

Moving gas to market

St. John's firm to test prototypes for storing, transporting compresses natural gas

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By Moira Baird The Telegram

Trans Ocean Gas Inc. starts testing prototypes for storing and transporting compressed natural (CNG) gas this fall.

The St. John's company has a unique, patented idea for getting CNG to markets in cylinders that are lighter and less prone to explosive ruptures than traditional steel containers. The \$2.4-million testing phase could be completed by year-end.

Next, comes manufacturing of the cylinders known as fibre-reinforced plastic storage vessels — and Trans Ocean wants to do this work in Newfoundland.

To accomplish that, company president Steven Campbell met with provincial Natural Resources Minister Ed Byrne and asked for financial assistance.

He is awaiting a response.

"We're obviously very excited," said Campbell. "Upon the success of design verification testing, we intend to establish manufacturing plants.

"Both ABS and DNV will be contributing to the design verification testing program to obtain approval in principal to construct the pressure vessel system for CNG carriers."

Houston-based American Bureau of Shipping (ABS) and Norwegian-based Det Norske Veritas (DNV) are international organizations developing rules and guidelines for CNG transportation.

Campbell, an engineer, created Trans Ocean in 2001 when he figured existing composite cylinders used as fuel tanks for F-18 fighter jets and public buses could also safely store CNG.

Containment system

The storage cylinders containing CNG would be stored upright in steel modules, known as a cassette containment system, aboard either converted container ships or purpose-built ships. Then, it would be shipped to an onshore processing centre and on to markets.

It's the cylinders and modules that Campbell would like to see built in Newfoundland and then installed aboard ships at a deepwater port.

"We've recently invited the government of Newfoundland and Labrador to partner in establishing manufacturing facilities in rural Newfoundland," he said.

"We also look forward to being able to train a lot of young people to operate the computer-controlled filament winding machines."

Trans Ocean Gas is also busy preparing a proposal to transport CNG from the White Rose field

off Newfoundland.

The company is one of several asked by Husky Energy, the operator of White Rose, to submit its plan by mid-September.

"We've assembled the better part of, and are continuing to assemble, our consortium team to offer Husky Energy a complete turnkey solution," said Campbell.

Campbell declined to name the members of the consortium, but they include a shipping company, a major offshore engineering firm, and a turret/mooring buoy design fabricator.

In June, Husky asked for submissions assessing key technical, economic and regulatory issues in shipping natural gas from the Grand Banks.

Advantages over steel

Campbell said his composite cylinders have a number of advantages over steel containers — they're light-weight, corrosion resistant, and do not rupture if punctured.

They're also cost competitive, he added, since steel prices have doubled in the past year.

And they're suitable for the kind of stranded gas found offshore Newfoundland and in many other parts of the world. (Stranded gas is small pools that oil companies consider too costly to develop.)

To test the prototypes this fall, Trans Ocean is partnered with EADS-Composites Atlantic which is equipped to manufacture the fibre-reinforced pressure cylinders.

Based in Lunenburg, N.S., that company is jointly owned by the European Aeronautic Defense and Space Company (EADS) and the Nova Scotia government. EADS also owns Airbus, Eurocopter and the Galileo space probe.

EADS-Composites Atlantic employs 170 people manufacturing composites for aeronautics, space, defence and commercial products.

Campbell envisions five or six such plants will be needed to meet demand once Trans Ocean's CNG transportation system takes off.

The company's success to date has been thanks to the organizations, such as Institute of Ocean Technology, the Industrial Research Assistance Program, the Atlantic Canada Opportunities Agency, and people like John Crosbie and his approximately 50 shareholders.

Those shareholders invested more than \$100,000 in Trans Ocean Gas under the 20 per cent direct equity tax rebate program.

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