

Cable installation to begin at wave energy test site

July 29, 2024



This month, crews began installing the power and data cables that are essential to completing construction of a new wave energy testing facility off the Oregon coast.

The cables will support Oregon State University's PacWave South, the first pre-permitted, utility-scale, grid-connected wave energy test site in the United States. When the facility is completed, wave energy developers will be able to test different technologies for harnessing the power of ocean waves and transmitting that energy to the local electrical grid.

Huge challenge

"Transmitting power from wave-energy generators to shore in a form compatible with the regional power grid is a huge challenge, and cabled connection from PacWave South provides the capability to test power-

delivery technologies,” said Burke Hales, PacWave’s chief scientist and a professor in the OSU College of Earth, Ocean, and Atmospheric Sciences. “These cables are highly specialized, and their installation and burial is a keystone of wave energy development in the U.S.”

The work includes installing four power and data cables ranging in length from about 10 to 13 continuous miles from a vault under the parking lot of Driftwood Beach State Park south of Newport out to the test site offshore.

Louisiana-based subsea cable services contractor R.T. Casey is overseeing the installation of the cables. The work will be carried out by crews aboard three vessels and will likely be visible to beachgoers and visitors for the duration of the installation process, which is expected to take six to seven weeks, depending on ocean conditions, said Dan Hellin, deputy director of PacWave.

The cables will be anchored in an underground vault at Driftwood and will run through conduits from the shore under the beach, then come up out of the seafloor about 1 mile out. From there to the test site, the cable will be buried about three feet under the seafloor.

The subsea cables, which were manufactured in Norway by the Paris-based firm Nexans, were transported via freighter to Louisiana and transferred to Offshore Support Vessel (OSV) HOS Innovator, which will be used to lay the cables, to make their way to Oregon.

Once the work begins, a second vessel, the OSV Nautilus, will follow behind to bury the cable using a remotely-operated vehicle. Those two vessels are expected to work around the clock for the duration of the installation, and their lights may be visible at night when they are close to shore, Hellin said.

Safe distance request

“We are asking all mariners in the area to maintain a minimum distance of 500 yards from any vessel involved in the cable installation process,” Hellin said. “While these vessels will be moving very slowly, they will be laying cables and have equipment operating on the seafloor, so they will be unable to stop operations or deviate from their planned route.”

A third vessel, the M/V Liberty, will support diving operations during the cable installation and provide other assistance as needed. That vessel will make trips back and forth from Newport while the work is underway, Hellin said.

On land, another group will be installing cables that run from the vault to a shoreside utility connection and monitoring facility on the east side of Highway 101 just south of Driftwood. Two of the three buildings at the site are nearly completed, and the third is a couple of months behind them, Hellin said.

Portions of the Driftwood Beach State Recreation Site parking lot were closed this week to accommodate the work. Beach access and park restrooms will remain open, but parking may be limited, and recreational vehicles and other large vehicles may not be able to turn around. Alternative parking and beach access is available at Governor Patterson Memorial State Recreation Site three miles south of Driftwood Beach.

“We will maintain some parking and access to the restrooms, beach trail and the viewing platform at the park so people can watch the action if they are interested,” Hellin said.

Access to Driftwood is expected to be limited through mid-September.

Once the cables are installed, the open ocean test site will be marked with a series of buoys to alert mariners traveling in the area, Hellin said. The first wave energy developer is expected at PacWave South in 2025 and the first cable-connected test is expected in 2026 under current timelines. Construction updates will be posted on the project’s website, pacwaveenergy.org/constructionupdates

The ocean test site is on a sandy-bottomed stretch of the Pacific Ocean away from popular commercial and recreational fishing reefs about seven miles off the coast south of Newport. The site will have four test berths, which combined can accommodate up to 20 wave energy devices at any one time.

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