

Feb 13 2015 Briefing deck which indicated project costs between \$7.5B and \$7.77B presented by Project team to CEO, VP, Finance

This briefing anchored back to the AFE rev 1 June 2014 of \$6.99B however Project management outlook of costs indicated they could rise to \$7.5B. Furthermore the contract bids received in Feb 2015 drove that up a further \$272M to \$7.77B. Mitigating this potential contract cost increases was a key focus of the project team with value engineering, rebids and other initiatives to get the bid costs down underway.

AFE rev 2 scope was identified as being enough to cover commitments until mid 2016 . The costs increases being included in the bids reflected the tactical risk of Contractors with a risk aversion for Labrador based on the productivity being experienced in the province generally.

In addition it was clear that the \$7.77B was based on certain assumptions, the key item being Astaldi were able to recover schedule and maintain the costs within the fixed cost contract. (Lmax)

A slide was also included which considered the complex sequence of discussions, communications and alignments with stakeholders and the Shareholder that would be required to be able to inform of the AFE and Capital cost increase to the public.

Schedule was also discussed with Transmission schedule with no concerns, however the Dec 2017 First power target date was under threat following a 6 to 9 month Astaldi delay. Astaldi were still confident they could recover schedule and therefore there was no change reported to the public First Power date.



LCP Project Costs (Fri, Feb 13 at 3 pm)

Fri 02/13/2015 3:00 PM - 5:00 PM

[Hide Details](#)

Attendance is **required** for Paul Harrington

Chair: **Bev Tucker/NLHydro**

Location: Think Tank, Torbay Road offices (reserved by Colleen)



This entry has an alarm. The alarm will go off 5 minutes before the entry starts.

Required:

Brian Crawley/NLHydro@NLHydro, Ed Martin/NLHydro@NLHydro, Gilbert Bennett/NLHydro@NLHydro, James Meaney/NLHydro@NLHYDRO, Jason Kean/NLHydro@NLHydro, Lance Clarke/NLHydro@NLHydro, Paul

Description

Bev

We will need a couple of hours with Ed and Gilbert on Friday 13th March in the PM - Attendees are Me, Ed, Gilbert. Jim Meaney, Lance, Brian, Jason
It is an important meeting to discuss Project Costs
Regards Paul

Paul Harrington

Project Director

PROJECT DELIVERY TEAM

Lower Churchill Project

t. 709 737-1907 c. 709 682-1460 f. 709 737-1985

e. PHarrington@lowerchurchillproject.ca

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Personal Notes

*Feb 13 2015
\$7.5B -
\$7.77B - 2016*



**Ed -Pre Meeting
Calendar Entry**

**Fri 02/13/2015 8:30 AM - 9:30
AM**

Location: Think tank

Required:

Brian Crawley/NLHydro@NLHydro, James Meaney/NLHydro@NLHYDRO, Jason Kean/NLHydro@NLHydro,
Lance Clarke/NLHydro@NLHydro

Description



Re: Presentation for LCP Boards 

Paul Harrington to: James Meaney

02/06/2015 01:30 PM

Cc: Anthony Embury, Ed Bush, Gerald Cahill, Gilbert Bennett, John Skinner, Mark Bradbury, Steve Pellerin

Jim

This deck does good job of addressing the governance and financial controls aspects of the project. What seems to be missing is an update of cost, schedule progress, risk and what we achieved in 2014 and are planning for 2015. We have the deck we used with the OC last week (attached) that could cover that aspect, if indeed that is the intent of the presentation to the Boards

regards



OC LCP Update 26 Jan 2014- final 30 nov 2015.pptx

Paul Harrington

Project Director

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James Meaney

Hi Folks To refresh everyone's memory....here is...

02/06/2015 11:33:05 AM

From: James Meaney/NLHydro
 To: Anthony Embury/NLHydro@NLHYDRO, Ed Bush/NLHydro@NLHYDRO, Gerald Cahill/NLHydro@NLHYDRO, John Skinner/NLHydro@NLHYDRO, Mark Bradbury/NLHydro@NLHydro,
 Cc: Paul Harrington/NLHydro@NLHydro, Steve Pellerin/NLHydro@NLHYDRO, Gilbert Bennett/NLHydro@NLHydro
 Date: 02/06/2015 11:33 AM
 Subject: Presentation for LCP Boards

Hi Folks

To refresh everyone's memory....here is the presentation we've done in the past....have a look and let me know if anything in your sections could be changed, refined, eliminated etc keeping in mind the audience...

Thanks

Jim

[attachment "LCP Governance & Controls Presentation July 2014.pptx" deleted by Paul Harrington/NLHydro]

James Meaney

General Manager Finance

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

**Cost Forecast**

Paul Harrington to: Lance Clarke, Brian Crawley
Cc: Jason Kean, George Chehab

02/08/2015 03:28 PM

I have the scenario analysis from George (thanks George). This provides the options we have under 3 scenarios - what we need to do now is describe the cost drivers for the last three contracts and the impact that has had on the FFC and the assumptions that have been made in arriving at the FFC.

The cost drivers include some reliability improvements but these are dwarfed by the market impact and the labour/productivity risk premiums that are being applied by the civil contractors to perform work in NL. In addition the Owner costs are having to be increased because of the need for additional contractor management above and beyond that which was reasonably assumed

Lance/Brian can you please get the deck from George and build on that to produce a deck that we can use with GB and Ed

Regards Paul

Paul Harrington**Project Director****PROJECT DELIVERY TEAM****Lower Churchill Project**

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Fw: Reimbursement for work performed by LC{P on behalf of Hydro

Paul Harrington to: Gilbert Bennett

02/10/2015 10:21 AM

Cc: Derrick Sturge, James Meaney

This issue has dragged on for over a year, notwithstanding the reluctance to seek approval from the PUB for work that has been performed I am equally unable to justify the cost to LCP. There is also the Asset transfer cost issue and the cost of TL 240 line rerouting once impoundment begins. These costs are racking up and there is never any resolution just delay and denial. When we give a project cost update to Ed and Gilbert in the coming weeks I am going to clearly show that these costs are not in the Project Cap Costs and LCP will be issuing an intercompany Charge to cover the costs from NLH. I have no other choice.

Paul

Paul Harrington

Project Director

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--- Forwarded by Paul Harrington/NLHydro on 02/10/2015 10:14 AM ---

From: Geoff Young/NLHydro
 To: Paul Harrington/NLHydro@NLHydro,
 Cc: Rob Henderson/NLHydro@NLHydro, Paul Humphries/NLHydro@NLHydro
 Date: 02/10/2015 10:11 AM
 Subject: Re: Reimbursement for work performed by LC{P on behalf of Hydro

Paul, I am not sure I can provide the decision you requested but I can advise as to the issues that will arise so that an informed decision can be made. I will be in touch with you on this soon.

Geoff



Geoffrey P. Young

Senior Legal Counsel

Newfoundland and Labrador Hydro - a Nalcor Energy company

t. 709 737-1277 f. 709 737 1782

e. GYoung@nlh.nl.ca

w. www.nlh.nl.ca

Paul Harrington

Geoff We have been expecting a decision from...

02/09/2015 01:02:11 PM

From: Paul Harrington/NLHydro
 To: Geoff Young/NLHydro@NLHydro

Date: 02/09/2015 01:02 PM
Subject: Reimbursement for work performed by LCP on behalf of Hydro

Geoff

We have been expecting a decision from you regarding how NLH can reimburse LCP for work performed by LCP on behalf of NLH - example being \$21M for the HVGB line.

I do not have the budget for this work .

Regards Paul

Paul Harrington

Project Director

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**Forex exposure and RFCI, RFI and BTPO costs****Paul Harrington** to: James Meaney

Cc: Gilbert Bennett, Lance Clarke

02/10/2015 10:13 AM

Jim- a couple of big ticket items worthy of some discussion:

1 As part of the Cap Cost review I was advised that there is approx \$41M in Forex that is not included in the Cap costs - Forex has never been in our Cap costs. I assume this cost exposure is to be covered by Finance, pls confirm.

2 RFCI, RFI and BTPO associated costs must be borne by the respective departments - they need to develop a budget and a cost control method to monitor costs. I get the distinct impression that there is an assumption that costs can be charged back to LCP - we were very clear on this at the start, RFCI, RFI and BTPO costs associated with interacting with LCP and getting ready for the time when Project turnover the facilities is not a Cap Cost - Rob Henderson and Paul Humphries have the responsibility of developing budgets for the work that needs to be carried out between now and Commercial Power and not use inter-company invoicing to cover the work being performed by their teams. Please raise within the Finance team,
Regards Paul

Paul Harrington

Project Director

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Re: Fwd: Presentations to LCP Boards 
Paul Harrington to: Brian Crawley
 Cc: James Meaney, Steve Pellerin

02/10/2015 07:57 AM

Brian

I spoke to Gilbert about the Board meetings at Torbay rd 16th and 17th Feb - he informed me that the purpose was to explain the Governance aspects - Jim Meaney has the deck so I understand. I aksed Gilbert specifically if we needed a Project update and he advised me that it was not required. So I am standing down on this. Gilbert also advised he will be at MF site with 4 Board members on Thursday this week

Steve

Could you pls get with Jim Meaney and ensure that all arrangements are in place for these two days.

Regards Paul

Paul Harrington

Project Director

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Brian Crawley

From: Brian Crawley/NLHydro To: Paul Harringt...

02/09/2015 09:54:44 PM

From: Brian Crawley/NLHydro
 To: Paul Harrington/NLHydro@nlhydro,
 Date: 02/09/2015 09:54 PM
 Subject: Fwd: Presentations to LCP Boards

This is what I was asking you and Gilbert about. I can do a deck with Steve in short order but I have to know what it is about. Can we get some direction from Gilbert?

Sent from my iPad

Begin forwarded message:

From: "Peter Hickman" <PHickman@nalcorenergy.com>
Date: February 9, 2015 at 2:45:39 PM EST
To: "Paul Harrington" <PHarrington@lowerchurchillproject.ca>
Cc: "Brian Crawley" <BrianCrawley@lowerchurchillproject.ca>
Subject: **Re: Presentations to LCP Boards**

Hi guys. Is Steve coordinating this?

Thanks,
Peter

Paul Harrington---01/31/2015 08:07:27 PM---From: Paul Harrington/NLHydro To: Peter Hickman/NLHydro@nlhydro

From: Paul Harrington/NLHydro
To: Peter Hickman/NLHydro@nlhydro
Cc: Brian Crawley/NLHydro@nlhydro
Date: 01/31/2015 08:07 PM
Subject: Re: Presentations to LCP Boards

Peter

This can be accommodated

Brian

Is this something we could ask Steve Pellerin to coordinate and organize, if so could you please arrange for him to take this on under your overall direction

Much appreciated

Paul

Sent from my iPad

On Jan 31, 2015, at 5:24 PM, Peter Hickman <PHickman@nalcenergy.com> wrote:

Paul, for your information see my email below.

As noted in it, we are looking to hold the sessions at the Torbay Road offices. There will be approximately 5-8 directors each day. Do you see a problem with doing this? If not, who should we contact to organize it?

Thanks,
Peter

----- Forwarded by Peter Hickman/NLHydro on 01/31/2015 05:21 PM -----

From: Peter Hickman/NLHydro
To: Ed Martin/NLHydro@NLHydro, Gilbert Bennett/NLHydro@NLHydro, Derrick Sturge/NLHydro@NLHydro
Cc: Wayne Chamberlain/NLHydro@NLHydro
Date: 01/31/2015 05:20 PM
Subject: Presentations to LCP Boards

We have scheduled two sessions with LCP board members (to be clear, each director attends only one of the two sessions) to make presentations on Project Oversight, Governance and Project Leadership Structure. I'm assuming that the three of you will be involved in making the presentations, but please let me know if there is anybody else who will be involved. It would be good to send out the presentations before hand; I think we should do that by Wednesday Feb 11th. I'm not sure who will be responsible for preparing the presentations but I'm thinking Gilbert for Oversight and Leadership and Derrick for Governance?? I understand that presentations are prepared so it may be a matter of just reviewing to ensure they are up to date, etc. Please send me and Audrey the final presentations by Feb 11th. Gilbert and Derrick, if

there is someone else who will be responsible for providing me with the presentations please let me know.

The dates we've set aside are Monday February 16th and Tuesday February 17th. We'll start the sessions at 8:30am so as to ensure they are finished by lunch time. Note that we have taken the opportunity to have John Green come in to make a presentation on directors responsibilities and liabilities as well, as this is something that some of the directors had asked for. It was suggested that we should have the sessions at the Torbay Road offices so that the directors can see that site. I will contact Paul about setting that up.

Thanks very much,
Peter



Fw: Forex exposure and RFCI, RFI and BTPO costs
Paul Harrington to: Jason Kean

02/10/2015 11:57 AM

Jason

The note from Jim is contrary to my understanding of how Forex was going to be covered - our cap costs do not include the Forex cost - George tells me that it is approx \$41m- obviously a big hit.

Paul

Paul Harrington

Project Director

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----- Forwarded by Paul Harrington/NLHydro on 02/10/2015 11:55 AM -----

From: James Meaney/NLHydro
 To: Paul Harrington/NLHydro@NLHydro,
 Cc: Gilbert Bennett/NLHydro@NLHYDRO, Lance Clarke/NLHydro@NLHYDRO
 Date: 02/10/2015 11:23 AM
 Subject: Re: Forex exposure and RFCI, RFI and BTPO costs

Hi Paul

1. Forex is not covered under any Finance budgets. I've had some recent discussions with Project Controls on where these costs are captured as Canada/IE have asked. I think we need to discuss this further. Probably need to pull Jason in for the discussion as it goes back to a decision made at DG3.

2. Gilbert and I spoke this morning on the budget issue. Rob Hull has his own RFCI budget set up in Nalcor. I need to engage with Terry, Peter and Hydro Finance rep to get budgets and a process established in Hydro for RFI / BTPO.

Regards

Jim

James Meaney

General Manager Finance

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

Paul Harrington

Jim- a couple of big ticket items worthy of some...

02/10/2015 10:13:51 AM

From: Paul Harrington/NLHydro
To: James Meaney/NLHydro@NLHYDRO,
Cc: Gilbert Bennett/NLHydro@NLHydro, Lance Clarke/NLHydro@NLHydro
Date: 02/10/2015 10:13 AM
Subject: Forex exposure and RFCI, RFI and BTPO costs

Jim- a couple of big ticket items worthy of some discussion:

1 As part of the Cap Cost review I was advised that there is approx \$41M in Forex that is not included in the Cap costs - Forex has never been in our Cap costs. I assume this cost exposure is to be covered by Finance, pls confirm.

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Regards Paul

Paul Harrington

Project Director

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Re: Fw: Invitation: Ed -Pre Meeting (Feb 13 08:30 AM NST in Think tank) 
Paul Harrington to: James Meaney

02/12/2015 01:49 PM

Jim

this is a bit of an alignment meeting between me, you, Brian, Jason and Lance (who is at site) so no need for Derrick at this one... it is internal alignment - I have not included Gilbert in this Paul

Paul Harrington

Project Director

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James Meaney

Hi Paul My calendar now shows meeting with Ed...

02/12/2015 01:47:16 PM

From: James Meaney/NLHydro
 To: Paul Harrington/NLHydro@NLHydro,
 Date: 02/12/2015 01:47 PM
 Subject: Fw: Invitation: Ed -Pre Meeting (Feb 13 08:30 AM NST in Think tank)

Hi Paul

My calendar now shows meeting with Ed at 3pm tomorrow over at Torbay Rd vs Hydro Place. Just wanted to confirm I have that right as was going to suggest to Derrick he also join if available

Thanks

Jim

James Meaney

General Manager Finance

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

--- Forwarded by James Meaney/NLHydro on 02/12/2015 01:46 PM ---

Invitation: Ed -Pre Meeting

Fri 02/13/2015 8:30 AM - 9:30



AM

Attendance is **required** for James Meaney

Chair: **Paul Harrington/NLHydro**

Location: Think tank

Paul Harrington has invited you to a meeting. You have not yet responded.

Required:

Brian Crawley/NLHydro@NLHydro, James Meaney/NLHydro@NLHYDRO, Jason Kean/NLHydro@NLHydro, Lance Clarke/NLHydro@NLHydro,

Description

REVERSE
REIMBURSABLE

KLONIT
INFLUENCE
AZON X

HRS. BUDGET 850,000

A. Benning. 900,000 = COST REIMB. ON HRS; NO LMK. INDIRECTS

B. O/C Drag. 1,400,000 INDIRECTS. LOWER. LUMP SUM FIXED PRICE.

C. _____ 2,000,000. → TARGET.

- SPECIFICATION TOO TIGHT
- OVER PRESCRIPTIVE
- EXECUTION METHOD TOO RESTRICTIVE.

Lower Churchill

Cost and Schedule Update

Machyn Wild
13 Feb

12 Feb 2015

Boundless Energy



Direct Costs
Indirects x 2

CH0006 No Profit.

Zoshmerku
1 cold days
+ John Mutchakky

| | | |
|-----|-----------|------------|
| | | 357 |
| | | 1163 |
| | | <hr/> 5204 |
| | | VS |
| \$0 | 526 | 182 |
| | 208 | 86 |
| | <hr/> 252 | <hr/> 268 |
| | | |
| | 50. | |



Take a
MOMENT
for Safety

FELT Initiative

FELT Leadership – Pocket Guide



FELT Leadership

The actions and behaviors exhibited by leadership to visibly demonstrate your personal commitment to safety excellence.

Take a
MOMENT
for Safety



Felt Leadership is visibly demonstrated when leaders show they:

CARE

- Get actively involved in safety
- Demonstrate a sincere personal concern for everyone's wellbeing
- Take the time to get to know employees & contractor's crew (convey why safety is important to each of them)
- Conduct regular walkabouts with a focus on safety & be visible in the field
- Focus on injury prevention through experiences, safety bulletins or lessons learned
- Engage individuals and take interest in their work & safety
- Address open safety issues (SWOPs, etc.) promptly
- Lead regular safety inspections & engage employees for input
- Monitor incident reporting & use the leading indicators to focus your attention
- Make contact with a team member who is injured (Medical Aid, First Aid, Near Miss)

COMMUNICATE

- Speak up on safety issues & performance
- Encourage open communication & work to draw team members into conversations about safety
- Set clear expectations on safety performance (including using proper tools & following procedures)
- Keep others informed on important safety matters
- Share your personal safety message
- Participate in crew toolboards & attend contractor's safety meetings
- Encourage individuals to suggest ways to work more safely together
- Share safety accomplishments
- Generate a safety brief after a near miss occurs
- Participate in the orientation process for new workers

COACH

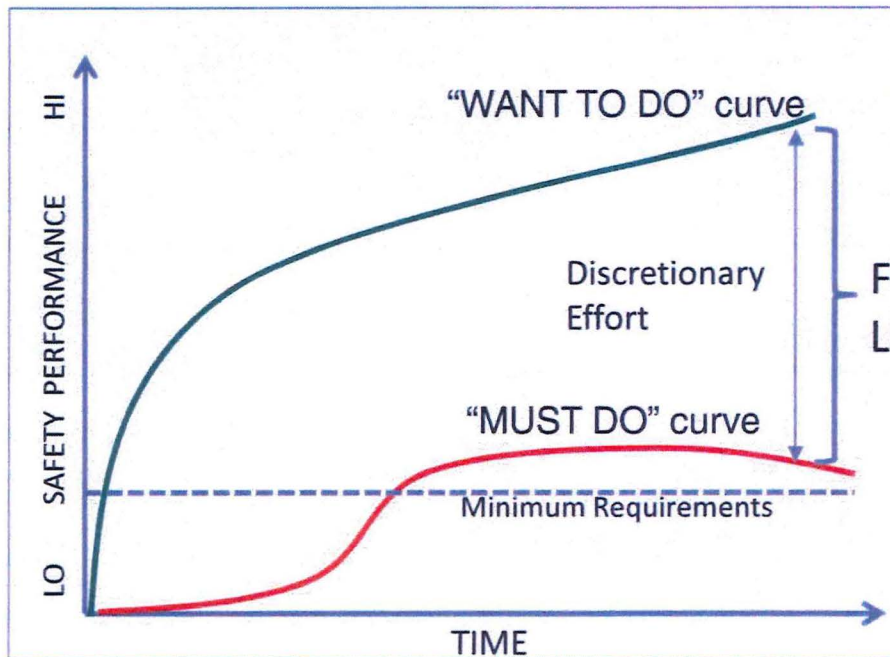
- Reach-out to team members & inspire them to work safely
- Lead by example (walk the talk)
- Practice positive reinforcement
- Interact with individuals & provide constructive feedback
- Make personal contact with individuals who provide quality safety observations
- Coach individuals on unsafe actions & behaviours & how to work safer
- Review StepBack cards (share yours thoughts with the cardholder(s) & provide feedback on quality & completeness)
- Encourage team members to get involved in safety
- Assist their co-workers
- Share experiences & learnings
- Never walk away when discussing safety

Take a
MOMENT
for Safety



FELT Leadership helps to unlock the benefit of ‘Discretionary Effort’

Discretionary effort is the level of effort people could give if they wanted to, but above and beyond the minimum required.



- CARE
- COMMUNICATE
- COACH

Project Capital Cost

June
6-2-6.99.

Capital Cost – Anchoring back

- June 2014

- Cap cost updated publically to \$6.99B ✓
- AFE rev 1 \$6.99B for MF,LIL,LTA approved ✓
- Project team’s view on cost at completion \$7.5B.
 - 3 major contracts remaining – assumed total \$410M

- February 2015

- Remaining 3 contracts bids received – total \$682M
 - Additional \$272M driven by contractors fear of labour productivity which increases Project Cost at Completion to \$7.77B.
- AFE Rev 2 for \$7.49B required to award upcoming contracts

1. A-Sport
 2. NES Dams ✓ } 682.410
 3. BoP. ✓ } \$272m
 DC cleaning.
\$188m

AFE Rev – Required June 2014

7.5
7.4

- AFE Rev 2 will suffice until mid 2016 and includes ~\$188m contingency
- Cost Drivers
 - AFE Rev 1 to AFE Rev 2
 - \$6.99B to \$7.49B
 - Combination of Reliability, Productivity, Market drivers ↑
 - Project Cost at Completion June 2104 to Feb 2015
 - \$7.5B to \$7.77B
 - Exclusively driven by N Spur, N&S Dam and Balance of Plant contractor bids reflecting the bad productivity reputation of civil Projects in NL.

7.5
7.3
6.3

\$30m
↓ ↓ ↓ ↓ ↓ ↓

AFE Rev 3 – Required Mid 2016

- AFE Rev 3 - \$7.77B

- Will take project through to completion assuming the 4% contingency is adequate and there are no major contract defaults, claims or geotechnical issues

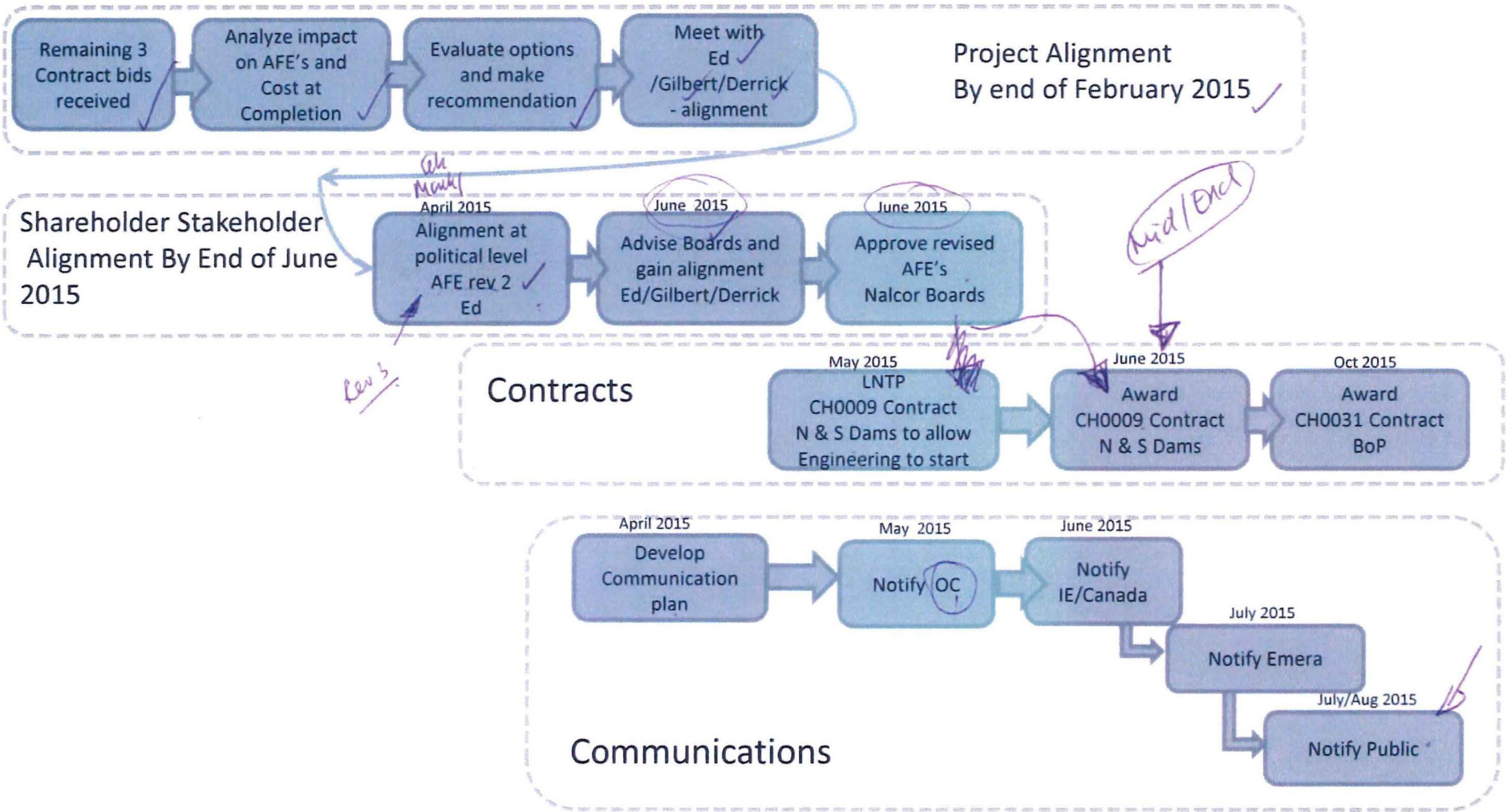
- Other assumptions

- RFI/RFCI, BTPO costs are not Project Costs ✓
- HVGB pre build, TL 240 reroute and construction power asset costs are paid by Hydro ~ \$50M
- ~\$41M Forex exposure is not a Project Cost
- Astaldi recover delays to Powerhouse/Spillway construction
- \$10M Bond recovery from GWF default

Handwritten notes:
 • Geotech
 • W.S. Risk
 • NES Dams →
 • Labour - west
 • Avary
 • As bid in / Ks
 • factor

Dec 2017 -> 2018

Potential Sequence of Way Forward



LOWER CHURCHILL PROJECT

- Regular*
- o BOARD MEETS IN MARCH
 - o AGM IN MAY 26TH
 - o BUDGET 7 MAY
 - o OC REPORTS (MAY) AUGUST
 - o IE -> ASIA VISIT
 - o QUARTERLY REPORTS



Communications

- External messaging needs to focus on the AFE Rev 1 to Rev 2 changes of \$500M
- Reliability \$120M
 - Improvements to converter design, filters, synchronous condensers, Increased tower steel and foundations.
- Productivity \$80M
 - Increased camp costs because of increased construction labour hours resulting from lower productivity
 - Difficult terrain on ROW clearing
- Market \$300M
 - Poor productivity reputation resulting in higher Contractor risk premiums for NL work is driving up forecasts