure decent life of present and future generations of Tajikistan. It will provide a solid ground for economic progress and generally for the improvement of all spheres of life in the country. After starting full exploitation of the HPP it will enable to establish dozens of small and medium factories as well as create thousands of new jobs. The population of the country will be provided with electricity at all times of the year, and the activity of industrial production enterprises in cities and region of the country will receive a new impetus, and production capacity of sovereign Tajikistan will further increase in the direction of production of competitive and targeted products for export.

This project is also of a particular significance for expanding regional cooperation since it will serve all countries of the region by using renewable energy sources and generating environmentally clean power and its reservoir will play an important role for regulation of water resources, particularly during low-water seasons and droughts. The construction and installation activities in this power plant have been implemented according to international standards based on well-grounded studies conducted by highly qualified and experienced experts and involvement of globally prominent companies.

Indeed, the construction of ‘Roghun’ HPP is an opportunity for all local and international companies. Tajik specialists will be able to apply their great experience in this area not only in their own country, but also in other countries of the region widely in the future. The potential solutions to a deficit of Tajikistan are numerous and included bringing new production online, modernizing the energy grid, and electricity pricing reform to reduce the moral hazard associated with overconsumption to name but a few. None weighs as popularly in the minds of Rahmon or the Tajik people as Rogun, which alone could provide 13.3 billion kWh of annual electricity. Not only would this solve Tajikistan’s electricity deficit, it would also allow the impoverished nation to export excess production to its neighbors during warmer months – a tempting notion given Tajikistan’s historical debtor status in the region. The dam will indeed be built in the not-so-distant future to the full height, kicking off various key geopolitical outcomes including heightened international attention, regional power balancing and the creation of unprecedented multilateral settlements.