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Korea Energizes High Voltage Direct Current (HVDC) Superconductor Cable

DEVENS, Mass., Oct. 29, 2014 (GLOBE NEWSWIRE) -- Korea Electric Power Corporation (KEPCO), LS Cable & System, and AMSC (Nasdaq:AMSC), today announced that a high voltage direct current (HVDC) high temperature superconductor (HTS) cable has been energized on Jeju Island's smart grid demonstration site. The 500 meter, 80kV DC cable is powered by AMSC's Amperium® HTS wire and installed in KEPCO's electricity grid.

"We believe Korea is the earliest country in the world to adopt smart and clean energy such as smart grid, Energy Storage System (ESS), and micro grid. The energizing of the first direct current high temperature superconductor cable in a real grid demonstrates KEPCO's commitment to developing world-class, leading edge technologies," said Hwan-Eik Cho, President & CEO, KEPCO. "We expect to continue to develop superconductor cable projects with the objective of being the foremost utility in superconductor-enabled solutions."

HVDC HTS cables are power dense and have zero resistance, making them an ideal solution to moving large amounts of power underground and with a minimal footprint. Capable of conducting 150 times the amount of electricity that can be conducted by copper or aluminum devices of the same size, HVDC HTS cables also benefit from no electrical losses, making them a perfect conductor of electricity. Designs exist for future cables that the Company anticipates will be capable of moving up to 10 gigawatts (GW) of power within an 8 meter right-of-way. A similar overhead circuit would require multiple extremely high voltage circuits and an approximately 120 meter right-of-way.

"The HVDC superconducting cable system offers transmission performance superior to that of the alternating current (AC) system. Interest in this technology has been building up in Asia, the United States and Europe, where new power network implementation is needed," said Ja-Eun Koo, President and CEO, LS Cable & System. "We remain focused on continuing to enhance our knowledge base and experience with superconductor cables so that we are well positioned to capitalize on opportunities around the world."

In 2011, KEPCO, LS Cable & System, and AMSC energized a 22.9 kV AC cable system at the I'cheon substation located near the city of Seoul. The cable successfully operated for two years. At the time of installation, it was the longest distribution voltage superconductor power cable in operation. KEPCO is also conducting type testing for a one kilometer, 154kV AC cable system that utilizes AMSC's Amperium HTS wire.

"With the energizing of the HVDC cable at Jeju Island, KEPCO and LS Cable have taken another step forward in upgrading Korea's electricity network and fulfilling KEPCO's vision of securing a world-class competitive edge through the development of green and smart technologies," said Daniel P. McGahn, President and CEO, AMSC.

Amperium wire is manufactured utilizing a proprietary process at AMSC's headquarters in Devens, Massachusetts - the world's largest commercial-scale HTS wire manufacturing facility. The wire can be used to increase efficiency and reduce the size and weight of a wide variety of applications, including power cables, motors, generators and defense systems. To learn more, visit www.amsc.com/products/amperiumwire.

[About Korea Electric Power Corporation \(KEPCO\)](#)

KEPCO is South Korea's sole power distributor, serving 13 million households. It also generates approximately 90% of Korea's power supply and is one of the world's top 10 electric utilities, with an installed capacity of nearly 64,000 MW (primarily from thermal and nuclear plants). More information is available at <http://www.kepcoco.kr/eng/>.

[About LS Cable & System](#)

LS stands for "Leading Solution." LS Group spun off from LG Group in 2003, Korea's 15th-largest conglomerate and the 3rd-largest power cable maker in the world, is leading the industry of energy and telecommunications systems. LS Cable & System, the flagship company of the conglomerate, is a global provider of cables and systems for the power and telecommunications industry. LS Cable & System also leads high-technology programs, including the production of high temperature superconductor power cables and submarine power transmission cables. LS Cable & System has 35 factories, 45 sales offices and subsidiaries and 4 R&D centers in 23 countries. More information is available at <http://www.lscns.com/>.

[About AMSC \(NASDAQ: AMSC\)](#)

AMSC generates the ideas, technologies and solutions that meet the world's demand for smarter, cleaner ... better energy. Through its Windtec™ Solutions, AMSC provides wind turbine electronic controls and systems, designs and engineering services that reduce the cost of wind energy. Through its Gridtec™ Solutions, AMSC provides the engineering planning services and advanced grid systems that optimize network reliability, efficiency, and performance. The company's solutions are now powering gigawatts of renewable energy globally and enhancing the performance and reliability of power networks in more than a dozen countries. Founded in 1987, AMSC is headquartered near Boston, Massachusetts with operations in Asia, Australia, Europe and North America. For more information, please visit <http://www.amsc.com>.

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This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Any statements in this release regarding KEPCO's development of superconductor cable projects and its expectation of being the foremost utility in superconductor-enabled solutions; designs for and performance of future cables; the impact of the DC cable at Jeju Island on KEPCO's and LS Cable's competitive position; and other statements containing the words "believes," "anticipates," "plans," "expects," "will" and similar expressions, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements represent management's current expectations and are inherently uncertain. There are a number of important factors that could materially impact the value of our common stock or cause actual results to differ materially from those indicated by such forward-looking statements. Such factors include: We have a history of operating losses, which may continue in the future. Our operating results may fluctuate significantly from quarter to quarter and may fall below expectations in any particular fiscal quarter; we have a history of negative operating cash flows, and we may require additional financing in the future, which may not be available to us; Our Term Loans include certain covenants and other events of default. Should we not comply with these covenants or incur an event of default, we may be required to repay our obligation in cash, which could have an adverse effect on our liquidity; We may be required to issue performance bonds or provide letters of credit, which restricts our ability to access any cash used as collateral for the bonds or letters of credit; Changes in exchange rates could adversely affect our results from operations; If we fail to maintain proper and effective internal controls over financial reporting, our ability to produce accurate and timely financial statements could be impaired and may lead investors and other users to lose confidence in our financial data; Our success in addressing the wind energy market is dependent on the manufacturers that license our designs; Our success is dependent upon attracting and retaining qualified personnel and our inability to do so could significantly damage our business and prospects; We may not realize all of the sales expected from our backlog of orders and contracts; Our financial condition may have an adverse effect on our customer and supplier relationships; Failure to successfully execute the consolidation of our Grid manufacturing operations or achieve expected savings could adversely impact our financial performance; Our business and operations would be adversely impacted in the event of a failure or security breach of our information technology infrastructure; We may not be able to launch operations at our newly leased manufacturing facility in Romania, and, if we are able to do so, we may have manufacturing quality issues, which would negatively affect our revenues and financial position; We rely upon third-party suppliers for the components and subassemblies of many of our Wind and Grid products, making us vulnerable to supply shortages and price fluctuations, which could harm our business; Many of our revenue opportunities are dependent upon subcontractors and other business collaborators; If we fail to implement our business strategy successfully, our financial performance could be harmed; Problems with product quality or product performance may cause us to incur warranty expenses and may damage our market reputation and prevent us from achieving increased sales and market share; New regulations related to conflict-free minerals may force us to incur significant additional expenses; Our contracts with the U.S. government are subject to audit, modification or termination by the U.S. government and include certain other provisions in favor of the government. The continued funding of such contracts remains subject to annual congressional appropriation which, if not approved, could reduce our revenue and lower or eliminate our profit; Many of our customers outside of the United States are, either directly or indirectly, related to governmental entities, and we could be adversely affected by violations of the United States Foreign Corrupt Practices Act and similar worldwide anti-bribery laws outside the United States; We have limited experience in marketing and selling our superconductor products and system-level solutions, and our failure to effectively market and sell our products and solutions could lower our revenue and cash flow; We may acquire additional complementary businesses or technologies, which may require us to incur substantial costs for which we may never realize the anticipated benefits; Our success depends upon the commercial use of high temperature superconductor (HTS) products, which is currently limited, and a widespread commercial market for our products may not develop; Growth of the wind energy market depends largely on the availability and size of government subsidies and economic incentives; We have operations in and depend on sales in emerging markets, including China and India, and global conditions could negatively affect our operating results or limit our ability to expand our operations outside of these countries. Changes in China's or India's political, social, regulatory and economic environment may affect our financial performance; Our products face intense competition, which could limit our ability to acquire or retain customers; Our international operations are subject to risks that we do not face in the United States, which could have an adverse effect on our operating results; Adverse changes in domestic and global economic conditions could adversely affect our operating results; We may be unable to adequately prevent disclosure of trade secrets and other proprietary information; Our patents may not provide meaningful protection for our technology, which could result in us losing some or all of our market position; There are a number of technological challenges that must be successfully addressed before our superconductor products can gain widespread commercial acceptance, and our inability to address such

technological challenges could adversely affect our ability to acquire customers for our products; We have not manufactured our Amperium wire in commercial quantities, and a failure to manufacture our Amperium wire in commercial quantities at acceptable cost and quality levels would substantially limit our future revenue and profit potential; Third parties have or may acquire patents that cover the materials, processes and technologies we use or may use in the future to manufacture our Amperium products, and our success depends on our ability to license such patents or other proprietary rights; Our technology and products could infringe intellectual property rights of others, which may require costly litigation and, if we are not successful, could cause us to pay substantial damages and disrupt our business; We have filed a demand for arbitration and other lawsuits against our former largest customer, Sinovel, regarding amounts we contend are overdue. We cannot be certain as to the outcome of these proceedings; We have been named as a party in various legal proceedings, and we may be named in additional litigation, all of which will require significant management time and attention, result in significant legal expenses and may result in an unfavorable outcome, which could have a material adverse effect on our business, operating results and financial condition; Our common stock has experienced, and may continue to experience, significant market price and volume fluctuations, which may prevent our stockholders from selling our common stock at a profit and could lead to costly litigation against us that could divert our management's attention.

These and the important factors discussed under the caption "Risk Factors" in Part 1. Item 1A of our Form 10-K for the fiscal year ended March 31, 2014, and our other reports filed with the SEC, among others, could cause actual results to differ materially from those indicated by forward-looking statements made herein and presented elsewhere by management from time to time. Any such forward-looking statements represent management's estimates as of the date of this press release. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to the date of this press release.

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