



CHALLENGES OF THE ARCTIC SEALIFT

WISTA International Conference

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NEAS GROUP

Nunavut Eastern Arctic Shipping Inc., Nunavik Eastern Arctic Shipping Inc., NEAS Inc.



ARCTIC PIONEERS



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Makivik Corporation Société Makivik



Merkosak
Construction Ltd

Savik Entreprises
Ltd





GROWING FLEET OF CANADIAN-FLAG INUIT OWNED VESSELS





THE FINAL FRONTIER

Service Eastern & Western Arctic:

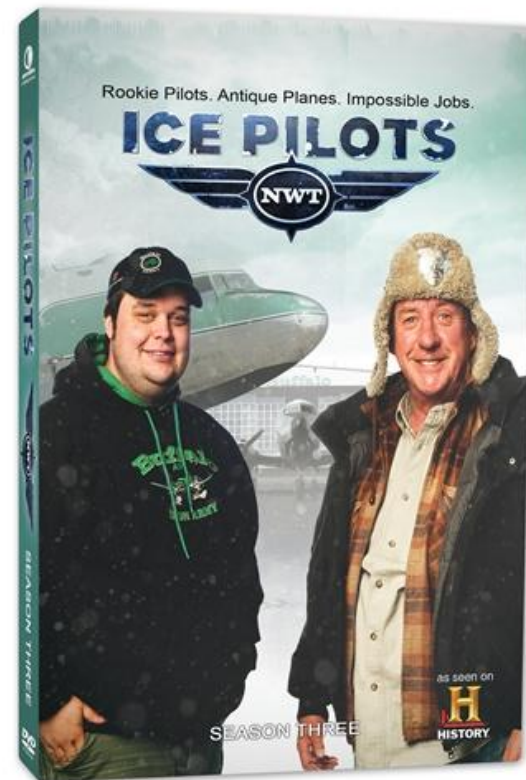
- Labrador
- Nunavik
- Nunavut
 - Baffin
 - Kivalliq
 - Kitikmeot
- Iqaluit Region
- Navigate Northwest Passage



Customers: individuals, communities, stores, businesses, mines, government departments and agencies



REALITY TV HAS NOTHING ON THE REAL EXTREMES OF ARCTIC SEALIFT





FROM OUR CAPTAINS' PERSPECTIVE...





SAILING CONDITIONS CAN QUICKLY CHANGE...





SMOOTH SAILING CAN QUICKLY TURN INTO SLOW OR NO GOING...





UNDER ESCORT





AN ESSENTIAL SERVICE DELIVERED UNDER EXTREME CONDITIONS

- **Nunavut's marine operating conditions are the most extreme on the planet**
 - **Extreme climate, weather, tide and ice conditions**
 - short navigational season
 - operational delays in discharge process
 - **All communities are dependent on marine resupply**
 - lack of basic marine infrastructure, including ramps
 - no safe or secure marine work areas on beaches
 - no safe anchorage or mooring buoys for vessels
 - few navigational aids and limited hydrographic charts





WHERE TO PUT A MOBILE OFFICE





DELIVER LIMITED LOCAL CAPACITY

- Each vessel has its own kit, including tugs, barges, cranes, heavy lift, lighting, mobile offices, loaders, generators
- NEAS has made significant investments





BIG CHANGES IN ARCTIC SEALIFT

- **Arctic marine operations have significantly changed:**
 - Shift from tug and barge to lightering operations
 - More vessels
 - Larger vessels, mooring farther off the coast
 - Increased marine traffic with more navigations
 - Growing cargo volumes
 - More stops in communities
 - More equipment in discharge process
 - More marine users in communities, small craft operators, hunters, fishers, cruise ships, etc
 - Containers and container handling



LIGHTERING OPERATION... FROM THE VESSEL





...TO THE BEACH





DISCHARGING IN IDEAL CONDITIONS





DOWN TIME IS LOST TIME





UNPREDICTABLE





ABOVE THE HIGH-WATER MARK: AN UNREGULATED ENVIRONMENT





ABOVE THE HIGH-WATER MARK

- **No common definitions for marine work areas**
- **No national standards**
- **No clear safety and security authorities or rules in and around work areas**
- **A safe and secure marine transportation system is important for local communities**





EXPONENTIAL GROWTH

- Marine traffic in Nunavut has increased by more than 14%
- Cargo volumes shipped into Nunavut by marine vessel up by 66% since 2007
- For NEAS, it is all up: cargo volumes, number of sailings, number of destinations, number stops
- 2012 saw record 93 stops, including 6 stops in Iqaluit and 3 stops in Kuujuuaq
- We will do even more this season
- Northwest Passage increasing services to West from East



BIG NEEDS NEED LEADERSHIP AND REALISM

- “***Build it and they will come***” strategies do not work for intermodal supply chains and infrastructure development.
- Benefits of a few ***mega ports*** must be balanced against the greatest good for the great number in the short and medium term...
- Full ***lifecycle costing*** must be used to evaluate benefits of temporary structures vs small scalable permanent infrastructure



THE NUNAVIK EXPERIENCE: Identify, Prioritize, Execute





NUNAVIK COMMUNITY EXAMPLES



Kuujjuarapik



Inukjuaq



Tasiujaq

- Immediate needs identified in each community.
- Over 10 year plan, each community received a piece of basic marine infrastructure
- Project **delivered with a \$88 million budget**, including maintenance
- Round two has begun...



TOP PRIORITY IN SHORT TERM: LOCAL SAFETY AND SECURITY ABOVE HIGH-WATER MARK





NEED FOR STANDARD KIT

- **Define the local priorities and focus:**
 - ✓ Safety first for employees, customers and community
 - ✓ Safe anchorage for vessels
 - ✓ Kid safe and secure multi purpose Marine Staging Areas
 - ✓ Cleared Beach areas
 - ✓ Basic ramps allowing access to water around tides
 - ✓ Fencing
 - ✓ Lighting
 - ✓ Signage
 - ✓ Emergency protocols and responsible authorities



IQALUIT CASE STUDY

- **Iqaluit, a territorial capital, is among Canada's fastest growing population centers**
- **Iqaluit is experiencing a “building boom,” including the construction of new international airport**
- **Iqaluit already accounts for approximately 1/3rd of all marine cargo destined for Nunavut**
- **Larger vessels making more frequent stops, using more equipment to deliver increased cargo volumes in reduced work spaces**
- **The local marine user group is growing... more small craft operators, hunters, fishers, cruise vessels, coast guard and military vessels, local cartage operators...**
- **There are growing problems with pedestrian and vehicle traffic in marine work areas**



BACK TO THE FUTURE





THE IQALUIT CAUSEWAY

- Tides cause significant delays in Iqaluit discharge, this impacts all communities
- Pending installation of safety lights for airport on beach will further reduce marine work area
- Rebuild causeway will allow access to water around tides



The causeway offers a cost effective short term infrastructure option to reduce costs and improve efficiencies across Nunavut's transportation system



CONCLUSION

- Basic marine infrastructure for every community in Nunavut offers the promise of the greatest efficiency gains in the short term
- Iqaluit causeway is a promising pilot project
- Nunavik experience offers a realistic model for infrastructure development in Nunavut



THANK YOU



People. Community. Service.