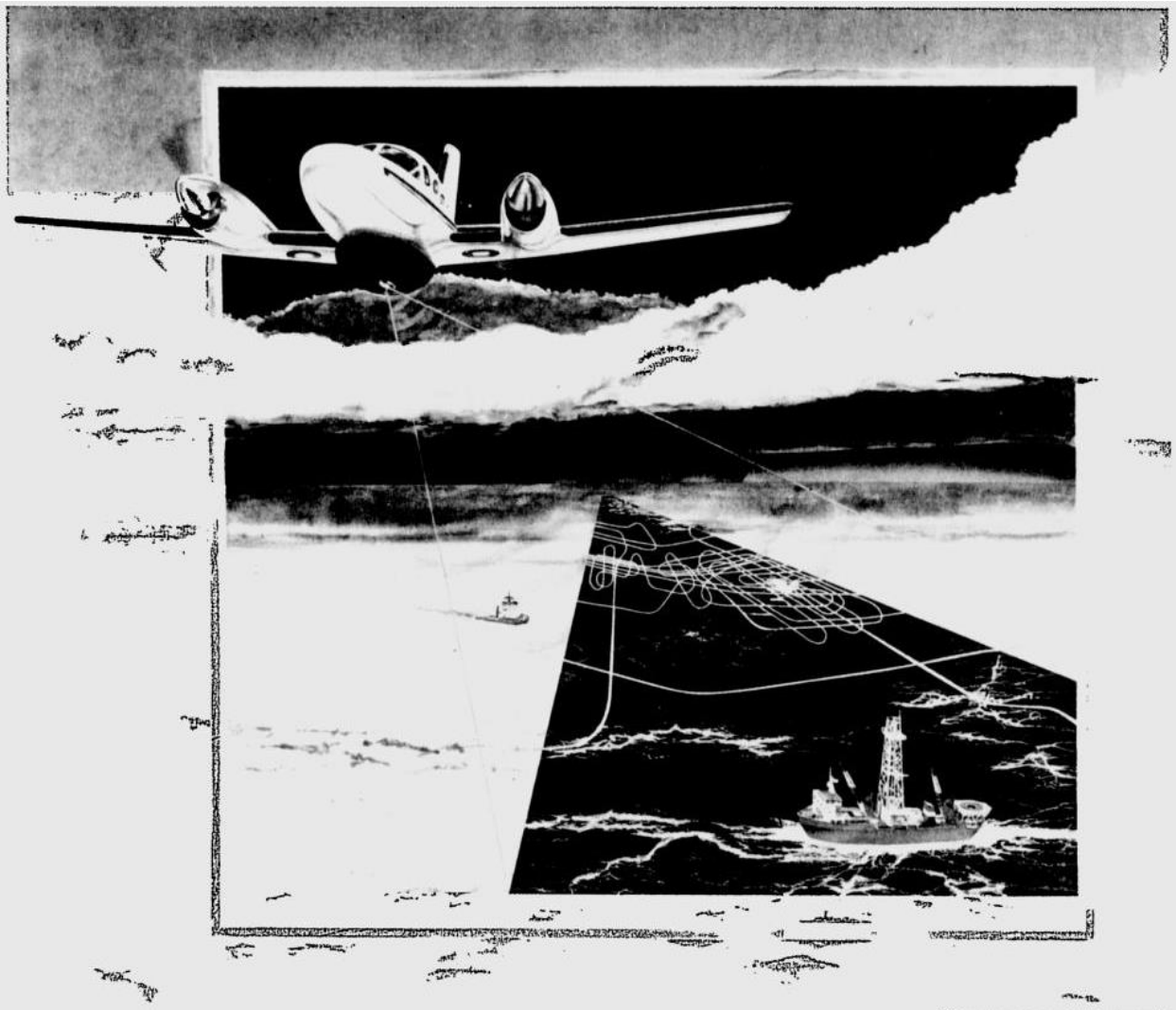

Intera Environmental Consultants Ltd.

Airborne radar system lets drillers know when to be ready to dodge a crushing floe

Sky-high eye sees all ice

By Heather Wilson
(Herald staff writer)

A Calgary company which has developed surveillance devices billed as the most advanced commercial ice early-warning system in the world has won the right to use the technology for the first time this winter in the Beaufort Sea.

The synthetic aperture radar (SAR) system, which took six years and $7 million to implement, was unveiled at a press conference Monday by Intera Environmental Consultants Ltd., an employee-owned firm with a staff of 150.

Company president Brian Bullock said Intera will monitor Beaufort ice conditions under a three-year contract with Canadian Marine Drilling Ltd. (CANMAR), a subsidiary of Dome Petroleum.

The Star-1 system — which stands for sea-ice and terrain assessment radar — will allow drill ships to identify ice floes as small as 15 to 20 metres in size previously overlooked by other devices.

Its ability to detect small icebergs will also be demonstrated off the East Coast in February.

Although the military has developed elaborate airborne radar imaging systems, Intera is one of only three North American companies using this technology commercially.

A second, a Houston firm with older equipment, primarily maps terrain. A third, Calgary-based Mars Aerial Remote Sensing Ltd., has been identifying ice flows for CANMAR since 1980 with side-looking airborne radar (SLAR).

When the Mars contract expired in October, Intera stepped in with its higher resolution (SAR) technology.

In many respects the two systems are similar: Radar equipment on a plane scans a swath of sea surface and records the location of various types of ice. A picture can be produced on the aircraft, or at a ground station after transmitting digital data.

"It's like putting the eyes of the oil drilling operation at 30,000 feet," says Marc Wride, Intera's director of marketing.

But Intera's system — which grew out of a system developed by the Environmental Research Institute of Michigan — has sharper eyes that can reveal whether floes are new and thin, or thick multi-year ice.

"Whether it will ever turn out to be proven that we've forestalled an accident because of the higher resolution pictures we'll never know," CANMAR official Jim Steen said in an interview.

"But at least we'll be able to look the world straight in the eye and say we did our best."

The STAR-1 can be used in a Cessna Conquest turboprop, a lighter, more fuel-efficient craft than the Grumman Gulfstream executive plane used by Mars.

Because Intera's radar can scan only about 50 kilometers of sea surface at once, half that of the Mars system, more flying time will be necessary to cover the same area.

Despite that, Intera's operating costs will be lower.

But Steen confirmed that overall, the new radar system will cost about $4 million over three years — far more than the previous system because of high capital costs associated with the STAR-1's development.

Under the contract, CANMAR has agreed to use the service for at least seven months a year and will share the expense with Gulf Canada Resources Inc.

Intera vice-president Rob Inkster said the firm would like to sell the STAR-1 technology to a manufacturer: "It would be wiser for us to get someone else to produce the system. It's impossible to protect this kind of technology ... the way to succeed is to keep on doing more R&D (research and development) and devising more advanced systems," he said.

The STAR-1 can also be used to track oil spills and do oceanographic and land mapping.