



## PIPES FOR NUCLEAR POWER PLANT: THE SCALE AND RESPONSIBILITY

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Construction of a nuclear power plant in Belarus has been discussed since the beginning of 1990s. Both Belarus and the Baltic Sea States experience power shortages and have to import electric power from the EU states and Russia. Power shortage has become even more acute after the shutdown of Ignalina Nuclear Power Plant in Lithuania in 2009 (its permanent closure was one of conditions of Lithuania's joining the EU). Works on the nuclear power plant construction began in Belarus in 2006. In December 2008 Ostrovets site that is situated 18 km from Ostrovets town, Grodno Region, was chosen as a construction site. River Viliya (Neris), 10 km away from the site was to become the main source of water for the plant.

In May 2012, after a long period of preparation works and documents approval at all levels, including international, Byelorussians started construction of the first unit of NPP. At that time United Company OJSC NIAEP – CJSC Atomstroyexport (Russia) became the general design and construction contractor with Gomelpromstroy OJSC, Lidagazstroy OJSC and other major construction companies of Belarus with comprehensive experience in construction of projects of various complexity acting as subcontractors. In November 2013 foundation laying was started – in accordance with the working schedule.

In general, the use of 1200 mm diameter PE pressure pipes is quite uncommon in Europe, especially for large-

scale projects as this one (the total process water pipelines length – 33 km). A profession body with its expertise, experience and equipment was needed to perform all types of works on the pipelines construction.

That is why, STS-Belpolyplastic, the largest Belarus producer and supplier of plastic pipes was recruited. In addition, at request of Belkommunproekt Design Institute, its technical specialists have also actively participated in the development of “Nuclear Power Plant of the Republic of Belarus. Off-Site Process Water Supply. First- and Second-Stage Watermains” project.

In the framework of project implementation, special and unique fittings were required to allow for connection of the water supply pipeline sections as the use of conventional welded t-joints, especially reduced ones, was impossible due to their size. In this connection Reinert-Ritz was invited to supply special 1200 mm solid flanged T-connections and Georg Fischer – to supply special electrofusion PE 100 SDR 26 D 1200 couplings.

About 20 km of pipes have already been delivered. The project is actively underway.



## NOTES

This is the first nuclear power plant under construction in Belarus. The AES-2006 nuclear plant alternative was chosen for NPP construction as it fully complies with the IAEA recommendations and guidelines; is characterised by a high level of safety based on utilization of independent active (generally for BDA) and passive (generally for BDBA) elements, as well as for its cost effectiveness.

Each of the two power units will supply 1150 MW. Commissioning of unit 1 is planned for November'2018, of unit 2 – for July'2020. The design service life of this Belarus nuclear power plant is 60 years.