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For Immediate Release

Icebreaker Offshore Wind Project to Incorporate New Foundation Design

Mono Bucket foundations by Universal Foundation will increase efficiency and reduce costs

CLEVELAND (June 2, 2015) – The Lake Erie Energy Development Corporation (LEEDCo) announced today that the Icebreaker offshore wind project planned for the Ohio waters of Lake Erie will utilize an innovative foundation design developed in Europe. Mono Bucket foundations, developed by Denmark-based Universal Foundation (UF), will significantly reduce installation costs for the pilot project compared to the modified monopile concept LEEDCo developed in 2013.

“Universal Foundation’s Mono Bucket foundation recently emerged as one of the most promising technology developments in the European offshore wind industry,” said Lorry Wagner, president of LEEDCo. “We are always vigilant about finding the most cost-effective solutions to build a competitive industry in Lake Erie and we’re excited to be the first to deploy this state-of-the-art innovation in U.S. waters.”

To evaluate the Mono Bucket design, LEEDCo considered its technical performance, manufacturing costs, installation costs and comparative risks. LEEDCo’s evaluation team included veteran offshore wind engineers from UK-based Offshore Design Engineering and wind industry supply chain experts from Cleveland-based GLWN (formerly Great Lakes Wind Network).

“Our evaluation concluded that the Mono Bucket will achieve significant cost savings while meeting the technical performance requirements for Lake Erie’s soil and winter weather conditions,” Wagner said. “It is lighter than our original concept, requires significantly less time on the water during construction, and can be fabricated locally.”

The Mono Bucket foundation is an all-in-one steel structure consisting of a monopile shaft attached to a large-diameter bucket. It is installed with a unique suction system that requires no pile driving or dredging – eliminating noise and soil disturbance. A prototype has been supporting a 3MW turbine in Denmark since 2002. A second prototype has been supporting a met mast at Horns Rev 2 in Denmark since 2009.

In 2011, UF was selected as one of four finalists in the Carbon Trust Offshore Wind Accelerator (OWA) competition, an initiative led by the nine largest utilities in Europe to identify and de-risk promising technology innovations in the offshore wind industry. Backed by the OWA program, UF successfully installed two met masts at Dogger Bank in the middle of the North Sea in 2013. A year later, UF completed a series of 29 successful trial installations in various challenging soil conditions off the east coast of England. This campaign was a joint effort among Universal Foundation, the Carbon Trust, Statoil, DONG Energy, E.ON and Statkraft. In addition to Icebreaker, Mono Buckets are also being considered for a number of European projects.

“After more than a decade of R&D work, trial installations and due diligence, we are thrilled that the Mono Bucket foundation has reached the appropriate level of industry acceptance to begin deployment in commercial projects. We very much look forward to delivering an optimized total solution in close cooperation with related company, Fred. Olsen Windcarrier, who has previously been selected as a member of LEEDCo’s team,” said UF CEO Torgeir Ramstad. “We are proud to partner with LEEDCo to be a part of the first offshore wind project in Lake Erie.”

UF will join LEEDCo’s team to complete the detailed design of the Mono Bucket foundations for the Icebreaker project. The team will work closely with U.S. steel fabricators to ensure the design is optimized for fabrication in the United States. The final design will be complete in early 2016.

“This is yet another innovation we are bringing to the U.S. offshore wind industry that will help meet the U.S. Department of Energy’s cost of energy targets,” Wagner said. “Not only does it move Icebreaker forward, it enables the Lake Erie region to become a central hub of the U.S. offshore wind industry.”

About LEEDCo: The Lake Erie Energy Development Corporation (LEEDCo) is a regional non-profit corporation leading efforts to create an offshore wind energy industry in Lake Erie. As a public-private partnership, LEEDCo represents the Lake Erie region’s public interest in offshore wind and is working to develop a demonstration project seven miles offshore Cleveland. Founded in 2009, LEEDCo members include the Ohio Counties of Ashtabula, Cuyahoga, Lake and Lorain, Erie County, Pennsylvania, the City of Cleveland, the Cleveland Foundation and NorTech. | www.leedco.org

About Universal Foundation: Universal Foundation is an offshore foundation company majority owned by Fred. Olsen Ocean, with offices in Norway, Denmark, Germany and the UK. The company is responsible for bringing the Mono Bucket foundation to the offshore wind industry. A unique concept in offshore wind engineering combining the key benefits of a gravity base foundation, a monopile and a suction bucket, the Mono Bucket can be installed in a wide variety of site conditions, including sand, silt, clay and layered strata. The concept is based on more than 2,000 suction installations in offshore oil and gas. Universal Foundation provides design, project management and engineering expertise as well as holistic solutions for the Mono Bucket foundation, working alongside Fred. Olsen related companies or third-party contractors for fabrication and installation. | www.universal-foundation.com

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