

NEPTUNE Completes First Phase of Installation

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The first phase of the new NEPTUNE Canada ocean observatory is being completed today off the west coast of Vancouver Island.

The cable-laying vessel Ile de Sein returned last night to Port Alberni on the west coast of Vancouver Island after nine weeks at sea laying and partially burying 800 km of powered fibre-optic cable, repeaters, branching units and spur cables on the ocean floor.

The newly laid cable runs down Alberni Inlet and out into the open ocean in a large loop that extends across the continental shelf and lies as deep as 2,600 metres. In August, the first end of the cable loop was connected to the UVic shore station in Port Alberni. This morning, the other end of the cable was winched ashore, closing the loop.

The cable is the backbone of the North-East Pacific Time-series Undersea Networked Experiments, or NEPTUNE, the world's first regional cabled ocean observatory. Led by the University of Victoria, NEPTUNE Canada will transform ocean science by transmitting data instantly to shore where they will be relayed to researchers, educational institutions and the public via the Internet.

The cable installation was supervised by Alcatel-Lucent, which, along with its subcontractors, is designing, manufacturing and installing much of NEPTUNE Canada's equipment and technology.

“As expected, the installation of the cable was challenging at times, but

thanks to the expertise of Alcatel-Lucent, everything went very well,” says Dr. Chris Barnes, project director of NEPTUNE Canada. “Alcatel-Lucent has now contracted another cable ship with a remotely operated vehicle to inspect sections of the cable route to ensure proper placement and burial.”

Following the inspection, the focus will shift to the second stage of installation—the deployment of five 6.5-tonne nodes at scientifically significant locations along the loop, scheduled for summer 2008.

The nodes will eventually support more than 200 interactive sampling instruments and sensors, as well as video cameras and a remotely operated vehicle, as they collect data and imagery from the ocean surface to beneath the seafloor. The first live data flow is targeted for late 2008.

“The successful completion of the cable installation demonstrates the importance of close working relationships between the scientific community, the NEPTUNE Canada project team and our industry partners,” says Peter Phibbs, associate director of engineering and operations for NEPTUNE Canada.

“We’ll be working through the winter with Alcatel-Lucent and a Vancouver company, OceanWorks, to finalize node and junction box technologies that are being developed for the first time, anywhere.”

NEPTUNE Canada spans much of the northern Juan de Fuca plate, permitting broad studies on such topics as seismic and tsunami activity, ocean-climate interactions and their effects on fisheries, gas hydrate deposits, and seafloor ecology. It will also promote new developments in marine technology, fibre-optic communications, power systems design, data management, and sensors and robotics.

Source: University of Victoria

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