

MFI – Interview Summary		
Date:	October 16, 2018	
Location:	Delta Hotels Calgary Airport In-Terminal location	
Attendees:	David Malamed (Interviewer) Seth Snyder (Interviewer) Jordan Wigle (Note taker)	BJ Ducey (Interviewee) Chris Armstrong (Legal Counsel)

This document contains summary notes of the interview held with the above noted attendees. These summary notes are not intended to be an official transcript of the interview. These notes were based on the taped recording of the interview. These notes are for discussion purposes only and should be shared only with the interviewee and his/her legal counsel. The purpose of these notes is to determine if the interviewee believes any responses are factually incorrect based on the interviewee’s recollection of the interview. Based on feedback from the interviewee revisions will be made if determined necessary.

Date of summary: October 16, 2018

Note: Bolded items represent questions asked by Grant Thornton LLP with the interviewee’s response immediately following in point form. Where the response was provided by legal counsel it has been noted.

- **Start at 1:00PM**
- *Legal Counsel – Chris Armstrong*
- **Tell me about what you do with Valard**
 - Senior Vice President for Quanta Services
 - Parent company for Valard Construction
 - Valard reports to me
 - I report to Duke Austin, CEO Quanta Services
- **When did your involvement on this project start?**
 - Started with Valard Quanta
 - Became aware of project on 2012
 - First visit to Newfoundland and Labrador in middle 2013
- **Are you involved with contracting?**
 - Involved from the beginning of development of contracting strategy to today
- **Tell me about the first contract and overruns**
 - First engagement was the AC contract – AC transmission line from Muskrat to Churchill Falls
 - 250 km project has 2 circuits
 - Bid in 2012, signed in 2013
 - Construction from 2013 – 2014
 - AC contract then flowed in DC contact

- DC contract signed August 2014
- **Engaged to do what?**
 - Construct transmission line from Muskrat to Churchill Falls
- **How much was the original contract?**
 - not off the top of my head
 - legal counsel – two-something
 - somewhere between \$200-300 million
- **Project went pretty smoothly?**
 - Generally, yeah
 - I can't think of anything significant
 - *Legal Counsel - Settlement agreement met at the end*
 - Negotiation met similar to DC, became much greater focus of everybody
 - After DC was settled/dealt with AC was dealt with
- **What was the bidding process?**
 - Nalcor held competitive process
 - Responded to it and they chose us
 - Global competition for contract
- **Was there a short list?**
 - Assume that there were a number of site visits
 - Don't recall who would have been on short list, sure its public or published somewhere
- **DC contract larger of two, how did team bid on that?**
 - Signed AC contract Aug 2013
 - Nalcor's plan was to source several RFPs
 - October 2013, I received a phone call in Houston, Nalcor asked if we were interested and we responded to it
 - Open book development model was used
 - Series of meetings followed
 - Difference variations of this model. Involved:
 - o Series of team meetings
 - o Defining scope
 - o Break out different scopes
 - Presentation that Nalcor used in the meetings is available – called open book estimate development model – October 28th. Received on October 29, 2013 from Jason Kean
- **Was this different from past?**
 - Followed general accepted process as other North American projects
- **Why switch from competitive bid to open book?**
 - Not privy to internal working deliberations

- Meetings would have 20 people involved and participated in most of them
- 10 from them, 10 from our side
- I participated in most of the meetings
- **What caused overrun from original project?**
 - For clarification contract had two parts:
 - o Part a - Overhead on construction of commission line
 - o Part b – Dealing with other items surrounding contact
 - The original \$800 million was for part A only
 - The settlement combines part A and part B
 - *Legal Counsel - Part B is work by the hour and was not part of original contract*
 - *Legal Counsel - Cannot compare apples to apples*
- **Is there a way to separate those out, what applies to A and what Applies to B?**
 - Our belief is that we delivered the project on time and on budget
 - Can talk about view point
 - Growth was caused by:
 - o Sub-surface conditions were a cause – different types of foundation put in
 - o Timing and delays as Nalcor was working directly in front of us
 - A lot of information was provided to Nalcor in the past related to geo-technical issues
 - Assumptions that were made in the FEED that, you know fed into the contract, fed into the scope of work that when we got into the field and got to these locations proved out to be, you know, the **actual conditions proved out to be different than what was assumed**
 - **we didn't participate in FEED, that was SNC Lavalin, that was Nalcor**, you know, we got a statement of work, that was, you know, we kicked off, you know, when we got a statement of work, a scope of work, technical information. Towers were designed, foundations were designed, conductors were designed all that then, **we used that information to go into this open book negotiation** that we previously talked about. And, it parted out, there's, I assume, Nalcor, again I'm not privy to what went on in their FEED, but they had years to work on it. Were the type of foundations that were planned used, in our industry they're called a family of foundations. So this family of foundations will be able to fit 98% of the conditions you're going to see over this 1100 kilometers.
 - **The assumed family of foundations were not working** and Nalcor quickly went to what is called a modified grillage foundation so when they got out there in the very beginning they started using, we had them starting to basically, in the field agree on and engineer modified foundations that were not part of the original unit base contract.
 - Legal counsel **That was part of the settlement was reached is payment for these modified foundation**

What geo-technical information was available to team?

- Used the information and conditions that Nalcor put together
- No geo-technical report on line itself
- When got to field, front end engineering was not correct in respect to the conditions
- FEED-front end engineering development
- What went into the FEED and what was actually built there is a difference of around or greater than 60% - meaning when made the plan assumptions were made.
So when they had done the feed, they make these engineering assessments and assumptions ... that was all built up that's how you develop your unit base contract. If you go back and look at the units, lets

say, type, I'm just using this an illustrive type A, you're gonna install it 500 times, for, lets call it, for an easy number lets say you're gonna install it 100 times across the project. Okay, what ended up happening was, you didn't install it 100 times it was a delta of greater than 60%

What was assumed in FEED, in actuality it changed in field

- There was no geo-technical
- Plan was to start at Muskrat Falls and work towards Churchill - All issues were around Muskrat Falls
- Difference in what was thought to happen versus what was actually happening – big issues in Labrador
- In Newfoundland – full geo-technical program undertaken
- Made correct engineering decisions
- **How did Valard insulate themselves from the risk of Geo-technical not being done?**
 - If we put in X number of units we get paid
 - Hope/desire is to put a lot of grillages in place
 - Geo-technical conditions were different then what was assumed in FEED – magnitude of the differences seen is not common in industry
 - There were on the fly decisions being made
 - RFI process would take days to get information back
 - Because of ingredients in FEED, didn't correspond to route – caused costs and prices to increase
 - *Legal Counsel - Two foundation types hadn't been agreed to – long period of time before these could be used*
 - *Legal Counsel - Materials were being supplied by Nalcor – put grilling foundations in because it was the cheapest foundation but ended up using less of these because of difference in conditions*
- **You said variance of 60% earlier, historically what would this be?**
 - Less than 20%
 - Was uncommon for the types of issues being incurred for this project to incur on a large linear project - based on knowledge from projects seen in the last ten years
 - Can't remember this ever being an issue, there were site specific issues but not over the length of the line
- **Why was there a negotiation going on at all?**
 - Nalcor had bought a lot of unit A as was expected to go in, from our point of view unit A was not going to work – needed to instead use unit B – but they didn't want to do that because it was less economical
 - Did a lot of modified grillage – one of the items in the settlement
 - *Legal Counsel - Expected 552 units of grillage foundations actually installed 891 units of grillage change*
 - In work front 1 (first half of project) there were estimated rock foundation to grillage (earth foundation) needed to be modified to make work
 - Grillage is the cheapest, rock would be the next option, H-pile most expensive significant difference
 - There was more grillage installed but 75% to 100% were modified
 - 4 or 5 of those would qualify for grillage units
 - *Legal Counsel - Modified grillage means – get to the base, test firmness and then modification to make it work. Many variations exist:*

- o *Over excavate*
 - o *More/less rock*
- The modifications to grillage increase costs
- The rock is redistributed to other foundation types of foundations
- The chart provided is only for work front 1 (Only over Labrador)
- Didn't do the presentation for Newfoundland
- **Why/where is the presentation from?**
 - It was part of discussions surrounding amended agreement
 - At the time of the dispute put together by counsel and outside claims experts
 - Delivered to Nalcor from third party who completed the report
 - Nalcor claims expert was also involved
 - Prepared Chris Anderson from C2GI international
 - C2GI Engaged by Valard to prepare report
- **When developing costing with open book model what sources were used?**
 - Valard has 41,000 employees, \$10.5 billion in the revenue, at the time of the project we had 30,000 employees and \$8 billion in revenue
 - Largest high voltage contractor in North America
 - Built thousands of miles of transmission lines over the last 60 years, large wealth of knowledge and experience
 - Depends on recent historical knowledge
- **How to factor in productivity?**
 - Have experience executing projects in North BC, North Ontario, Yukon
 - A lot of Newfoundland people on the workforce
 - The operating unit of this project have a lot of experience in colder climates, experience with difficult climates
- **How do you figure out productivity in northern climates?**
 - All projects have difficult climates that we deal with, climate is not unlike similar projects in northern Canada
 - Relied on previous experience
 - Less light, shorter days
 - Weather, remoteness
 - Consider time to travel – rotation of workers
 - All inputted to predict costs of projects
 - Contributing factors to price in this project were not related to productivity
 - Robust, hardened workforce used to working in these conditions
 - Factors were geo-technical, disputes over foundations, having to pull back because Nalcor was working in front of us clearing access to roads to be able to build foundation of project
 - Two biggest impacts on cost

- o Geo-technical
 - o Clearing and access delays
- Contracting of personnel to cut down trees and build roads Nalcor's responsibility – both delayed and impact of running into them affected cost
- Schedule 5 shows visually what happened with roads (example – expected completion April 2015 and did not complete until August 2016)
- Big picture - people locally were contracted to cut down trees, build roads and was probably very similar to what happened in the foundation where it was very different than what was expected
- **How can it be so different?**
 - Types of equipment available, availability of personnel, roads that were supposed to be built
 - Productivity – certain types of roads needed to be able to transport big cranes
 - *Legal Counsel - Assumptions were made without the correct info*
 - *Legal Counsel - Best assumptions, worst truth*
- **When did it become clear incorrect price was budgeted?**
 - Early on but did not know the magnitude
 - In the first work front
 - *Legal Counsel - Letter written October 2014*
 - Written in the first 8 weeks of project to collaborate and work on solution
 - What is occurring doesn't match up
- **Best practice for when this occurs?**
 - Generally two large companies can collaborate to find solution
 - *Legal Counsel - Best practice is not the way to put it, because every contract is different*
 - *Legal Counsel - Generally speaking first step is communication*
 - Delays first noted in October 2014
- **Was change in DC line because of Dark NL?**
 - No, not to my knowledge
 - I think it raised importance of these assets
- **Any impact of scope or design changes?**
 - I wouldn't know that, no
 - *Legal Counsel - Not raised, unaware*
- **Project management team contacts?**
 - Jason Keen
 - Lance Clarke
 - Paul Harrington
 - For the 2014/2015 time frame, Jason's team
 - Jason reports to Paul, Lance and Jason are equivalents
 - Jason has people below him (execution team who reports to him)

- **Concerns with project team?**
 - Jason and team were very passionate about project, Lance and Paul were the same
 - Lance had more involvement in the beginning
 - Jason was the day to day contact
 - Lots of other team members report up to Jason
- **Issues with project team?**
 - Always issues on big team
 - Team was passionate about the project and passionate about making it successful
- **Project management approach?**
 - Very strong opinions on positions
 - What was said in feed was not being addressed commercially
 - They wanted to keep going as not address issue
- **Could you not just keep going?**
 - Big project for the company
 - Made decision to persevere as Valard has strong financial position
 - Discussed in calls the effect it was having – very pointed discussions over position and damages causing my company
- **Comparison to other projects?**
 - Every project is different, different ecosystems
 - Had their way of doing things
 - Wouldn't say greatly different from other teams in their interaction
 - Differing site conditions were unusual – geo-technical, site clearing
- **Who going to with issues?**
 - Nalcor is who we're in contract with
 - Chapter 2 – Nalcor has management change (John Maclsaac brought in) and both can agree there is a problem and work towards a solution
 - Transmission built only four months late considering problems incurred
 - There was an increase from initial contract but is not a significant magnitude if you look at the global project
 - John Maclsaac comes in 2016
 - Still was in contact with Jason, Jason was in John's fold
- **Who takes Jason's place when he leaves?**
 - Pete Whelan and Greg Flemming
 - First became aware of the issues in October 2014 but becoming more critical in 2016 as dollar value was increasing
 - Issues were being pushed and problems were growing
- **Did Nalcor's strong opinions change with John Maclsaac?**

- Didn't change overnight, passions were still there
- More communication and dialogue occurred
- Started sending pictures of what they were dealing with on daily basis
- Became more real and issues began to be dealt with
- Mechanical completion in November 2017
- Received final completion certificate
- **Was Nalcor involved in building plants before?**
 - I know they own Churchill Falls and assets in the province
 - They are a big company with billions in assets
 - We were hired to provide services and execute on
 - What I was concerned about was credit worthiness of my counterparty
 - Felt confident they would be paid as it was secured by government
- **How often would the project management team come to the site?**
 - Project manager lived on site
 - Various people in management did rotations on site
 - Some leaders had apartments locally
 - Always had a capable project management team on site
 - Plan was the same for all significant projects
- **Nalcor was coming how often?**
 - Probably wasn't enough
 - John MacIsaac brought onsite meetings
 - His passion for being there was greater than previous members
 - When they split the project, the transmission line was his project
- **Concerns about Nalcor project management team?**
 - Concerned they weren't present in field, off site in an office
 - Heavily dependent on inspectors
 - Decision makers were not present
- **Other projects?**
 - Go back and forth –proven in documentation
 - Issues occurring and instead of addressing were being pushed down and not settled
- **Why would they do that?**
 - Not uncommon in construction industry because often people will settle for less than they are owed
 - Quanta is a large company, could absorb costs until a settlement was agreed upon
 - Feel it was strategic on Nalcor's part
 - Could be a good strategy but also could increase costs
- **Was it better having project management team on site?**

- Better to have project management on site
- Slide 63 – example of geo-technical programs - something wrong with what was chosen, wasn't going to work, whole issue took place over 15 month period, as progressing needed to jump over issues
- Average of 156 days from identification of issue to decision about treatment
- Different reasons for delays
 - o Engineering solutions
 - o Procuring additional materials
- Taking half a year to engineer solutions isn't normal
- **What were the workers doing?**
 - Jumping the clearing teams and moving on – contributes to cost inefficiency and can't build towers or string lines
- **What should the average be?**
 - In a normal project it shouldn't happen
 - Was not happening in chapter two (new management team and geo-technical investigation) – then there were no speed bumps and project accelerated
- **How did you communicate with Nalcor on project schedule and costs?**
 - Communicated on daily, weekly and monthly basis
 - Adhered to contractual requirements
 - Executive meetings, face to face, workshops – a lot of different mediums were used
- **What was feedback for scheduling**
 - Let them know feedback
 - Had very pointed opinions that work wasn't being done
 - Looking back today the right products were used
- **Was Nalcor managing job site?**
 - Nalcor had safety personnel, folks for productivity - team of people around
 - As a contractor responsible for own people and managing self – Nalcor was not directing my guys, but they are there auditing per the engineering requirements
- **Security measures on site?**
 - Tools, equipment, truck, cranes, helicopters are my responsibility
 - Nalcor would issue foundation material: grillage, towers, insulators and we would put that together – get boxes of all and need to assemble
 - Towers were made in Turkey and shipped to site, sometimes would be missing parts but spare parts were available
- **Concern about equipment/tools not stored properly?**
 - Not from my knowledge
 - If my men drop something that's a Valard cost
 - Only thing Nalcor is responsible for is materials brought in
 - Not concerned about special equipment such as cranes going missing

- There was missing lattice but not a security concern, instead would be a QA issue
- **Valard involvement in clearing issue?**
 - Were involved because they were there, coordinating with contractors doing clearing
 - Valard built one road
 - Did some surveying, did some flagging – for part b of the contract
 - Have survey, geometrics team – provided services for project
- **Would Valard normally have responsibility for right of way clearing?**
 - It depends, there is no generally accepted process
 - Could be both ways, either done by the owner or the contractor
 - Majority of the time owner does the clearing (right way is for clearing to be done well in advance)
 - *Legal Counsel – every line I've seen, the owner has done the clearing*
 - Often done by owner because clearing the earth is best done by owner locally
- **Cost saving operations and right of way clearing?**
 - Clearing was a big cost for the project
 - Was there cost savings from what was delivered? Off the top of my head, no
 - Throughout the process teams worked hard to try to remove costs to the detriment of Valard – slowed down transmission line capabilities
 - All worked hard to try to eliminate costs in plan – collaboration was delayed
 - Many roads were sub-standard and had to be re-done
- **Language in part b of contract regarding performance incentives?**
 - *Legal Counsel - Was late in the day and was happening live as opposed to advance of construction*
 - Teams completing clearing and right of way access taking longer than anticipated
 - Clearing crews and construction crews overlapping with each other
 - Ability of ways to reduce costs not realized in reality
- **Family design changes?**
 - Family of towers – need to adjust for different towers
 - When in field would need to move towers if in bog – not uncommon in a transmission line project
 - Legal Counsel - Problems in project were in the ground because they were unknown
- **If geo-technical was correct there would have been very little design changes?**
 - *Legal Counsel - Generally, yes*
 - would have been great for both parties
- **July 2017 settlement agreement?**
 - *Legal Counsel - Started discussions with Nalcor in March – May 2016. Started at a high level.*
 - In October 2016, spoke to John MacIsaac. John, myself, CEO Duke Austin, made gentlemen's agreement would finish by the end of 2017 if commercial issues were dealt with
 - After October 2017 had discussions about the magnitude of the problem
 - Pete Whelan, Greg Flemming, Keith Dover, a level below John MacIsaac they start sizing up on their side that we have a real problem here we had better address

- Was not an acceleration of the original schedule – supposed to end August 2017? They needed substation to be done and delivered to St. John's by end of 2017 – was contractually delayed
- **How did settlement work?**
 - Amending agreement number 2
 - High level meeting in Montreal, came up with settlement. John, Pete, Keith, Greg, Duke Austin and small group of us met.
 - Talked about contract issues
 - Agreed to lump sum dollar amount.
 - Came up with term sheet then brought into contractual agreements.
 - Essentially another gentlemen's agreement getting us to the end.
 - Essentially everything became our responsibility and received lump sum payment meaning Nalcor is now out of the road work and those contractors are no longer controlled by them.
- **Is that why things started to get streamlined?**
 - No, well it's part of it but it's not all of it
 - It's the alignment of the teams
- **How did you get to \$1.07 billion settlement?**
 - Negotiation – our claim was hundreds of millions of dollars higher then settled at plus taking on part B work
- **How much of that amount related to part B work?**
 - Not known off of top of head
 - Settlement picked up all extra work had to do
 - All demobilization was part of settlement
 - *Legal Counsel - Negotiation for both parties of what the number for settlement might work for both parties*
- **Conductor issues?**
 - We installed conductor per all standards – part of documentation of project
 - Identified an issue (was a one of a kind conductor not installed anywhere else).
 - **Conductors has core with 100s of strands of aluminium – problem was one of the strands popping out and causing inefficiencies in heating over long distance**
 - You have a transmission line conductor, and then you have a core, it is kinda where the weight bearing core is and wrapped around that is strand of copper, sorry stands of aluminium and that's really where the electrons flow from a physics, you know, kinda perspective.
 - And what they have, they have, what like a hundred strands around it
 - Legal counsel – yeah, I don't know the number
 - Something like that. And so you have all these individual fibres, hairs they look like, right. Pretty big, I mean, it's a thick, it's a thick. And one is just popping out.
- **Why was this conductor used?**
 - Talk to engineer
 - Issues can arise over time but should not have had issues when you install
- **Your piece of the cost?**

- Restraining and delay while couldn't figure out the issue
- Nalcor bought the cable and provided to us
- **New contract turned into lump sum?**
 - Paid on milestones
 - *Legal Counsel - Conductor issue was excluded from release*
- **Any other issues?**
 - Other commercial issues – man camps, we provided camps at Muskrat Falls and there would have been excess costs due to increased timeline of contract
 - *Legal Counsel - Other line items, payment for specific materials*
 - Missing lattice – got thrown into kitchen sink
 - Smaller but not insignificant items that produced excess costs
 - *Legal Counsel - Series of documents produced during negotiations to deal with these items*
- **What went wrong?**
 - Two different versions here:
 - o Two companies that didn't proactively deal with issues
 - o Lack of collaboration/realization to work through issues
- **Was there anything that happened that made you feel uncomfortable?**
 - Ethical or safety?
 - No to both
- **Anything else?**
 - Considered a success story from Valard perspective
 - o DC project with 1100 kilometres built – provided significant number of jobs to Newfoundlanders and will provide significant number of years of reliable service and was completed near service target date
 - o With the issues raise the budget was not insurmountable compared to time contracted
 - o Built relatively safely well-built asset over challenging terrain