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**Subject:** Take a quick look please, I am running out of time  
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**Attachments:** [.png](#)  
[Astaldi in context - Ed June 14 2015 rev 3.pptx](#)

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Astaldi in context - Ed June 14 2015 rev 3.pptx

# **PROJECT BACKGROUND AND RATIONAL**

# Project Background and Rational

- NL needs more power overall
- MF/LIL determined to be lowest cost option following extensive alternatives review
- Replaces Holyrood Thermal Generating Station > 40 years old
- Investment in an asset we own, returning value and cash flow in excess of \$30 billion to the people of the province
- Paying ourselves, as opposed to paying for oil to outside companies – we are “buying”, not “renting”
- Benefits are inter-generational – 100+ year benefits – benefits future generations
- Clean power; power generation in our Province will be 98% GHG free, and avoid emerging future risk of costs of carbon
- Significant construction benefits; jobs for NL’s, and economic benefits for NL businesses

# Project Background and Rational

- Creates surplus power for NL needs and export – export revenue for people of province
- Both Labrador and the Island are connected 2 ways to North America markets for first time in history
- Significant improvement in system reliability as the island is now connected to neighbors
- Interest rates locked in at historic lows
- Federal Loan Guarantee acquired in recognition of regional GHG reduction benefits from the project
  - will save > \$6 Billion over life of project financing, 35 years for MF and 40 years for LIL
- Historic “New Dawn” agreement with Innu achieved
- Environmental approvals in place



Astaldi Performance has turned the corner

**PROJECT NOW PROGRESSING ON  
ALL FRONTS**

# Tower Assembly





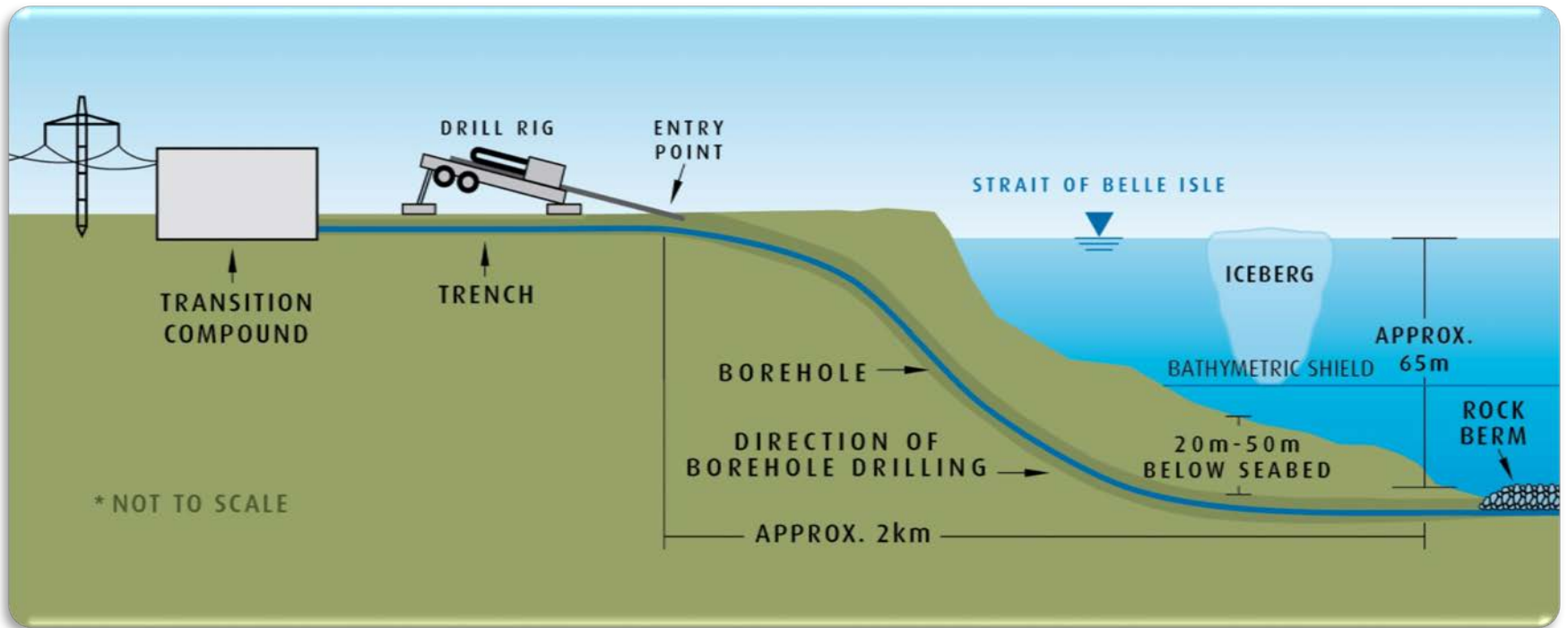
# LTA Stringing Operations



# Stringing Operations



# Horizontal Directional Drilling





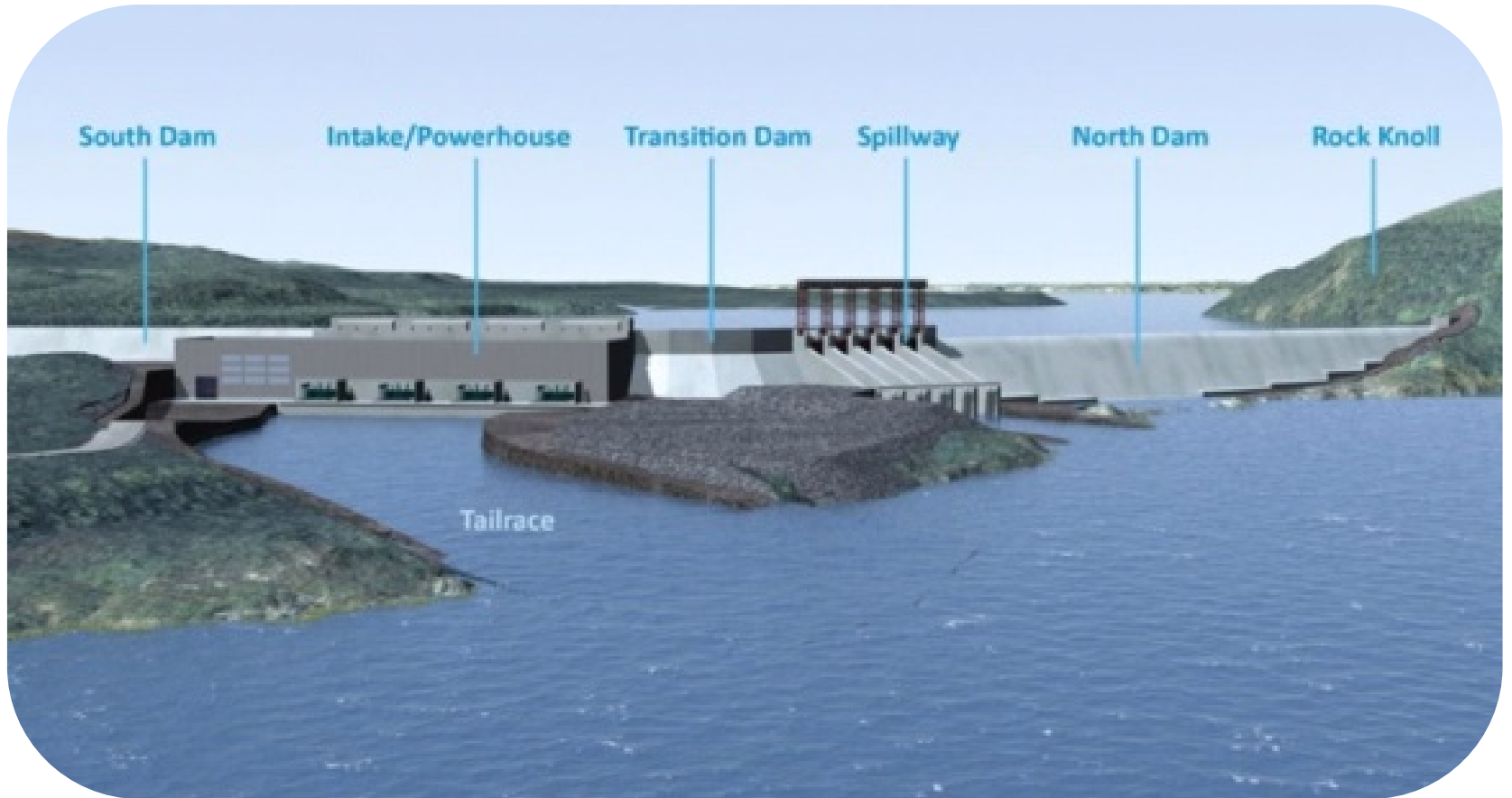
# SOBI Land Cable



# Soldiers Pond



# Muskrat Falls Site





# Turbine



# Stay Ring





# Spillway



# Spillway and Transition Dam





# Powerhouse Intake





# Units 3 and 4





# Units 1 and 2



# North Spur



2015/05/15



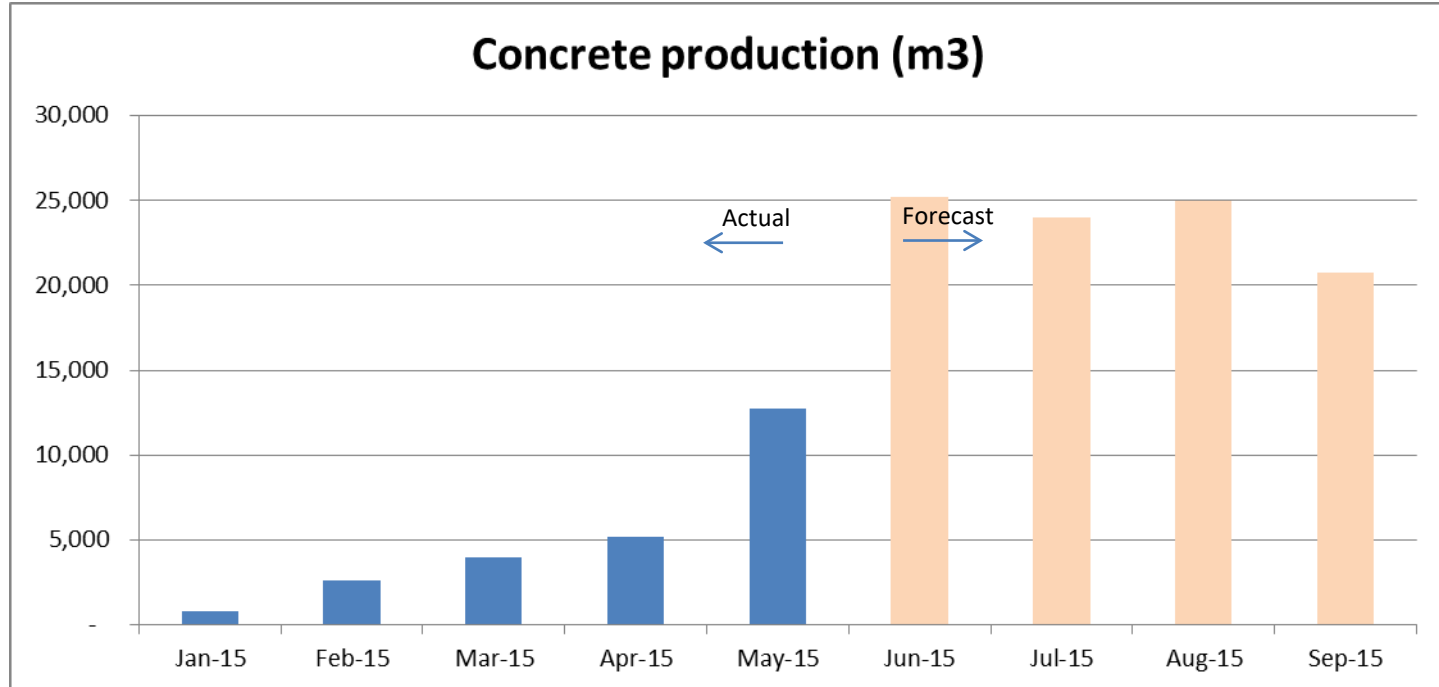
# North Spur



# Nalcor Actions To Address Astaldi Performance

- Engagement at highest levels of Alstaldi and Nalcor continuously over last 12 months
- Nalcor support and leadership in implementing performance improving initiatives and organizational improvements
- Nalcor provided key Construction Management personnel to Astaldi
- Nalcor Site Team augmented with senior Project Management personnel to provide on site decision making and support to Astaldi
- Current Status
  - Astaldi concrete production rate vastly improved and Construction management team fully functional . Nalcor continues to support guidance and leadership

# Astaldi Concrete Production



# Many Key Things Are Behind Us

- Environmental Approvals
- Innu “New Dawn” and the IBA arrangements
- Debt Financing locked in at low rates with \$5B borrowed cash on deposit
- Emera arrangements
- Engineering
- Camp and catering set up
- MF site roads, site power and laydown areas
- Bulk excavation of the Powerhouse and Spillway
- Completion of Spillway civil works this fall, on track for river diversion next year
- Turbines and Generators Unit 1 and 2 on track to ship this fall
- Subsea drilling SOBI complete
- SOBI subsea cables - 2 manufactured, 1 in final stages
- SOBI land cables manufacturing and en route to NL
- Tower steel and hardware
- Significant reservoir and transmission line clearing
- LTA Transmission from MF to CF significant progress, expected completion this year
- LIL Transmission commenced, expected to be out of Labrador by year end
- Significant site work preparation for transition infrastructure (switchyards, converters, electrodes)

# Puts and Takes Since Sanction

- Benefits of Federal Loan Guarantee greater than originally planned by \$500 million (\$300 million PV)
- \$3B nominal value of excess sales greater than originally planned by \$300 million (\$100 million PV) due to Emera arrangements
- Potential to add significant value by displacing Holyrood if Labrador Island Link in-service early
- Project Facilities Capital Cost has grown from \$6.2B to \$6.99B, driven by combination of
  - Quality based, long term asset integrity
  - Market forces
- Additional growth to \$7.35B (before contingency, see below)
  - North and South Dam plus North Spur contract market forces
  - LIL ground conditions for access
- then additional \$0.25B contingency = \$7.6B
  - Allowance to cover unforeseen events

# Current Project Summary

<b>Transmission ~ 30%</b> <b>\$2.2 B</b>	<b>DC ~ 15%</b> <b>\$1.2 B</b>	<b>Other ~ 15%</b> <b>\$1.2 B</b>	<b>Muskrat Falls ~ 40%</b> <b>\$3.0 B</b>
<p>AC Line ~ \$.4 B (MF-CF)</p> <ul style="list-style-type: none"> <li>• Clearing</li> <li>• Tower steel</li> <li>• Hardware</li> <li>• Construction</li> </ul>	<p>Converter ~ \$.5 B</p> <ul style="list-style-type: none"> <li>• Muskrat</li> <li>• Soldiers</li> </ul>	<ul style="list-style-type: none"> <li>• EA</li> <li>• IBA</li> <li>• Engineer</li> <li>• Legal</li> <li>• Owners</li> </ul>	<p>Civil ~ \$.8 B (10%)</p> <ul style="list-style-type: none"> <li>• Reservoir</li> <li>• North Spur</li> <li>• Bulk Excavation</li> <li>• Dams</li> </ul>
<p>DC Line ~ \$1.4 B (MF-SP)</p> <ul style="list-style-type: none"> <li>• Clearing</li> <li>• Tower steel</li> <li>• Hardware</li> <li>• Construction</li> </ul>	<p>Switch yards ~ \$.4 B</p> <ul style="list-style-type: none"> <li>• Muskrat</li> <li>• Soldiers</li> <li>• Churchill</li> </ul>	<ul style="list-style-type: none"> <li>• Community</li> <li>• Etc.</li> </ul>	<p>Electro Mechanical ~ \$.6B (8%)</p> <ul style="list-style-type: none"> <li>• Turbines &amp; Generators</li> <li>• Gates</li> <li>• BOP</li> </ul>
<p>SOBI – Subsea ~ \$.3B</p> <ul style="list-style-type: none"> <li>• Subsea cable</li> <li>• Land drilling</li> <li>• Cable protection</li> </ul>	<p>Synchronous condenser ~ \$.2 B</p> <ul style="list-style-type: none"> <li>• Sync @ Soldiers</li> <li>• Electrodes</li> <li>• Telecoms</li> </ul>		<p>Site Infrastructure &amp; Services ~ \$.5 B (7%)</p> <ul style="list-style-type: none"> <li>• Camp and catering</li> <li>• Roads</li> </ul>
			<p>Astaldi</p> <ul style="list-style-type: none"> <li>• Mob, site ~ \$.2 B (3%)</li> <li>• Spillway/transition dams ~ \$.2 B (3%)</li> <li>• Powerhouse– non-labour ~ \$.2 B (3%)</li> </ul> <p><b>Astaldi</b></p> <ul style="list-style-type: none"> <li>• Powerhouse labour ~ \$.5 B (6+%)</li> </ul>

## Risks post AFE Rev 2

- With all PO and Contract costs covered there will be limited further Market Risk
- Risk exposure will be narrower and will shift to execution:
  - Labour Productivity of Time and Material type contracts
  - Key Contractor continued engagement
  - Key Contractor performance
  - Potential Claims
  - Union unrest – specifically RDTC
  - Aboriginal unrest
  - Geotechnical risk of N Spur and North Dam construction
  - Commissioning and Startup
- There are risk mitigation plans in place and being actioned

**HOW WE MANAGE RATES IS A  
CRITICAL SUCCESS FACTOR**



## Things That Impact Rates

## Addn'l Benefits That Do Not Impact Rates

### DG3 Rate Projection

Debt Interest \$4.5 – 5B

Return on Equity  
\$25 – 30B

Facilities Capital  
\$6.2B

### Not Currently In Rate Proj.

- + Greater debt financing savings than planned - \$0.5B (\$0.3B NPV)
- + Value of excess sales >\$3B
- + Holyrood displacement value potential re early LIL (TBD)
- + Use of portion of MF/LIL ROE as CIAC
  - + COREA
  - + Other
- + Non-renewable to renewable CIAC (oil dividends)

### TOTAL AVAILABLE

> \$15 - 20B

- Facilities Capital cost increases \$6.2 to \$6.99 to \$7.35 + 0.25 Cont = \$7.6
- Potential delay costs

- + Direct and induced business and employment income (>\$5B)
- + Direct and induced provincial treasury benefits (\$2B)
- + Own vs Renting an asset
  - + Pay ourselves to own the asset forever, as opposed to paying outside entities for thermal fuel
- + Reliability Improvements
- + GHG reduction
  - + 98% GHG electricity production in NL
- + Connection to North America for 1<sup>st</sup> time

# **CONTRACTOR INTERFACE CONSIDERATIONS**

# Contractor Interface

- We have to be extremely sensitive and highly coordinated on publically available information prevent unnecessary significant value loss
- Contractor's will seek any available information to attempt to make a claim case
- All interactions should be through single point of contact within the Project Team