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Alstom to increase energy highways with €800 million of HVDC contracts

Alstom Grid has won three major High Voltage Direct Current (HVDC) contracts with a total value of €800 million (approximately half of this amount was booked in Q1 of the current fiscal year, the other half will be booked in Q2). The HVDC projects will build energy highways for bulk power transmission in India, bring power into the heart of a South Korean city, and integrate renewable energy resources in Atlantic Canada, paving the way for intercontinental energy trade.

HVDC is a technology that enables efficient, bulk power transmission across long distances via direct current. It transmits 30 per cent more power than the conventional alternating current technology, strengthening existing networks while minimising environmental impact.

Alstom technology at the heart of a densely populated South Korean city

Alstom has been awarded a HVDC Line Commutated Converter (LCC) project through its joint venture, KEPCO-Alstom Power Electronics Systems (KAPES), to design and supply equipment for a 33 km energy corridor in Seoul region. The ±500 kV HVDC link with 1.5 GW power capacity will transmit energy produced by the Dangjin power plant in the west of South Korea, to the densely populated Pyeongtaek area, east of Dangjin.

South Korea faces an ambitious challenge to meet the 25 per cent increase in electricity demand in the last decade alone.¹ As Korea continues to build a resilient transmission grid to bring the electricity needed to sustain the economy, HVDC will be increasingly used to supply power for populated areas.

"Alstom is proud to contribute to Korea's growing power economy. This project is the fruit of the joint venture and co-development efforts between KEPCO and Alstom; it will increase Alstom's HVDC presence in Asia, and KEPCO will benefit from Alstom's industry-leading HVDC technologies and expertise from around the world," said Patrick Plas, Senior Vice President Grid Power Electronics and Automation at Alstom.

In Korea, Alstom is a recognised, key player in HVDC technologies. The company provided the original 300 MW HVDC bipole link for the submarine interconnection linking South Korea's Jeju Island across 101 kilometres to the mainland in the late 1990s. In 2009, Alstom was then awarded a second contract to supply the new converter stations for the 400 MW HVDC bipole scheme, completed in 2014.

¹ International Energy Agency 2012.

Alstom to support Newfoundland and Labrador foundation for long-term energy exports in Canada

Nalcor Energy awarded Alstom a ± 350 kV bi-pole HVDC (LCC) turnkey contract to design, supply, and install a point-to-point HVDC solution for the Labrador-Island Transmission Link, with the following features:

- Two LCC (Line Commuted Converter) stations, near Muskrat Falls and Soldiers Pond near St. John's, to convert alternating current into direct current, and vice-versa
- Two cable compounds on both shores of the Strait of Belle Isle to connect submarine cables crossing the strait to the onshore overhead transmission lines

The transmission link – part of Nalcor Energy's Lower Churchill Project – will stretch 1,100 km from Muskrat Falls near Happy Valley-Goose Bay, Labrador to Soldiers Pond, Newfoundland and will transmit hydropower from the 824 megawatt Muskrat Falls Project to the island of Newfoundland.

"We are delighted to work with Alstom on the development of the Muskrat Falls Project. This project will be a valuable power-producing asset for decades. It will also generate significant employment and economic benefits, including CAD\$2.6 billion in income to Newfoundland and Labrador labour and business," said Gilbert Bennett, Vice President, Nalcor Energy Lower Churchill Project.

The Labrador-Island Transmission Link is essential for the delivery of energy for Newfoundland and Labrador and will help lay the foundation for the future energy corridor between Canada and the United States for clean energy trading.

Alstom to take on the second phase of India's energy highway

Following the contract win of the first phase of ± 800 kV 3000 MW Ultra-High Voltage Direct Current (UHVDC) from Power Grid Corporation of India Limited (PGCIL) in 2012, Alstom has been awarded the second phase to this large project, connecting Champa to Kurukshetra via ± 800 kV 3000 MW UHVDC. With these two phases, Alstom's advanced UHVDC system will manage bulk power transfer of 6000 MW at ± 800 kV DC from the generation centre in central region to the load centre in the northern region of the country, creating an "energy highway" of efficient power.

Alstom in India has been a pioneer since 1996 supplying three back-to-back HVDC links through which four electrical regions have been connected to improve inter-regional bulk power flow in the Indian grid.

Alstom Grid is one of the top three providers of HVDC technologies worldwide, with over 50 years of experience. It has delivered over 35,000 MW of connection capacity around the world, with key strategic interconnections such as the world's longest HVDC transmission system in Brazil at 2375 km (3150 MW, 600 kV) and the first and highest rated 800 kV UHVDC link in India (3000 MW). Alstom also built a 660 kV HVDC system in China, and the submarine interconnection between France and the UK (2000 MW).

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 93,000 people in around 100 countries. It had sales of over €20 billion and booked €21.5 billion in orders in 2013/14.

***Alstom Grid** has one clear vision: to develop innovative solutions for a flexible, reliable, affordable and sustainable electrical grid, everywhere. We design, manufacture, install and service the power transmission and distribution products and systems that empower the planet's low carbon economy... for now and for the future.*

Alstom Grid has over 130 years' experience and ranks among the top three in the electrical transmission sector with an annual sales turnover of €3.8 billion. Alstom Grid's 17,000 employees are spread across 87 manufacturing and engineering sites worldwide and have one common mission: be our customers' trusted partner, from the source to the city.

We are energising a smarter world... with Alstom.

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