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Wave Hub cable laying operation gets under way

Installation of the South West RDA's (Regional Development Agency) pioneering Wave Hub marine energy project gets under way tomorrow [Monday August 2] with the start of the cable laying operation.

Wave Hub is creating the world's largest test site for wave energy technology by building a grid-connected socket on the seabed, 16 kilometres off the coast of Cornwall in South West England, to which wave power devices can be connected and their performance evaluated.

The £42 million project has been developed by the South West RDA and is a cornerstone of its strategy to develop a world class marine energy industry in South West England.

Wave Hub will be connected to the shore via a 25km, 1,300-tonne subsea cable that will be laid from the beach at Hayle, on the north Cornwall coast, out to the Wave Hub site by the cable laying ship Nordica.

The 33,000 volt cable has been manufactured in one continuous length and is made up of six copper cores, 48 fibre optic cables, two layers of steel wire armouring and an outer polymer sheath. It is 16 centimetres in diameter.

Monday's operation involves floating the end of the cable ashore from the Nordica, which will be stationed two kilometres offshore, and winching it to the top of the beach to a pre-constructed pit where it will be joined to onshore cables connected to a new electricity substation.

Once the cable is in place it will be buried on the beach to a depth of around two metres using a special machine that blasts a trench in the sand using high pressure water jets, burying the cable as it goes. The machine will continue offshore for a distance of two kilometres, and will be monitored by divers.

The RDA's Wave Hub general manager Guy Lavender said: "This is a momentous day because it marks the start of Wave Hub's installation and a new chapter in the development of the marine renewables industry, not just in the UK but around the world.

“Wave Hub is a genuine world-first and will be a huge asset to companies striving to harness the vast power of the oceans, cutting greenhouse gas emissions and tackling climate change. Combined with the research expertise already in South West England, we believe we have a compelling offer that will help wave device developers make the leap to full commercialisation of their technologies.”

The cable operation at Hayle, which is being carried out by specialist contractor CTC Marine Projects, will take about two days. It means that a 100 metre strip of beach will be closed to beachgoers near Harvey’s Towans. This will be patrolled by members of the local surf lifesaving club. There will also be a 250 metre exclusion zone around the cable up to two kilometres offshore. This will be patrolled by the local Jet Ski club.

Once the cable is securely onshore the Nordica will head 16 kilometres out to sea to the Wave Hub site, laying the cable on the seabed as it goes. This will take around five days. The 12-tonne Wave Hub will then be lowered to the seabed in about 50 metres of water.

The Nordica will then head to the port of Falmouth on the south coast of Cornwall to pick up a 45-tonne underwater tractor that will bury the subsea cable for a further five kilometres offshore.

In the autumn Wave Hub will undergo a series of tests in preparation for welcoming its first wave energy devices next year.

Wave Hub is being funded with £12.5 million from the South West RDA, £20 million from the European Regional Development Fund Convergence Programme and £9.5 million from the UK government.

An independent economic impact assessment has calculated that Wave Hub could create 1,800 jobs and inject £560 million in the UK economy over 25 years. Almost 1,000 of these jobs and £332 million could be generated in South West England.

Ends

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Notes to Editors

1. **Images:** of Wave Hub and the cable being loaded on to the Nordica at Hartlepool dock prior to heading for the deployment site in Cornwall can be downloaded here:
www.2daymedia.com/fotoweb/linkgen.asp?linkid=WaveHubInstallation1_2010720163142831
www.2daymedia.com/fotoweb/linkgen.asp?linkid=WaveHubInstallation2_2010720163323331
2. **Film:** of Wave Hub and the subsea cable under construction is available here: **Film:** of Wave Hub and the subsea cable under construction is available here:
www.youtube.com/southwestrda
3. You can follow Wave Hub's progress on Twitter (@wavehub).
4. The **South West RDA** works for and promotes a modern, stronger and more resilient economy across South West England. Our work involves creating better jobs, successful businesses, more prosperous cities, towns and villages within an economy that uses less carbon and will still be thriving in 20, 50 and 100 years time. Find out more at www.southwestrda.org.uk
5. **Wave Hub** is a major marine renewables infrastructure project that will create an electrical 'socket' on the seabed in some 50 metres of water around 16kms (10 miles) off the coast of Cornwall in South West England and connected to the National Grid via a subsea cable. Groups of wave energy devices will be connected to Wave Hub and float on or just below the surface of the sea to assess how well they work and how much power they generate before being commercially produced and deployed. There are four berths available at Wave Hub, each covering two square kilometres. Wave Hub will have an initial maximum capacity of 20MW (enough electricity to power approximately 7,000 homes) but has been designed with the potential to scale up to 50MW in the future. The first wave energy devices are expected to be deployed in 2011.
6. Legal agreements have been signed with leading renewable energy company **Ocean Power Technologies Limited** to take the first berth at Wave Hub using its PowerBuoy wave energy converter. Images of PowerBuoy can be downloaded at www.flickr.com/photos/southwestengland. Discussions are ongoing with other device developers.
7. **JDR Cable Systems Ltd** has manufactured the armoured 25 km (16 mile) 33,000 volt cable and hub assembly for Wave Hub at its factory in Hartlepool in a contract worth £7.6 million. The cable has been made in one continuous length and is made up of six copper cores, 48 fibre optic cables, two layers of steel wire armouring and an outer polymer sheath. It is 16 centimetres in diameter and weighs 1,300 tonnes. The hub weighs around 12 tonnes and will sit on the seabed. It will split the main cable linking it to the National Grid on shore into four 300m cable 'tails' to which groups of wave energy devices can be attached and monitored for how they perform. **CTC Marine Projects** is carrying out the installation of the hub and subsea cable on the seabed in a contract worth around £7 million.
8. **Powermann Ltd** of Poole in Dorset has been appointed to handle the £1 million onshore electrical works that will connect Wave Hub to the UK's National Grid network, and a new electricity sub-station at Hayle has been built by **Dawnus Construction**.
9. In Cornwall and the Isles of Scilly the **Convergence Programmes** are made up of European Regional Development Fund (£347 million) and European Social Fund (£153 million). Convergence Programmes will run until 2013 and follow the successful Objective One Programme and prior to that Objective 5b. For further information see: www.convergencecornwall.com