



## **Year Round Arctic Operations**

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The arctic in winter arctic is a forbidding place, until recently winter shipping remained impossible except for places where air transport was available.

That all changed in 1998 when for the first time, winter shipping from a remote northern location was accomplished. The MV ARCTIC, Canada's first commercial icebreaking bulkcarrier broke new ground and old ice on its first winter trip to Deception Bay in February of that year. The trip was the culmination of many years of changing the paradigm of access to the north. Until that time, shipping north of 60 degrees in Canada relied on relatively fair weather and light ice conditions. Prior to this, all mining projects reliant on marine transportation required a tremendous degree of self-sustainability. Mines such as the Polaris Mine on Little Cornwallis Island, or Nanisivik Mine on Baffin Island needed to ensure their entire year's supplies were shipped in a limited window, a logistical challenge and a financial one as well.

With winter shipping a reality in Deception Bay, the operators (Xstrata Nickel) have a degree of flexibility with inventories of consumables that earlier mines were never able to enjoy. Likewise, a steady stream of raw materials now feeds southern furnaces reducing the need for stockpiling at both end of the supply chain. Products with limited shelf-lives are moved virtually year-round.

The ability of the MV ARCTIC to accommodate a variety of cargoes was key to the success of the venture. Virtually all of the mines supplies, liquid and dry have been carried along the 1800 mile route between The St Lawrence and Deception Bay since 1998. Bulk fuel, reagents, food stuffs, rolling stock and explosives are carried northbound in one operation. Once discharged, the nickel concentrate is then loaded into the holds of the ARCTIC and the deck is loaded with empty containers and waste materials bound for southern disposal.

It sounds rather simple, however it is anything but. Years of planning and design preceded the first successful voyage in the winter of 1998. Since then, lessons learned have been used to refine procedures that have resulted in 13 years of successful winter voyages. Dedication of all involved parties – the mine operator, ship owner and crew - working together ensure the success of the venture.

The lessons learned also contributed to the evolution of the UMIK I, Fednav's second icebreaking bulkcarrier. Delivered in 2006, this ship provides a similar sole-source transportation solution for Vale's nickel mine in Labrador. Although located south of 60 degrees, this mine in coastal Labrador is subjected to polar winter conditions and sea ice conditions not unlike those found further north.