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## Alstom signs strategic agreements with the major Russian energy companies

Alstom signed on 9 December in Moscow strategic agreements with major Russian energy companies to jointly provide power generation products and services for Russia's power industry in the fields of hydropower generation, thermal power generation, nuclear power generation and electricity transmission. With the most comprehensive and balanced portfolio of generation equipment in the market, Alstom confirms its strategy to become a key partner for Russian infrastructure development through these agreements.

The agreements were signed in the presence of Vladimir Putin, Russian Prime Minister, Francois Fillon, French Prime Minister, Sergei Shmatko, Russian Energy Minister, Patrick Kron, Chairman and CEO of Alstom and Philippe Joubert, President of Alstom Power.

Patrick Kron, Chairman and CEO of Alstom, said: "Russia is playing an increasingly important role in the global economy and is looking to modernise and increase its power generation capacity to meet its growing demand for power. Alstom's technology and service expertise, when combined with local partners' manufacturing and service capabilities, offers an ideal solution for securing this energy future. Russia has become over the last few years a strategic market for Alstom, both in the field of rail infrastructure and of power generation and electricity transmission."

Russia is looking to expand its power generation capacity to support the country's growing energy needs. The government intends to increase hydropower by 60% by 2020 and double it by 2030. It has also launched a new nuclear programme with six large reactors under construction and seven replacement plants planned. Ten reactors totaling at least 9.8 GW are to be installed by 2016 and a further 21.7 GW by 2020. The Russian government also intends to focus on improving energy efficiency by the retrofitting, retirement and replacement of its existing fleet of thermal power plants.

To that end, Alstom and the following major Russian energy companies have entered into the following agreements:

In the field of **hydro power generation**, Alstom Power has signed a strategic cooperation agreement with **RusHydro JSC**, Russia's biggest hydropower generation company, to jointly exploit opportunities in the booming Russian hydropower industry. The agreement covers four key directions of cooperation: Reconstruction and modernisation of the Kubanski cascade hydropower complex in Southern Russia; cooperation for the development of hydropower activities; cooperation in areas of R&D and investment; and local manufacturing of hydropower equipment in the Republic of Bashkortostan, Russia. The Kubanski cascade project will include the installation of a new instrumentation and control system as well as a site security system, following an earlier Memorandum of Understanding (MoU) signed between the two parties in September 2010.

In the field of **nuclear power generation**, Alstom Power and the Russian state atomic energy corporation **Rosatom**, the regulatory body of the Russian nuclear infrastructure, under the 2007-established joint venture **Alstom-Atomenergomash (AAEM)**, signed several new agreements to further support Russia's growing nuclear energy market. One MoU details plans to set up a local facility to manufacture Alstom's ARABELLE™ nuclear steam turbines, the most powerful steam turbines in the world, as well as steam turbines for fossil fuel applications. A second MoU with the **INTER RAO UES - Worley Parsons (IRWP)** joint venture was signed to establish an engineering consortium to jointly design turbine islands for Russia's VVER reactor-based nuclear power plants.

In the field of **thermal power generation**, Alstom Power and **INTER RAO UES**, a key power supplier with a number of generation and distribution assets in Russia and abroad, signed a MoU to develop cooperation in order to jointly provide industrial products and services for Russia's power industry. Projects will include the installation of new instrumentation and control systems as well as site security systems. The joint venture will produce small steam turbine packages for power and joint district steam heating and power applications. The MoU also covers cooperation for new and repowered steam plant installations, and for combined cycle applications and associated equipment (boilers, turbines, environmental protection systems, and power automation and controls) operating at supercritical (and above) steam conditions. A further agreement will consider INTER RAO UES' entry into the Alstom-Atomenergomash (AAEM) joint venture's capital.

Alstom Power also signed an agreement with Mosenergo, a subsidiary of **Gazprom**, the largest extractor of natural gas in the world and the largest Russian company, to develop combined cycle power technologies, supply integrated power island solutions for thermal plants and modernise and repower Mosenergo's fleet.

In addition, Alstom has signed a co-operation agreement with **Rostechnologii**, a specialised Russian organisation, involved in the production and supply of Russian high-tech material and equipment, to supply coal-fired power plants with Alstom's market-leading steam plant technology and Rostechnologii's Boiler Circulating Pumps (BCP).

In the field of **electricity transmission**, Alstom Grid and **OAO FSK EES**, the federal operator of Russia's unified electrical grid system, signed an agreement to establish an Alstom Grid - FSK research cooperation in the Skolkovo technology zone of Moscow, focusing on a variety of tasks intended to increase the efficiency, reliability and security of the Russian electrical grids. This builds on an earlier industrial and technology cooperation agreement for the modernization of the Russian electrical grid through improved local production and the introduction of advanced "Smart Grid" technologies. The companies have begun studying options for the localisation of the production of Alstom Grid equipment. The ongoing cooperation covers both technical and production process advancements for products such as high and ultra-high voltage power transformers, gas and air-insulated substations, high voltage direct current transmission (HVDC), Flexible AC Transmission Systems (FACTS), and automation solutions.

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Alstom Power has been present in Russia for 35 years during which it has participated in a number of key power projects. In 2007, Alstom was the first foreign enterprise to be invited to build a combined cycle plant in Russia, Moscow's 420 MW TPP-26 power plant. The TPP-26 combined cycle power plant boasts the highest efficiency in Russia and greatly reduces gas consumption. In June 2007, Alstom signed a partnership with **JSC Atomenergomash** to provide nuclear conventional islands tailored to Russia's nuclear technology using Alstom's ARABELLE nuclear steam turbine technology.

Alstom Grid has been supplying electrical equipment to Russia for nearly 50 years. Today, it has manufacturing, engineering and service activities in Krasnoyarsk, Yekaterinburg and Moscow. In 2007, Alstom Grid signed an agreement to form a 50/50 joint venture with United Company RUSAL (UC RUSAL), the world's largest producer of aluminum. The joint venture was to become the preferred supplier for turnkey projects, electrical equipment and services for UC RUSAL's plants. In 2007, Alstom also delivered the first modern 500kV gas-insulated substations (GIS) to Russia under the "Moscow Ring 500kV" project, with a further project in 2010, to help secure the electrical supply to the city.

### **About Alstom**

*Alstom is a global leader in the world of power generation, power transmission and rail infrastructure and sets the benchmark for innovative and environmentally friendly technologies. Alstom builds the fastest train and the highest capacity automated metro in the world, provides turnkey integrated power plant solutions and associated services for a wide variety of energy sources, including hydro, nuclear, gas, coal and wind, and it offers a wide range of solutions for power transmission, with a focus on smart grids. The Group employs 95,000 people in more than 70 countries, and had sales of over €23 billion\* in 2009/10. \*Pro forma figures*

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