

Innovations in Private Sector Financing for Electricity Transmission

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Price Control under Privatization

- public ownership of assets or services implies consumer protection through government
- private ownership requires mechanisms to protect consumer interests
 - regulation – in natural monopoly situations
 - competition – for services provided contestably in an open marketplace
- following are two examples which combine elements of both mechanisms to better benefit the public interest

Fort McMurray West Transmission Line

a private sector monopoly asset
without regulation

Project Location



FORT McMURRAY WEST 500 kV TRANSMISSION PROJECT

The Fort McMurray West 500 kV Transmission Project includes two substations and an extra high-voltage transmission line that will run approximately 500 kms between the Fort McMurray area and the Edmonton area in Northern Alberta, Canada.



Project Overview

Project Sponsor	Alberta Electric System Operator (AESO)
Project Name	Fort McMurray West 500 kV Transmission Project
Scope	500 kV transmission line (500 km) with two associated substations
Term of Agreements	Approximately 40 years
Energization Date	June 2019
Procurement Delivery Option	DDBFOOM*
Winning Bid Price (Net Present Cost)	\$1.43 billion (2019\$)**
AESO LTP Estimate	\$1.8 billion (2013\$)***
Payment Mechanism	Monthly payments (capital and operation and maintenance costs) based on availability

* Develop, design, build, finance, own, operate, maintain

** All project costs

*** The AESO long term planning estimate for this project was \$1.8 billion +/- 50% and included construction costs only

Modified P3 Procurement

- procurement process developed in consultation with prospective participants and approved by regulator
- 3-stage procurement process
 - RFEI no obligation – 60+ companies responded
 - RFQ open call, draft commercial terms provided - 5 shortlisted
 - RFP – shortlist only, binding offer, final commercial terms provided, 2 withdrawals
- modifications required for proponent to:
 - select and negotiate final detailed route, and
 - obtain “leave to construct” approval from regulator
- 2-phase contract term
 - 30-month development phase – routing and approval
 - 35-year operating phase – construction followed by operation

Risks Allocated for Best Management

- price adjustment for final routing
 - final routing length and tower types
 - inflation during 30-month development and approval period
- delayed debt pricing
 - award based on financial structure and indicative debt cost
 - AESO supervised debt re-pricing competition at end of 30-month development and approval period
- penalties for missed reliability metrics
- end-of-term handover condition
 - handover condition specified
 - inspections 5-year, 2-year and 9-month before handover with AESO specified remedial program at owner's expense if necessary

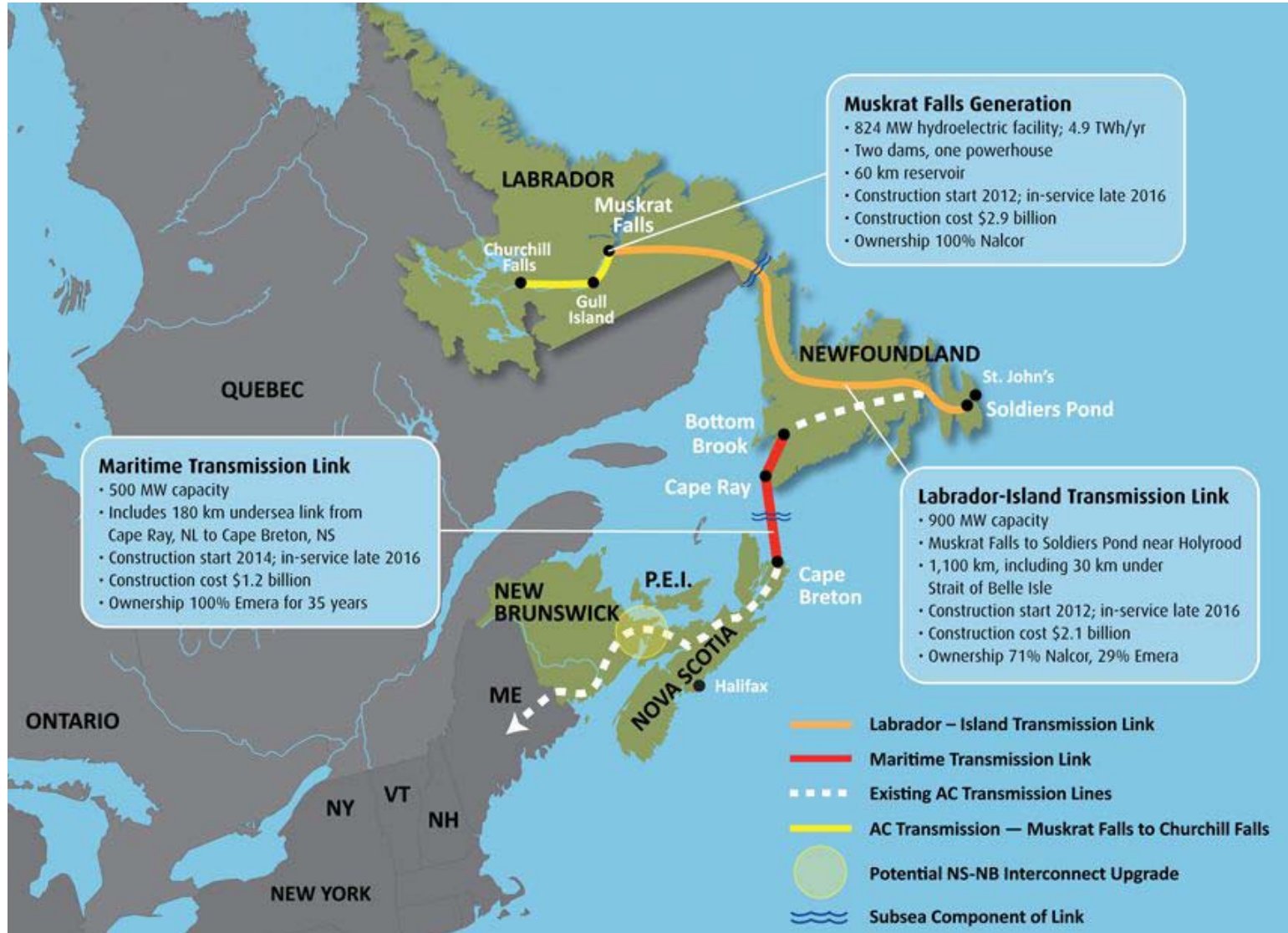
Compared to Conventional Regulation

- accesses financing better matched to facility life-cycle
 - long-term financing for a long-life asset
 - D/E ratio and costs determined by market forces, not formula
- removes incentive to maintain rate base value
 - incentive is to ensure adequate performance and reliability
- risk of stranded assets very low, at end of contract term either:
 - abandon for cost of decommissioning, or
 - re-auction for any necessary re-investment and a second term
- life-cycle costs \$400M lower than anticipated \$1.8B capital cost alone
 - 20-30% saving to ratepayers

Maritime Link Transmission Line

regulated private sector investment
re-paid in kind instead of cash

Project Location and Overview



Nova Scotia Regulatory Arrangement

- 20 for 20 principle
 - Nova Scotia ratepayers receive 20% of the energy from Muskrat Falls
 - Nova Scotia ratepayers pay 20% of the cost of the total development costs
- regulated private sector utilities (Emera subsidiaries)
 - build, own and operate transmission facility for 35 years
 - utility receives 1TWh/year energy at zero cost
 - ratepayers pay fixed price for 1TWh and have first-right access to additional 1TWh/year at market prices
- transmission facility
 - is partially located outside jurisdiction of regulator
 - 85% of any cost overrun paid by a public sector company from that jurisdiction (Nalcor)
 - reverts to Nalcor at end of 35 year term
- Nalcor and Emera have side agreements not visible to regulator
 - partnered on building, owning and operating other related transmission facilities in Newfoundland & Labrador
 - Emera trading Nalcor power in US markets via transmission rights it owns in New Brunswick and in US (where it also owns regulated utility with transmission facilities)

Long Range Impacts



- integrates N&L and NS power systems into N American grid and markets
- alternatives to Quebec for N&L electricity trade
 - facilitates development of Gull Island and Labrador wind
 - provides bargaining leverage on expiry of Churchill Falls contracts
- displaces coal and oil fired generation in both NS and N&L