

Lower Churchill Project 6 - Astaldi Contract May 2018

Boundless Energy



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Rationale for selection of Astaldi

The contractor bid process was based on the Muskrat Falls hydroelectric generating station scope

CIMFP Exhibit P-01818

1 Muskrat Falls – Generation Site

2 Spillway

3 South Service Bay

4 Powerhouse

5 Powerhouse Intake

Key

South Dam Intake/Powerhouse Transition Dam Spillway North Dam Rock Knoll

Astaldi Work Scope

Tailrace

At the time of bidding, the Astaldi bid appeared to be very beneficial and compliant with requirements

Positive factors of the Astaldi bid

Support from other competitive bids

Details

- Multiple bids contained similar work-hour and production estimates
- Two bids were within 10% of each other
- An aggressive production plan was proposed via a methodology¹ consistent with other Canadian bidder

Good credit

- Rated a “B+” credit risk by Standard and Poor’s and Moody’s

Significant financial guarantees

- Aggregate limit of liability at 50% of contract value
- Parent company guarantee
- Milestone LDs of ~\$75 million
- Letters of credit ~\$200 million
- Performance bond ~\$150 million

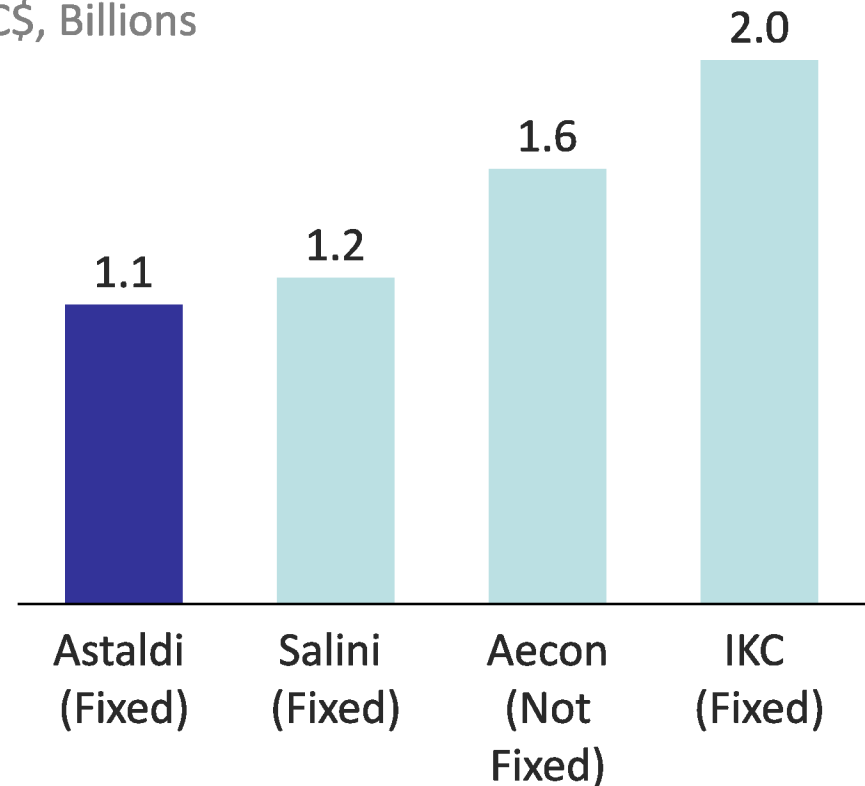
¹ Integrated cover system (ICS) built over the powerhouse to enable year-round concrete installation

Subsequently, the contract was awarded to Astaldi in Fall 2013

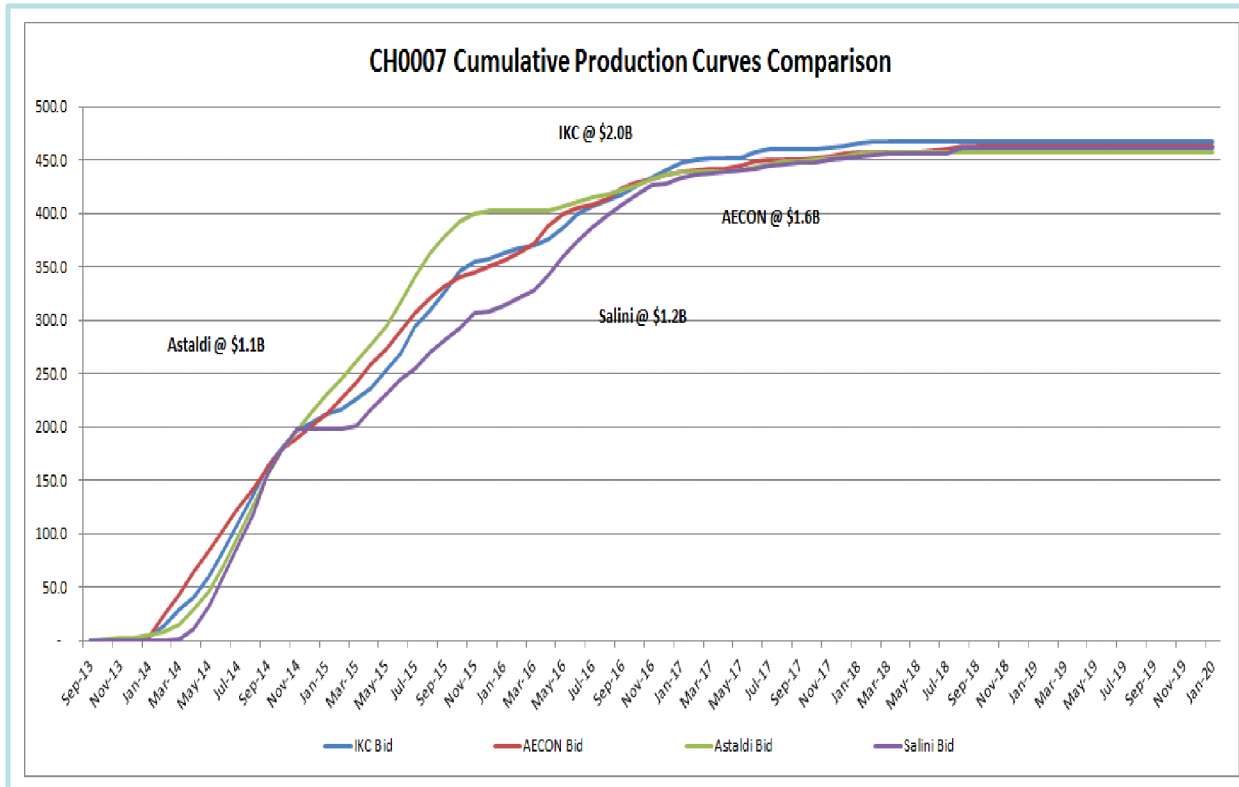
- Details of the CH0007 contract
 - **Scope:** spillway, intake, powerhouse and dams
 - **Total concrete:** ~ 445,000 m³ (~11 CN towers)
- Four bidders were shortlisted:
 - Astaldi
 - Salini
 - Aecon JV
 - IKC (Kiewit)
- The contract was awarded to Astaldi as a result of its competitiveness and its highest Technical Score per SNC

Astaldi was chosen from the 4 bidders

C\$, Billions



The multiple bids received, contained similar work-hour and production estimates



- Contractor bids are well documented
- Bid values were similar
 - 3 of the 4 bidders had similar hours
 - Two bids were within 10% of each other
- Astaldi’s bid was chosen due to its competitiveness compared with the other 3 bidders

Initial execution challenges and turnaround in performance

In 2013, Astaldi started the project slow, but the Project Team's involvement led to improved performance in 2015

Astaldi's start was slow...

- Exceedingly slow start in 2013-14 as a result of the following:
 - Slow pace of ramp-up and missteps
 - Slow execution of the Integrated Cover System (ICS) and removal issues
 - Missed labour contract management opportunities
 - Challenging benefits agreements
 - Mismanagement of the workforce allocation (production and support workers, particularly during 2014)
 - Unrealized productivity expectations

...but turned around in summer of 2015

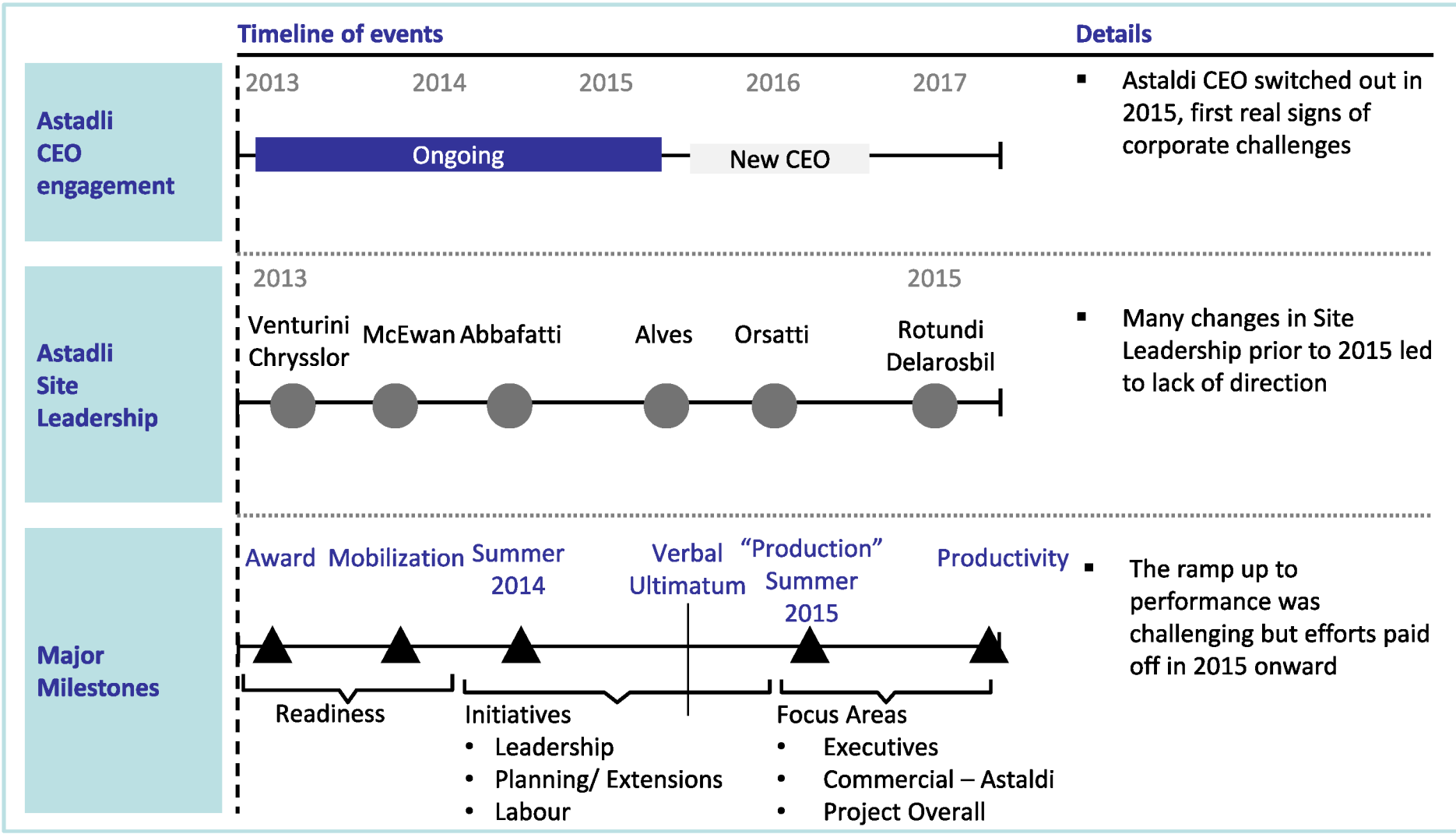
- In 2014, the Project Team stepped in and worked with Contractor, focusing on improving performance:
 - Increased leadership support
 - Improved execution
 - Increased labour efficiency
- With Astaldi's cooperation, a fully functional contractor team was put in place
- By early 2015, there was a significant improvement in productivity with ~400,000m³ placed by the end of 2017
- With strong signs of improvement and cooperation, the decision was made to continue with Alstadi into 2015

Westney subsequently validated the improvement in 2015

Westney site review 2015

- 1 Astaldi has made significant progress in areas critical for sustained production to project completion, including:**
 - Organization structure and project leadership
 - Project planning
 - Overall ability to meet current schedule
- 2 Production rates have improved from our last visit** - becoming closer to plan and exceeding Westney's expectations
- 3 Improvements are easily observed at the site**, including increased management presence at the work-face leading well organized, motivated crews
- 4 No significant deficiencies were identified** against performance factors benchmarked
- 5 Astaldi is receptive to productivity improvement opportunities recommended** and is looking to continuously improve

The timeline of events shows the multi faceted challenges but successful efforts that turned Astaldi around



Concrete Work Status is 90% complete, May 2018

	<u>Name</u>	<u>%Complete</u>
Transition Dams	▪ North Transition Dam	100%
	▪ Centre Transition Dam	99%
	▪ South Transition Dam	100%
	▪ Separation Wall	100%
Spillway	▪ Spillway Structure	100%
	▪ Rollways	0%
Intake	▪ Intake	99%
Powerhouse	▪ Unit 1	85%
	▪ Unit 2	80%
	▪ Unit 3	80%
	▪ Unit 4	85%
	▪ North Service Bay	98%
	▪ South Service Bay	99%

1 Approximate Forecast Value (April 2018)

Decision to Negotiate

Several contract challenges exacerbated Astaldi’s corporate situation leading to a decision point

Details of Alstadi’s challenges

Missed Price Estimate

- Missed price in the estimate in 2013
- Price estimate issue predominantly related to labour

Alstadi Slow Start

- Exceedingly slow start by Alstadi in 2013-14 timeframe
- The slow start exacerbated the missed price estimate

Other Performance Issues

- Slow ICS execution and consequential removal issues
- Labour Agreement inefficiencies, etc.

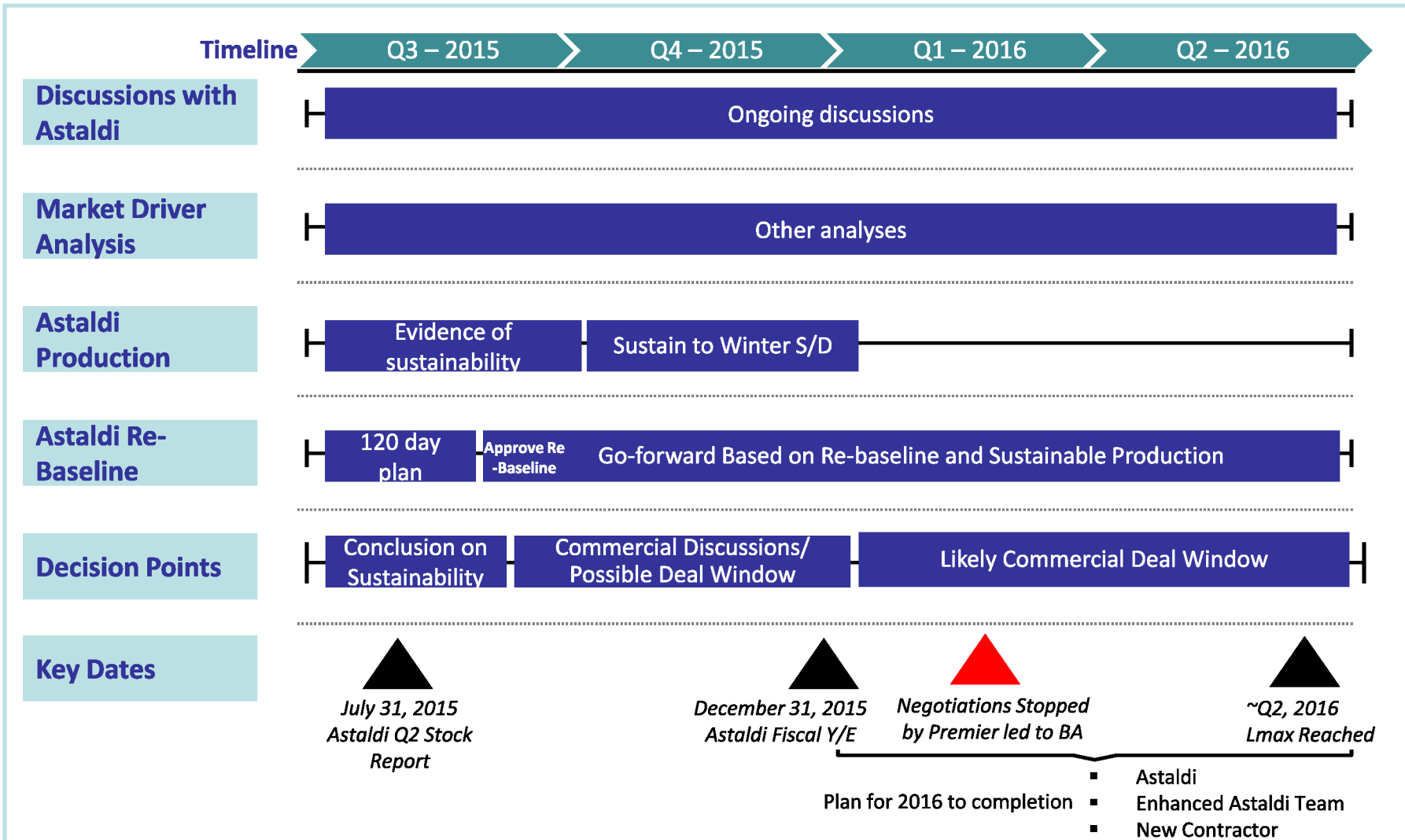
Draft Tube

- Draft tube collapse in 2016 timeframe

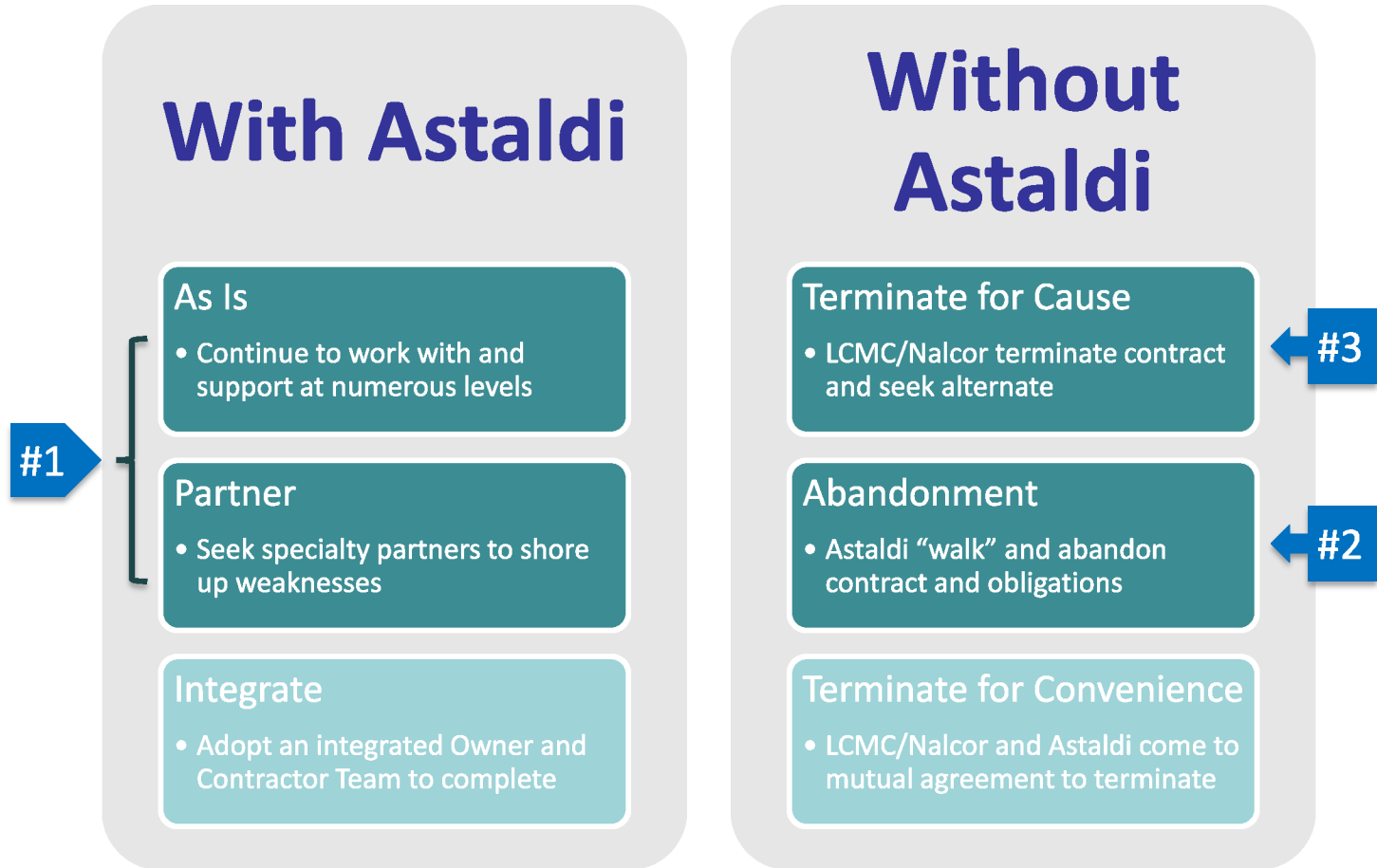
Protests

- Protests occurring in the 2015-2016 timeframe

Proactive contingency planning: concept schedule for 2015 / 2016



The team evaluated execution options for the remaining CH0007 scope – with or without Astaldi



To determine the new path forward, three important points were considered with respect to the Astaldi contract

CIMFP Exhibit P-01818

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Astaldi faltered, but was not in breach of contract sufficient to terminate

- Astaldi had not delivered against their bid expectations
- In addition, the initial plan wasn't achieved, and a year of schedule was lost due to seasonality
- Performance post 2014 was consistent with industry standards, as analyzed by external advisors
 - Experienced and functioning project team is in place
 - Installation rates exceeded expectations
 - 2016 performance hampered by Draft Tube and Protests

Astaldi was and is experiencing financial challenges



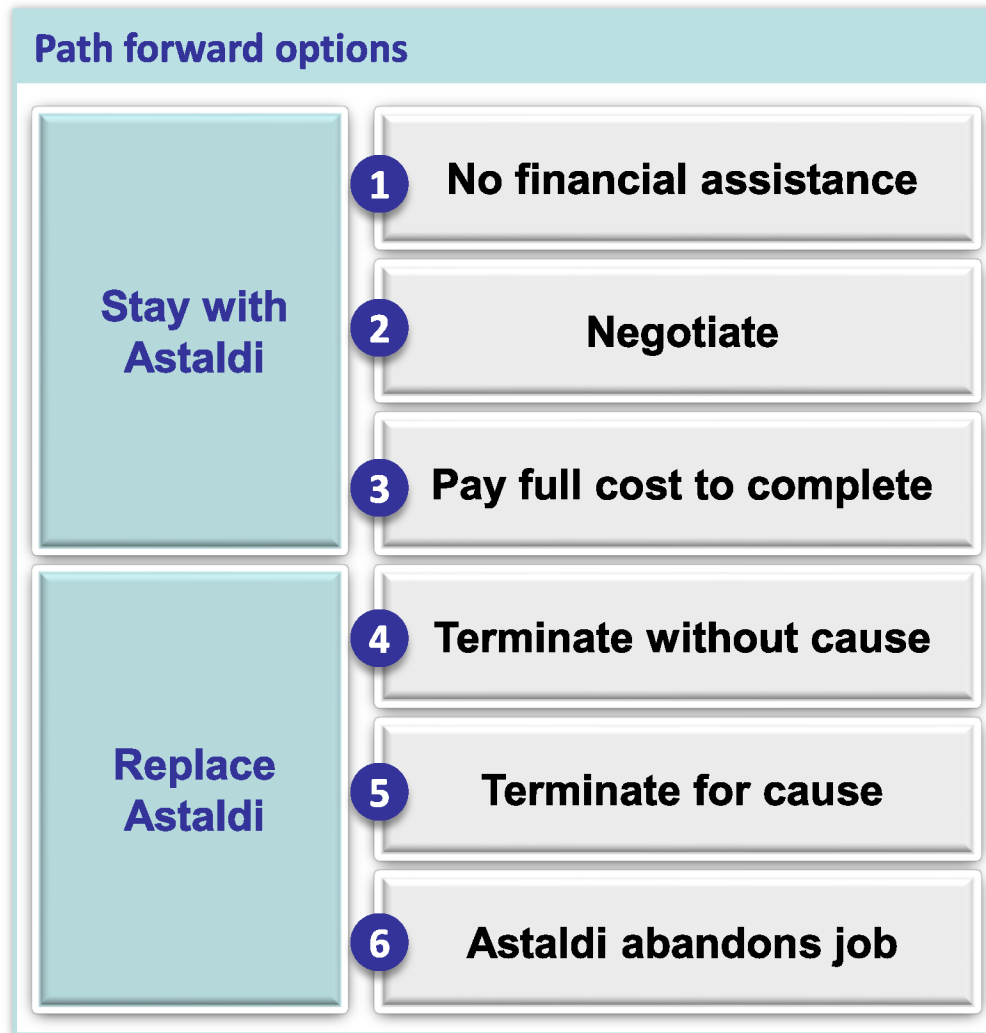
- Astaldi's credit rating outlook was downgraded by S&P and Moody's to B negative outlook and B2 negative, and HSBC dropped Astaldi Canada's line of credit
- Share price has fallen from 11 EUR to ~2 EUR
- The value of parent company guarantees were questionable given the creditworthiness of Astaldi

Terminating Astaldi would have had significant risks



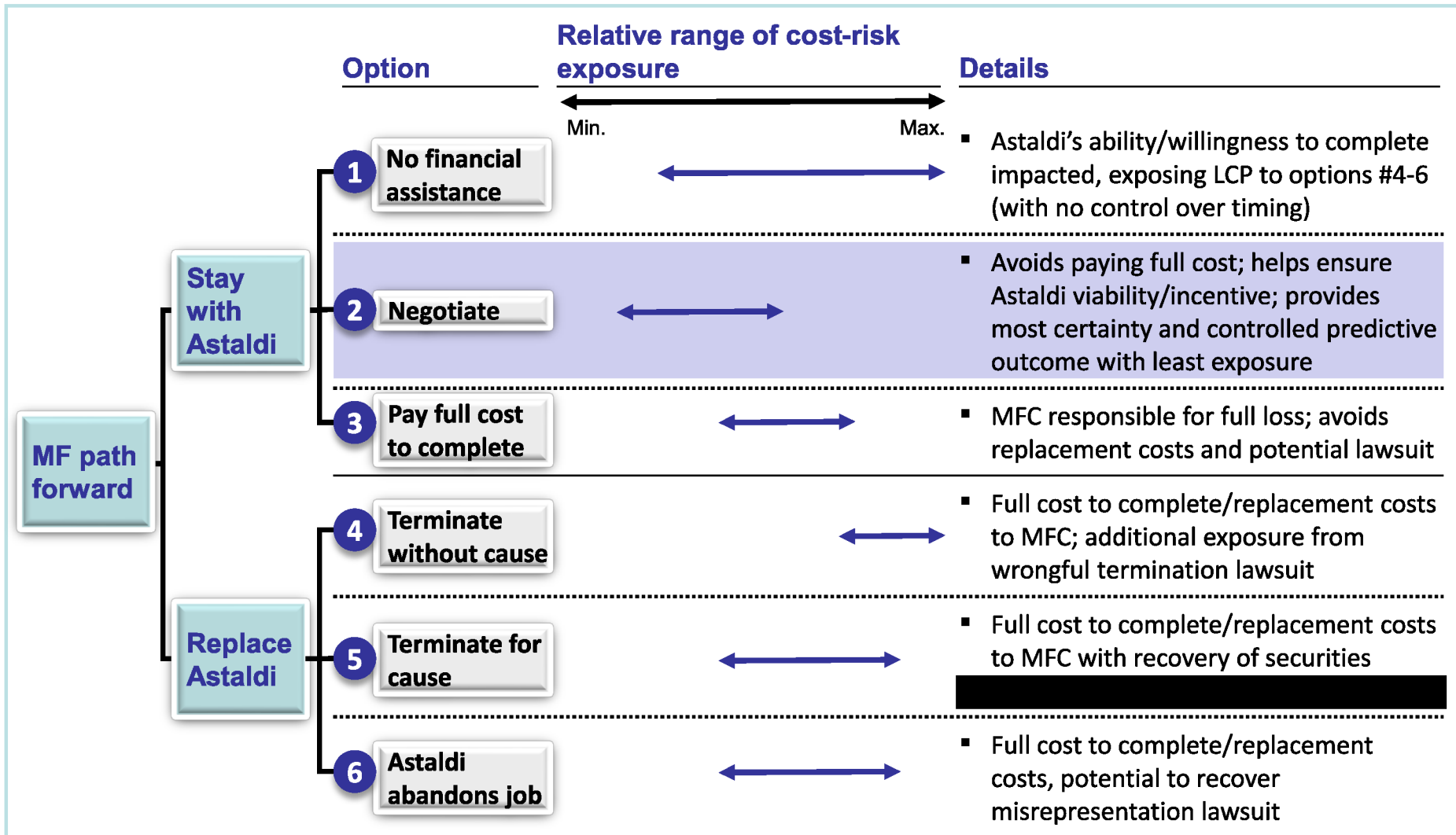
- Termination for cause subject to challenge
- There is a significant cost associated with disruption of continuity/replacement, including loss of personnel and loss of or damage to equipment
- Not a normal contractor dispute given the status of work and liquidity situation

Six path forward options were further developed for analysis



A preferred option emerged based on relative cost-risk exposure

Preferred option



Westney also provided their perspective on the Astaldi contract and path forward (2015-16)

- 1 The situation with Astaldi is an outlier and would not be considered in normal project contingency

- 2 The selection of Astaldi was appropriate at the time

- 3 Westney sub-consultant analysis shows that Astaldi now has liquidity and credit issues, putting contract enforceability in question

- 4 Astaldi has overcome execution issues and is not insolvent, despite financial challenges – making termination for cause very risky

- 5 Negotiating with Astaldi provides the best opportunity for a predictive outcome; disruption of continuity/replacement will cause a very significant negative impact

- 6 Even with additional funding, Astaldi will still face a large loss, and any additional funds will primarily be reinvested in NL

- 7 The timing of a path forward decision is critical for several reasons (e.g., seasonality of production, labour max cap summer 2016, Astaldi financial reporting dates)

The Negotiation-Drivers and Logic

After 18 months of analysis, a go-forward option was chosen

- LCP analyzed go-forward options for 18 months
- Astaldi vs replacement contractor were two main options
- Costs, strategic risks, schedule impacts and technical challenges were extensively reviewed
- Barring a default by Astaldi, **the best option was deemed to stay with Astaldi – at the right price**
- Key decision taken to ensure summer 2016 was not lost resulting in a **Bridge Agreement** to the end of the season
- In parallel, plans for a **replacement contractor** were put in place with a RFP issued; 2 bids received (reimbursable compensation)

3 key commercial principles were aligned to Nalcor's goals...

1. Astaldi must take on a large loss (to the extent they can survive)

- Have Astaldi take responsibility for their errors
- Have Astaldi share in the additional costs to complete from this point onward

2. Any deal is predicated on performance in the field

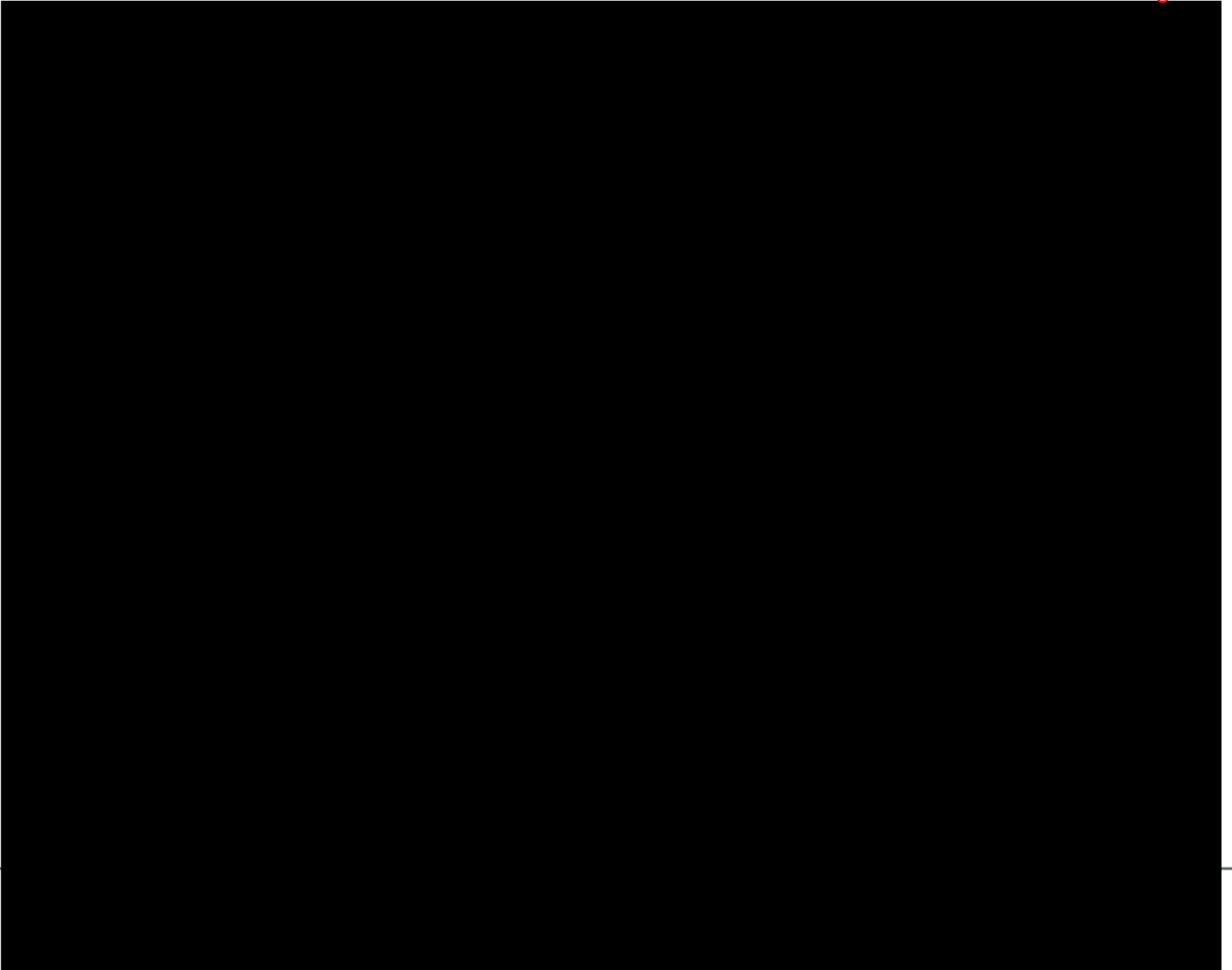
- Performance must stay within planned expectations and industry norms (no slowing down or stopping)
- There must be a heavy focus on improved efficiency
- Additional funds should be paid consistent with performance (e.g., after concrete installation)

3. LCP must maintain its strong contractual position whilst limiting future risk exposure

- Basic contract terms should remain in place
- As deemed necessary, new protections should be put in place, i.e. insolvency protections, ownership change
- Securities will remain unchanged or increased
- Have Astaldi take future performance risk exposure
- Will seek a full waiver of claims
- Additional funds may have physical assets or revenue streams tied to them
- Future payments will be protected for local use

...and 4 key factors drove the long term quantitative option analysis

1. Total cost to complete – use estimated hours based on productivity to date
2. Switchout cost – RFP issued, reimbursable with added execution risk, Assumes no time lost overall
3. Security recovery – conservative assumptions, risk associated
4. Willingness/ability by Astaldi to contribute – model developed



The Bridge Agreement

The Bridge Agreement

A Bridge Agreement was the result of choosing Option 2 but being delayed due to shareholder transition

- A **Bridge Agreement** was put in place for the 2nd half of 2016 to:
 - Ensure summer 2016 was not lost
 - Focus on payment for production
- Benefits of the Bridge Agreement were as follows:
 - Minimized Astaldi's **leverage** by completing the construction season
 - Allowed LCP to further prepare for a **replacement contractor** and issue an RFP (2 bids were received for reimbursable compensation)
 - Provided LCP more real time **data** to analyze
 - Would pay the **costs** to Astaldi or the Plan B contractor at a later date given the probable options
 - Put a large emphasis on **cooperation** and **performance**

Completion Agreement - Commercial Deal

Principles of Astaldi deal

Principles of the Alstadi deal

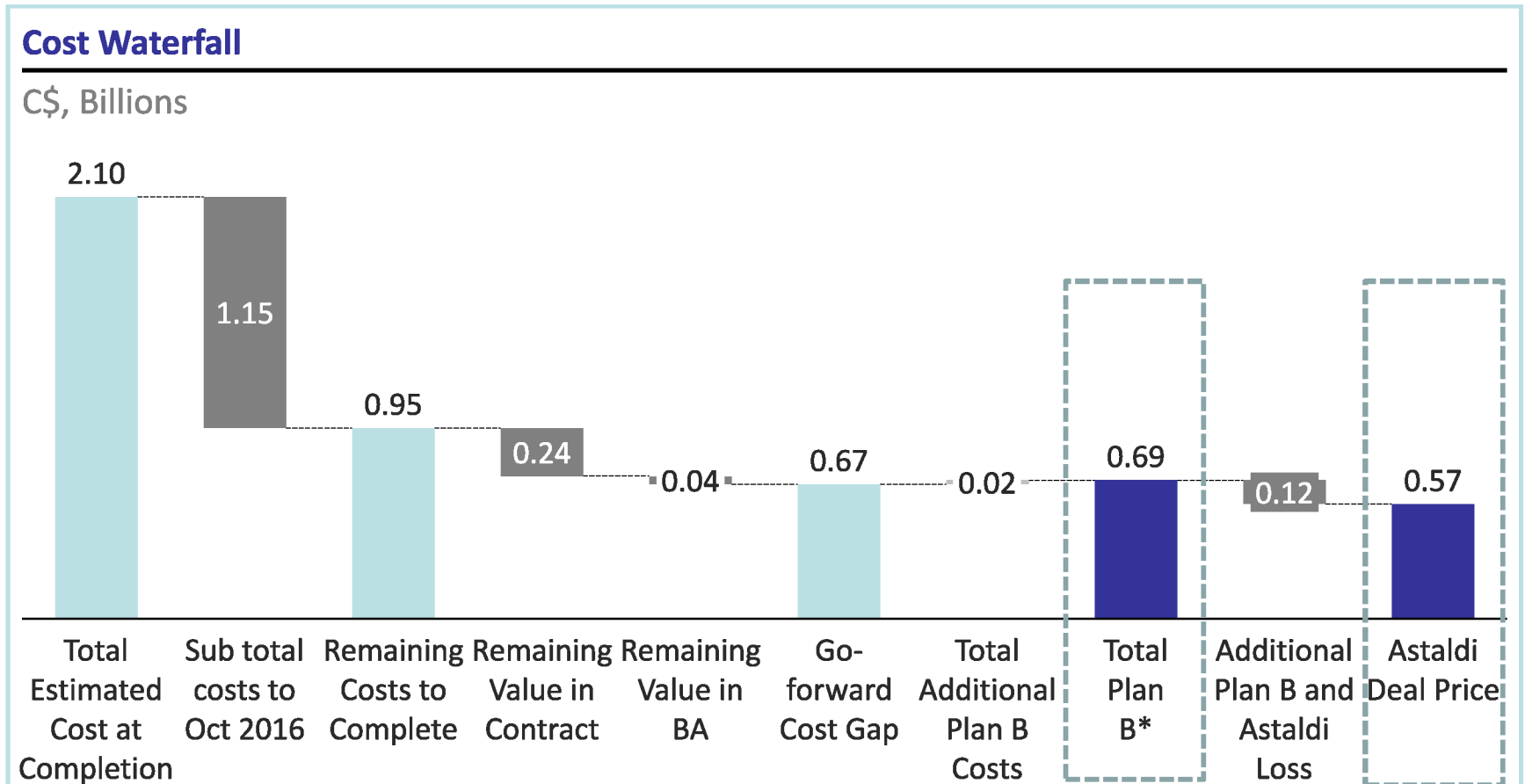
- Reinstatement of some/all of the advance payment backed by Letter of Credit - which is essentially a loan
- A new schedule and milestones agreed
- Nalcor to "consider" additional compensation up to \$50 million for extraordinary circumstances
- No disclosure of details

Original versus new contract pricing

C\$, Billions



The breakdown on the Astaldi vs Plan B estimated cost



* Conservative amount - Net of security collection and assumes low level of additional risk for transition

Astaldi estimated cost (\$M, rounded)

Go-Forward Cost Gap		\$ Millions			\$ Millions
Remaining cost to complete*		950	Total estimated cost at completion*		2,100
Less			Costs to Date		
Remaining value in contract		(240)	Certified payments for work done to Oct 31 under original contract		(870)
Remaining value in BA		(40)	Certified payments for work done to Oct 31 under BA		(110)
			Sub-Total Nalcor Billable Costs for Work Done to Oct 31		(980)
Go-forward Cost Gap*		670	Astaldi loss to Oct 31		(170)
			Sub-Total Costs to Date		(1,150)
Total Cost Gap*		670	Remaining cost to complete*		950
Additional Plan B Costs			Go-Forward Cost Gap (post Oct 31)		
Switchout estimate		75			\$ Millions
Profit and overhead		220	Remaining cost to complete*		950
Astaldi security collection		(275)	Less		
Total Additional Plan B Net Cos		20	Remaining value in contract		(240)
			Remaining value in BA		(40)
Total Plan B		690	Go-forward Cost Gap*		670
* excludes travel costs					
* excludes contingency, risks and claims ~ \$70 M					
* excludes P&OH ~ \$150 M					
* excludes productivity and efficiency opportunity ~ (\$100 M)					

Note: Final AFE and Requisition values will be determined following ongoing reconciliation between Nalcor and Astaldi systems

Deal Summary (\$M, rounded)

Cost Summary	
Costs to Oct 31	1,150
Remaining cost to complete	950
Total Direct Cost at Completion	2,100
Other Astaldi Asks	
Profit and overhead	150
Contingency	70
Sub-Total Other Astaldi Asks	220
Total Cost at Completion	2,320

LCP Share	
Original contract	1,100
Approved changes	10
Bridge Agreement	150
Sub-Total	1,260
Nalcor Offer	570
Total Nalcor Contract Value	1,830

Astaldi Share	
Direct Costs	
Loss to Oct 31	170
Additional Astaldi Share	100
Total Astaldi Direct Cost	270
Other Astaldi Asks	
Profit and overhead	150
Contingency	70
Sub-Total Other Astaldi Asks	220
Total Astaldi Offer	490

Note: Final AFE and Requisition values will be determined following ongoing reconciliation between Nalcor and Astaldi systems

Option comparison – Dec 12/16 (\$M, rounded)

Go-Forward Cost Gap	\$ Millions
Remaining cost to complete*	950
Less	
Remaining value in contract	(240)
Remaining value in BA	(40)
Go-forward Cost Gap*	670
Total Cost Gap*	670
Additional Plan B Costs	
Switchout estimate	75
Profit and overhead	220
Astaldi security collection	(275)
Total Additional Plan B Net Cos	20
Total Plan B	690

Go-Forward Cost Gap	\$ Millions
Remaining cost to complete*	950
Less	
Remaining value in contract	(240)
Remaining value in BA	(40)
Go-forward Cost Gap*	670
Additional Astaldi Loss	100
Remaining Gap to New Contract Price	570

Delta
\$120 M

Note: Final AFE and Requisition values will be determined following ongoing reconciliation between Nalcor and Astaldi systems

Due Diligence

Nalcor's actions to address Astaldi issues have resulted in improvements in concrete production rates

Details of Alstadi's challenges

Engagement

- Engagement at highest levels of Astaldi and Nalcor continuously since 2014

Nalcor Support

- Nalcor support and leadership in implementing performance improving initiatives and organizational improvements (planning and execution; labour management; leadership and supervision, etc.)

On-Site Support

- Nalcor Site Team augmented with senior Project Management personnel to provide on site decision making and support to Astaldi



2015-18 Results

- Astaldi concrete production rates have vastly improved and construction management team fully functional

Extensive cross industry due diligence has been performed...

- Forensic audit on Astaldi cost, at their premises
- Three separate approaches used to forecast likely ranges of cost and schedule to complete for Astaldi
- Historical data and fact capture done by claims and legal team to prepare for potential dispute and provide knowledge for negotiations
- Ongoing monitoring and analysis done of Astaldi's operations and improvement to ensure ability and likelihood to complete
- Utilizing combination of internal expertise supported by external experts

...and several experts have been utilized...

Details

Westney

- Mega Project Risk consultants and Project Management Advisors
- Examples of the expertise at this firm includes:
 - Retired CEO of one of the worlds largest construction companies
 - Retired senior VP of one of the worlds largest engineering and construction companies
 - Retired US Army corp of engineers Colonel
 - Founder of US Construction industry institute

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- Forensic Accountant with construction expertise

Cleveland and Assoc.

Long International

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- Construction claims advisors
 - Internal Team members with combined mega project experience of hundreds of years including:
 - Commercial Experts
 - Data analysts
 - Construction experts
 - Project Management Experts

...including third party reviewers and approvers

- Provincial Government and Cabinet
- EY review team
- Independent Engineer – MWH
- Federal Government legal and financial advisors
- Nalcor Board of Directors

Appendix

Key Messages

- Many myths around the Astaldi Agreement
- Astaldi has performed well 2015-2018
- Astaldi selection well documented and followed best practice
- Astaldi package size was appropriate
- Astaldi estimate was missed and they had a bad start
- Astaldi has experienced corporate liquidity difficulties
- Astaldi contract NOT reimbursable
- Astaldi will take a large loss on this contract
- Astaldi contract is strongly in LCP favour – thus their loss
- Estimates said that powerhouse could easily be built for this
- Minimal change to technical or quantity scope – 100% AFC drawings
- Bridge Agreement required to ensure no loss of summer season 2016