



**Submission to  
Taltson Hydroelectric Expansion  
Hearings  
Dettah, NWT**

**14 January 2010**

**Avalon Rare Metals Inc.**

***...Advancing Green Technology***



# A Supportable Alternative Route?

- Lower Social and Cultural Impact
- Less Environmental Impact
- Fewer Cumulative Environmental Effects
- More Network Flexibility & Interconnection Benefits
- Greater Economic, Employment & Regional Contracts
- More Profitable for Deze, its Owners and the NWT
- Reduces Many of the Risks to All Stakeholders
- Reduces Nechalacho Carbon Footprint & Power Costs



# A Win/Win/Win Opportunity to Improve the Route Selection

- Significant social, environmental, cultural and economic reasons favouring the Simpson Island and other routes were not fully considered in the study of alternative routes.
- Changing technologies, costs, economic opportunities and realities appear to provide a win/win/win solution for all stakeholders.
- **Recommend an independent and more robust study of alternative transmission routes including Simpson Island route.**



# What is Avalon's Interest

- Avalon is developing a very long life mine North of the Simpson Islands at Nechalacho, Thor Lake
- Avalon projects that it could spend \$500,000,000 on diesel to produce power for the mine at current prices
- The anticipated life of the mine matches the anticipated start up and life of the Taltson Dam (50 years plus)
- Hydro would significantly reduce Avalon's carbon footprint and improve and extend the socio economic benefits from Nechalacho



# Safe Harbour Statement

## Forward looking information

Certain statements contained in or incorporated by reference into this presentation constitute forward-looking statements. Such statements reflect the current views of Avalon Rare Metals Inc. with respect to future events and are subject to certain risks, uncertainties and assumptions. Many factors could cause the actual results, performance or achievements of Avalon Rare Metals Inc. that may be expressed or implied by such forward-looking statements to vary from those described herein should one or more of these risks or uncertainties materialize. Avalon Rare Metals Inc. does not intend, and does not assume any obligation, to update these forward-looking statements.



# Project Highlights

- Rare Metals such as Rare Earths and Lithium are key enablers of many emerging green technologies
- China produces 95% of world primary supply of REE
- Nechalacho (Thor Lake) a globally strategic REE asset
  - Very large size (64.2mt Inferred Resources), with high grade sub-zones
  - Exceptional enrichment in scarce Heavy Rare Earths
- **Pre-feasibility study underway, completion Spring 2010**
  - Relatively advanced compared to competitors
  - Well-financed (\$20 million), no debt, experienced management
- **Downstream processing opportunities for NWT**



# Project outline – 2 Power Loads

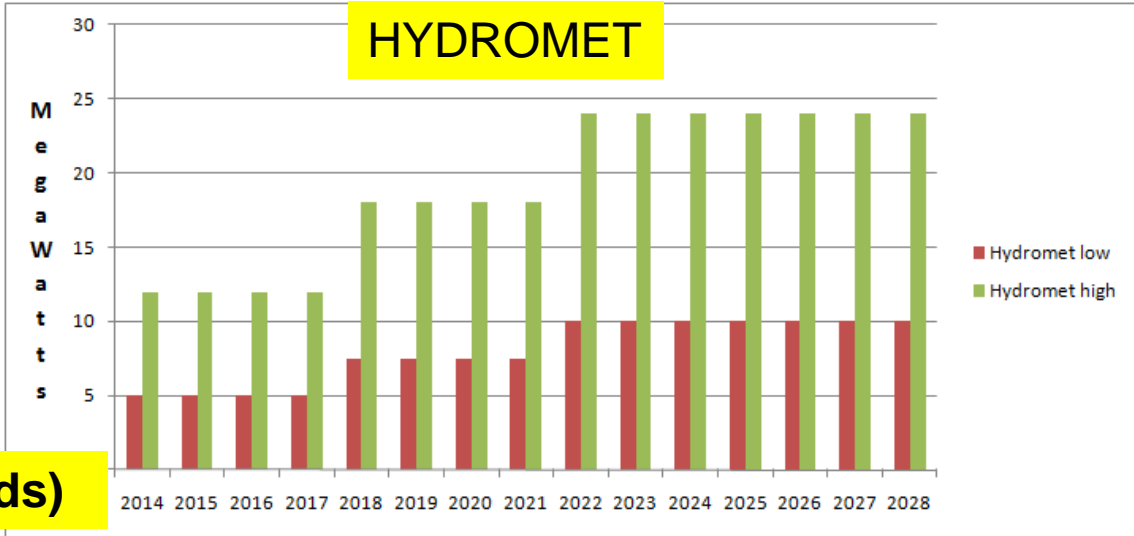
- **Mine site: mining and mineral separation plant producing mineral concentrate**
  - Main energy consumer is rock crushing and pulverization
  - Consumption estimated between 3-5MW initially increasing to 6-10MW
- **Transportation of mineral concentrate to hydrometallurgical plant**
- **Extraction of rare earths and rare metals from the mineral concentrate**
  - Main energy consumer general running of plant and heating of concentrate and reagents to high temperatures
  - Consumption estimated at 5-12MW increasing to 10-24MW



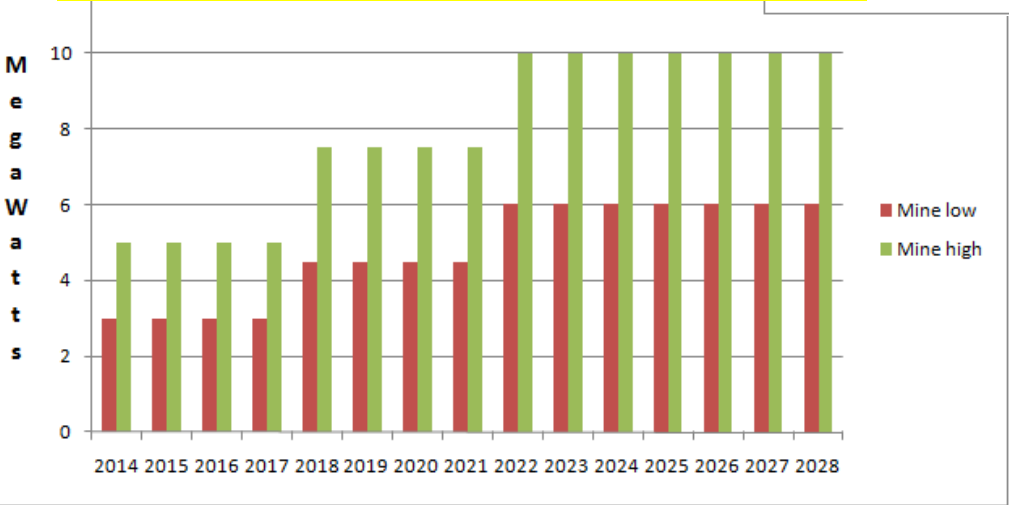
# Nechalacho Power Demand MegaWatts (MW)

At \$0.30/kWh for diesel power, the **mine** cost ranges from \$7M to \$13M per year

HYDROMET



MINE (North of Simpson Islands)







# Thor Lake: Transportation and Power Options

Proximity to  
GSL provides  
transport  
options such as  
barging  
concentrate to  
Hay River/Pine  
Point





# Nechalacho and the powerline routes

Nechalacho  
deposit, Thor  
Lake project,  
location







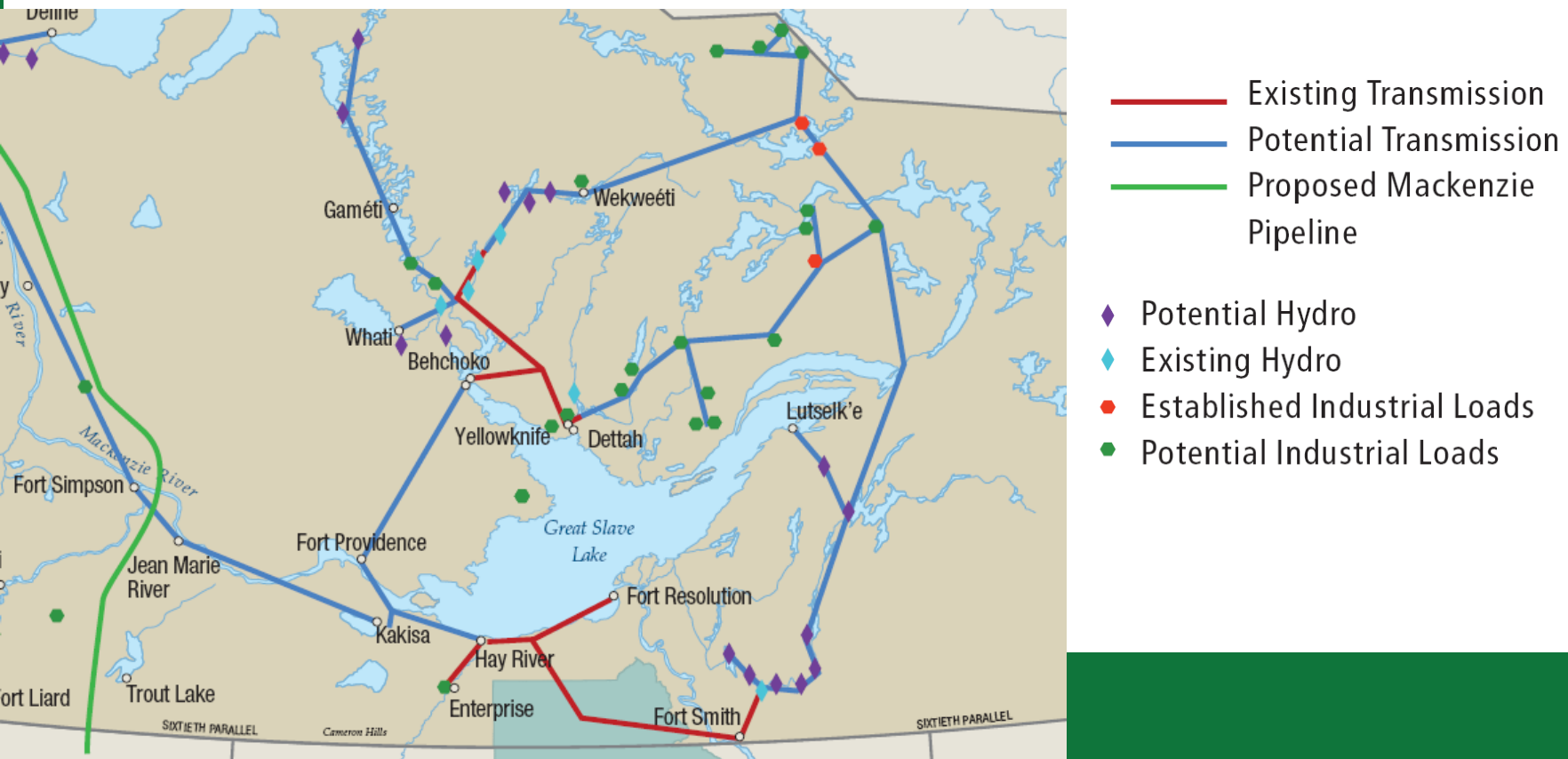
# Why does Avalon believe the Island Route makes sense?

- Cost/risk for the power company
- Cost/risk for the government
- Enhances the long term operation of Thor Lake
  - Jobs, taxes, NWT exports, downstream processing
- Enhances infrastructure potential for NWT
- Less environmental and cumulative impacts
- Benefits for power distribution in the NWT
- Defer or avoid next Snare system dam



# Cost/Risk for power company - 1

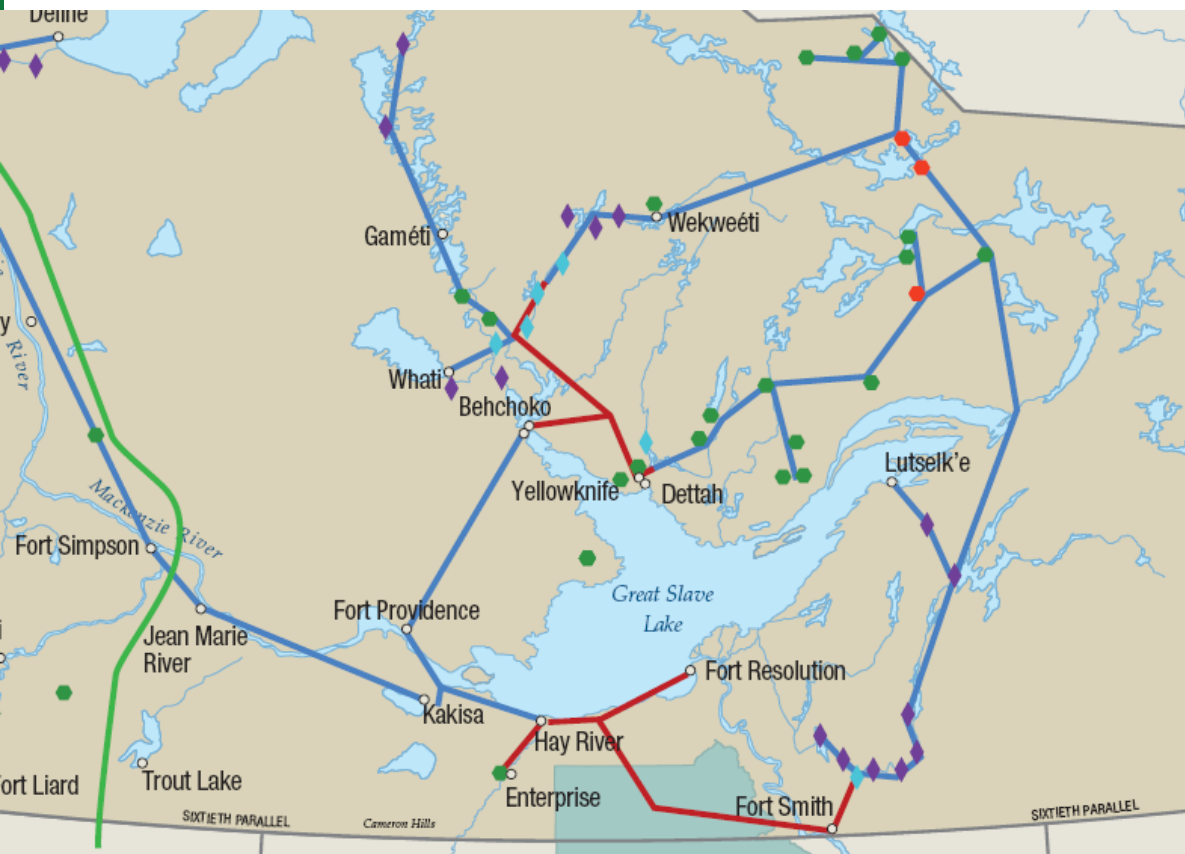
- The NWT government draft power study indicates that many of the main potential future power consumers are all north of GSL and located between Yellowknife and the diamond mines, NOT south of GSL.
- An island route would pass all these potential industrial loads





## Cost/Risk for power company - 2

- Avalon believes that the Nechalacho deposit at Thor Lake is the most advanced project between Yellowknife/Taltson and the diamond mines.
- And yet there is no potential industrial load indicated at Thor Lake on this map! - WHY?

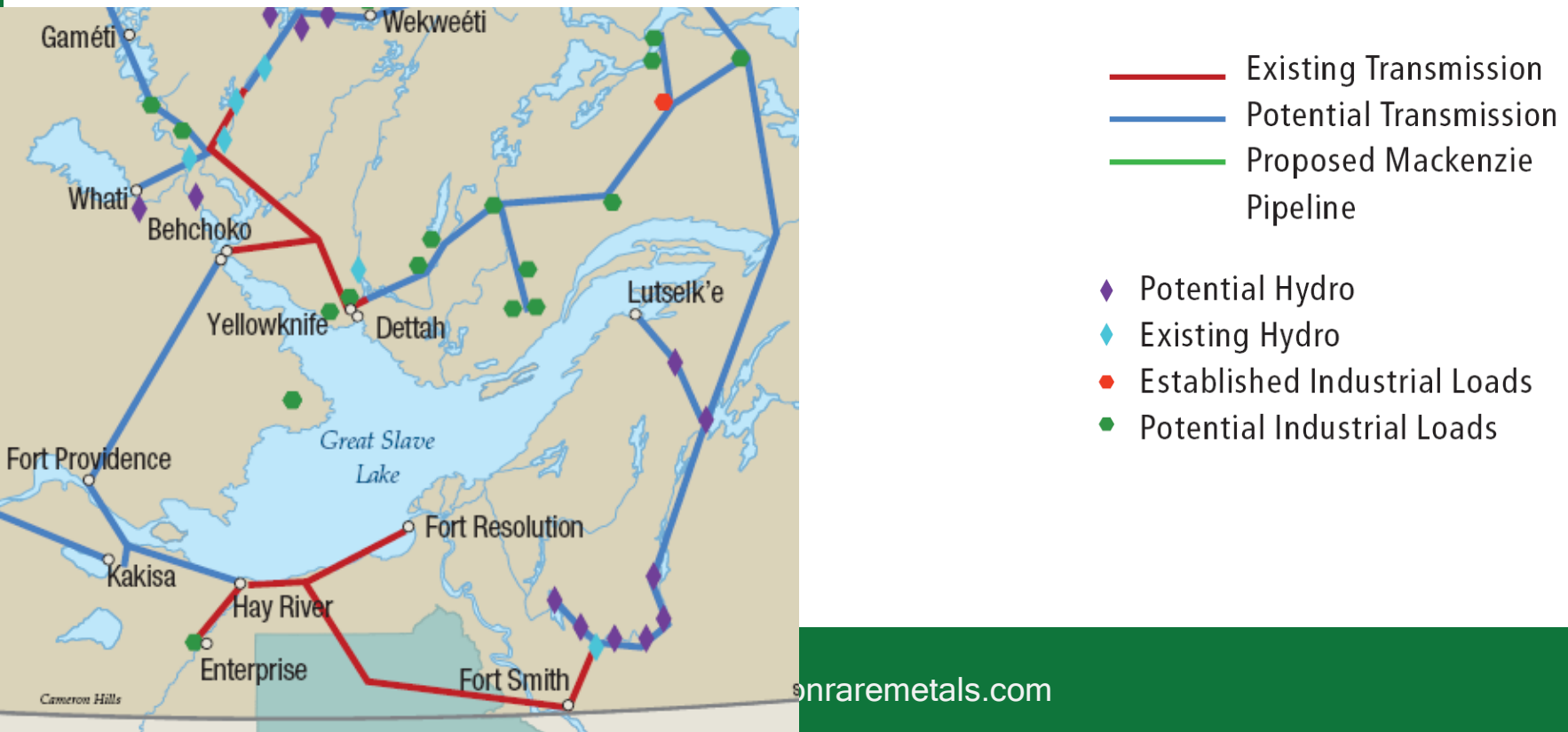


- Existing Transmission
- Potential Transmission
- Proposed Mackenzie Pipeline
- ◆ Potential Hydro
- ◆ Existing Hydro
- Established Industrial Loads
- Potential Industrial Loads



## Cost/Risk for power company - 3

- Avalon believes that it makes little economic or environmental sense to build a line round the east side of GSL and then a line east FROM the diamond mines to industrial loads and Yellowknife when an Island Route will eliminate the necessity of the East Route.





# Cost/risk to the NWT government - 1

- The Island Route will involve the least risk for the NWT government:
  - It will have an industrial load partway along the route.
  - It will lower the cost of links to Yellowknife and other industrial loads north of GSL and west of the diamond mines.
  - Adds potential for additional power input from wind farm.
  - Underwater transmission risks and costs have been decreasing
- Only about 100km from the Island Route to Yellowknife
- Less to community of Dettah and Ingram Trail
- From diamond mines to Yellowknife 500kms = \$500M
- From Island Route to Yellowknife 100kms = \$100M



## Cost/risk to the NWT Government - 2

- Some diamond mines may close in next 15 years.
- Nechalacho has 64Mt and plan is to mine 0.35Mt to 0.7Mt per year - LONG LIFE
- LONG LIFE = long term employment, development of support industries, potential for downstream industries

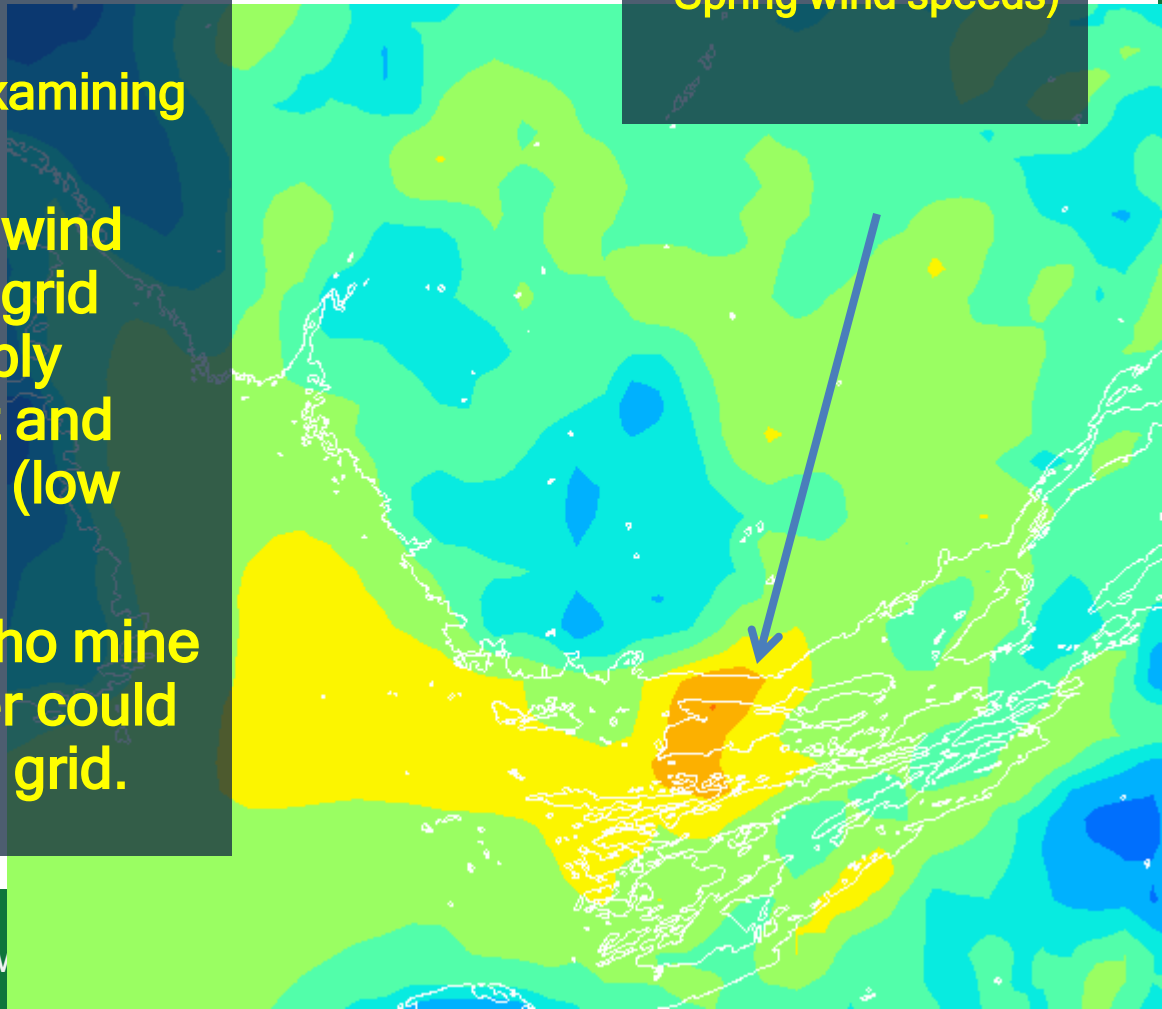




# Cost/risk to the NWT Government - 3

- Nechalacho area has wind power potential
  - Avalon/YKDFN are examining wind power potential
- During operation, this wind power could feed into grid enhancing power supply stability, lowering cost and adding further “green” (low CO2) energy.
- If and when Nechalacho mine closes, the wind power could continue to supply the grid.

■ Nechalacho location  
(Canadian Wind Atlas  
- Spring wind speeds)





# Socio Economic Enhancement

- The routing of the powerline north of GSL opens up the possibility of routing it along a 3 season or all season road from Yellowknife/Ingraham Trail to the diamond mines and further north and east.
  - Lowers maintenance cost and hence increases availability on the power line.
  - Possibility of load sharing between Taltson and Snare.
  - Potentially opens up additional deposits.
  - Commuting for employees, encouraging residency in the NWT.
  - Defer of avoid environmental and financial cost of Snare Dam
  - May provide road access to east arm & alternate supply routes



# Enhances Nechalacho viability

- Given reasonable power cost/kWh, the economics and hence life of the Nechalacho deposit will be enhanced.
  - Jobs, taxes, economic spinoffs
- It has been quoted that it could cost \$40M extra to cross the Island Route compared to East Route. Plus \$13M per redundant line across the underwater sections.
- Some sources think the costs would be less
- Thus the cost of the Island Route plus triple redundancy is equivalent to 4 to 6 years of power at Nechalacho at the initial lower tonnage operating rate



# Summary

Power Corp concerns on Island Route can all be answered and overcome without difficulty:

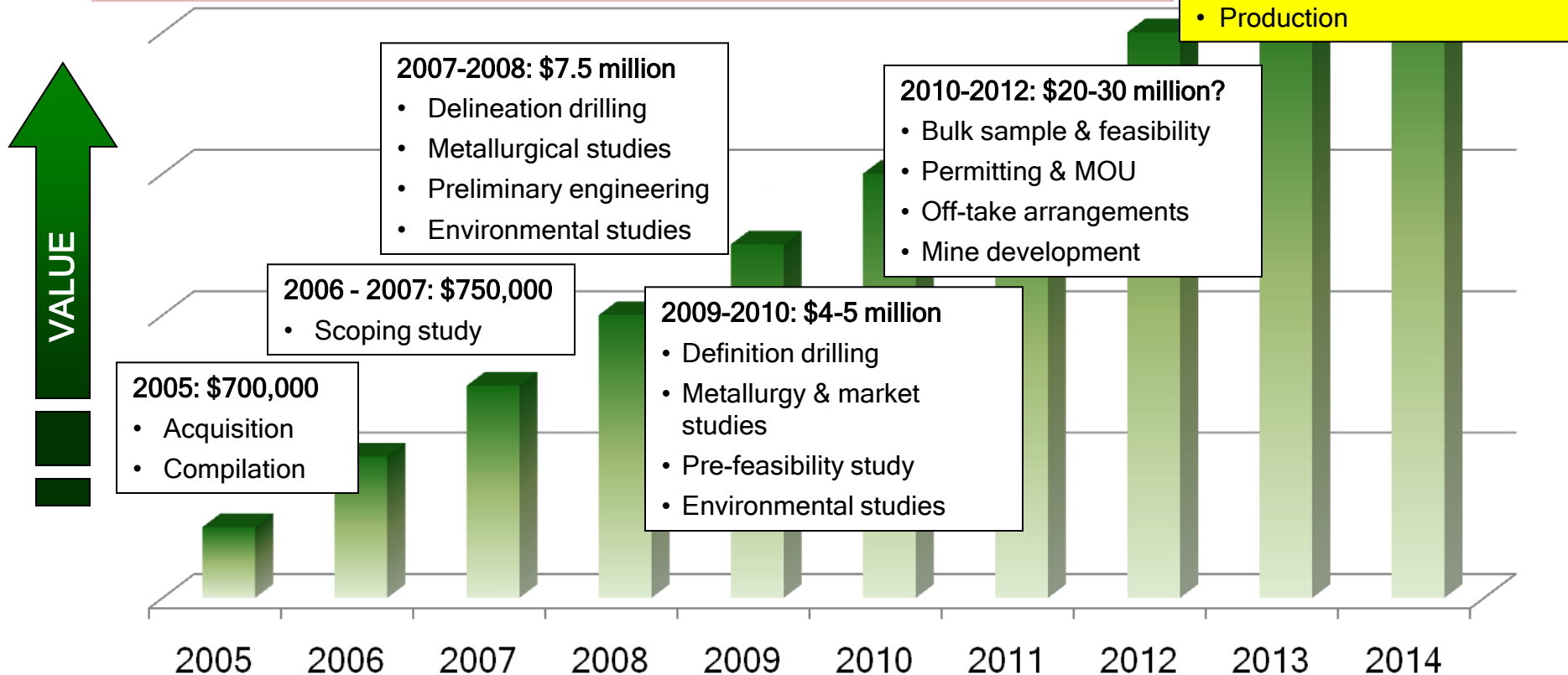
- **Additional cost:** as noted this is compensated by having an industrial load near the start of the line at Thor Lake.
- **Reliability risk:** redundancy is easily taken care of technically and covered in cost of additional industrial loads.
- **Regulatory risk:** there should be less regulatory risk on the Island Route.
- **Delay:** the Island Route may very well encounter less construction delay especially if the route is combined with other infrastructure (road to mines). **It is better to be a year later on the right route than a year early on the wrong one.**



# Nechalacho REE Deposit: Development Timeline on Schedule

The Power Corp has suggested that 2013 is the “turn-on” date for power.

This is close to the planned Thor Lake start.





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# Avalon has Financial Capacity to Advance Development

as at December 1, 2009

Canada - TSX: AVL

United States - OTCQX: AVARF

SEC 12g3-2(b) # 82-4427

Shares Outstanding	78,504,448
Fully Diluted	87,433,198
Market Capitalization	C \$216 million (S/O @ \$2.75)
Recent Price Range	C \$2.30 - \$3.20
52 Week High / Low	C \$4.24 - \$0.30
Cash Reserves	C \$20.0 million
Insider Share Position	3.4 million shares (4.3%)
Institutional holdings (25%)	CPP, TDAM, Front St., Excalibur, NatCan, MFC
	Global, Faircourt, Cantara, Seamans, Fuchs Gbl
Balance Sheet Assets	C \$26.5 million (Aug. 31/09)



# Corporate Information

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