

<b>MFI – Interview Summary</b>		
<b>Date:</b>	June 22, 2018	
<b>Location:</b>	Toronto, Canada	
<b>Attendees:</b>	David Malamed (Interviewer)	Nick Argirov (Interviewee) Alison Manzer (Council for Canada – Cassels Brock)

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: June 22, 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 9:18pm**
- *Legal – we would like to make it clear that Canada is present and would like to provide its independent engineer on a supportive basis, it is in no manor recognition by the federal government of Canada that the commission has any jurisdiction over Canada or the ability to compel witnesses to the commission etc. Canada has a policy of attempting to assist its political partners in terms of these types of reviews but the attendance here has to be taken on that basis. We have constraints on some of the materials. Nik Argrov, Argov global and formally MWH are the independent engineer for Canada as the guarantor and secure creditor and accordingly most of the communication if not all are between Nick and Canada in terms of consideration of Canadas position the interpretation of the commissions mandate, and it’s clear that Canadas considerations are considered to be outside the scope of the inquiry. As a result we have some core materials but have not brought communications between Argorv, MWH and Canada as they relate to Canada’s processes and not Nalcor’s.*
- **Maybe you can give me some background about your experience**
  - I have 37 years of experience mainly in Hydro
  - Worked on a large number of projects
  - Worked with Akers, SNC Lavalin, MWH
  - Have been in different roles: senior hydro electrical consultant, manager of engineering, project manager, design manager
  - With MWH I was VP of operations – hydro and dam operations in Canada, mainly BC
- **What I am going to do is show you a bunch of documents and ask you questions for clarification. Can you explain to me about how you get retained?**
  - There was an RFP that we proposed and we were selected
- **When?**

- 2011 or 2012
- **Contract – the agreement with MWH dated August 27, 2012. You are familiar with this?**
  - Yes
- **Then there is a subsequent contract to this, is that right?**
  - No
- **There was only one contract?**
  - Yes
- *Legal – for your information I managed all the retainer contract process and we brought full slate with them in front of Castles brock. But they were the legal counsel dealing with the oversight of the full retainer process for Canada*
- **This document LCPM82 for independent engineer operating maintenance services for Lower Churchill and MWH Canada**
- *Legal – that was the initial*
- **So there was another one?**
  - That was a reliance
- *Legal – I can explain*
  - *Commencing during 2011 and early 2012 discussions proceeded aggressively with Newfoundland and Canada*
  - *One of Canada's requirements was the retainer of an independent engineer- standard process*
  - *The problem was that Canada had preparation timing requirements that could not be directly met within the timeframe it was necessary to have an independent engineer start to review the project and hit the anticipated deadline for financial close*
  - *At the time (summer 2012) the decision was made that in order to allow time – there would be an initial retainer agreement although in the name of Nalcor clearly set out to be 4 lenders guarantors and other parties, building independence into the contract*
  - *The final financial structure wasn't reached until 2012*
  - *We didn't hit financial close until 2013. The timing that was needed couldn't be accommodated*
  - *The legal solution was to have Nalcor sign an agreement between them and the independent engineer outlining the third parties*
  - *Reliance agreement - a standard way of dealing with this process. We set the primary agreement and then we adjust using a reliance agreement*
  - *MWH was acquired by Stantec which caused difficulties. We had to meet the higher standard of independence criteria*
  - *Stantec has been involved with Nalcor over the years, because of their limited involvement with this project and SNC's primary role*
  - *The combination of MWH and Stantec would have met industry standards for independence but didn't meet federal government standards*
  - *This is a very complex project*
  - *The problem Canada had was independence overrides knowledge*
  - *The solution is that Nick was approaching retirement from MWH and was the repository of the majority of knowledge*
  - *Canada went through the process of approving Nick's new company*
  - *He signed a new assignment and assumption agreement – no new contract*
  - *It met Canadas independence standards*
  - *I have all of those for you – that's the explanation in a legal construct not an engineering construct*
- **Who is relying on these reports?**
- *Legal – Canada*

- **One of the conditions of Nalcor getting financing was to get the independent engineers report?**
- *Legal -Yes*
  - *As you know those materials are posted*
  - *If you don't have the proper versions let me know*
- **When there was the transition from MWH to your company – in terms of support staff, did these people come with you as well?**
  - No, this list of people were involved in phase one
  - After that there were only 5 people who were outside consultants, some were MWH people
  - I retained the outside consultants but not the MWH people
  - I replaced the geotechnical for example with someone with the same or more experience
  - We maintained the knowledge and understanding in the same team
- *Legal – and the replacement was necessary because of retirement*
- **There is a directive – a key person for Nalcor and MWH, Lance Clarke?**
  - No he was in the first phase and then it was Jim Meany for a while
  - Jim has been known as the contact
  - They assigned a consultant that works with third parties and his name is Stephen Pellerin
  - He is the main contact – for the last 3-4 years
  - After the separation of the two divisions and LIL and MF there was also one person on the LIL part mirroring Steve's responsibilities and her name was Rosanne Williams
  - She has been involved one year I would say
- **Lance Clarke you said phase one. Phase one to you is?**
  - Before financial close
- **There is three key dates: Sanction, financial close, and construction?**
  - Yes
- **In the contract it says that such other entities may be involved providing financing. What you have explained is that this contract just sets up the agreement but the reliance sets up who is the ultimate client?**
  - Yes
- **The two phases are: Phase one before financial close, and phase two subsequent to financial close?**
  - Yes
  - First phase is after sanction because we weren't involved before sanction
- **What I have learned is sanction meant financial close didn't happen yet but really financial close is where construction can begin?**
- *Legal – sanction was a condition precedent to financial close so the sequencing is such that the guarantee couldn't have been issued. So the IE being for financial purposes is not involved in the sanction phase.*
  - One slight correction – the construction had already started with excavation
  - It was already advanced when we got involved
  - Excavation of the powerhouse mainly

- *Legal – they were using equity at that stage which created true-ups with our debt equity ratio*
- **We will talk about debt equity – when I read the agreement I get an understanding on what you had to do in phase one and two. Can you explain what you were asked to do in phase one?**
  - MWH was asked to prepare the required report to Canada for financial close to proceed
- *Legal – an independent engineers assessment is a legal condition precedent*
  - I think a site visit was implemented
  - Discussion with designers, engineers etc.
  - It was a lot of information that needed to be processed fast
- *Legal – the assessment had to be done November 29<sup>th</sup> because this is a public project. The political announcement and ribbon cutting was set for December 13<sup>th</sup>*
  - Mainly that was the objective of the first involvement
- **Phase one – are you looking at the estimates, methodology, detail? What level is your assessment?**
  - We were looking at the engineering general concepts, process (right methodologies used or not?), generally understanding the whole design and looking for issues based on experience and observation
  - I think we had drawings to review, and reports at the time, and contracts because they were advanced with the award of contracts as I mentioned one was already in execution
  - We were reviewing all those contracts, methodology, premise of award – not exactly the final award process because some of them were still in process
- *Legal – I issued the instructions– I was the person responsible issuing Canadas instructions. Canada was actually instructing at this stage and instructing clearly and solely. The instructions and initial exchanges were coming between the IE and Canada by this point in time. It was fairly quickly after signing the contract that we were able to do so and we were doing so even before the reliance. I was working heavily with Ray Hogenson who was the underground person that nick assigned*
  - He was the project manager at the time
  - I was principle in charge
  - I had to take care of a lot of other things
- *Legal – I set the parameters for the report with Canada because it was a legal requirement, therefore the parameters of the report were set to be consistent with industry standards for an independent engineer responding to creditors for a similar project. It was not a owners report it was a lenders report.*
  - For example risk issues in a big project like this one is underground – geology
  - This was well assessed and documented by us and since excavation was already going on
  - we observed what was going to come and how they were performing - which was excellent job
  - Very well done in excavation point of view
  - Then hydrology
- *Legal – there was a specific focus by Canada on hydrology because it was a matter of concern*
- **What was the concern?**
- *Legal - Retention*
  - This is the other big risk for a hydro project
- **Are you talking about water management rights?**
  - No

- *Legal – that’s legal*
- **Are you talking about the flow itself?**
  - Yes
  - Then of course the cost framework
  - We were looking at the process – whether they were following the standards
  - Everything was bottom up with the exception of some items that weren’t available so they did top down
  - We were commenting on this contingency – the risk model
  - I think performance was evaluated as well
  - The management structure
  - Even after this phase we were still getting a review of awarded contracts because they were continuing
  - The procurement was going on
  - They were advanced with procurement at the time which was giving them solid ground for their position
- **So contracts that were being negotiated in phase one would not be something that you would have sight to in terms of the findings**
  - No
  - Everything that was in the process was too confident
  - Nalcor would not release this info to Canada
- *Legal- which is standard. They do not get contract information until final approval*
- **Is there a responsibility to bring up issues with contracts that aren’t yet executed? Or does that only happen when it’s executed?**
- *Legal – with Canada or Nalcor?*
- **With Canada?**
  - With Canada we don’t know the information before they execute the contract because of confidentiality issues
  - Even with the last one, BOP, which was awarded a year ago – we were after them forever asking when it would be awarded
  - They were not awarding because it didn’t make sense with the delay with the concrete and the turbines
  - They did not want to award something and receive claims later for the delay
  - They run the procurement for this contract and were holding the price and the contractors were giving them some free will kind of
- *Legal – we had regular meetings and update phone calls so this wasn’t a big surprise. We were always aware that the RFP’s were out; they were public*
  - When they got the bids we were told but nothing more than that
  - For us it was important to know the process was there
  - It takes a long time to go from RFP to award with a contract
  - That’s why we were asking about it
- *Legal – where Canadas involvement in the contracts effectively came in is approval over draws against payment of the contracts and that’s very normal*
- **As part of phase you are evaluating contingencies?**

- Oh yes contingency is part of the estimate
- Not cost estimate – separate
- We were evaluating it and had our view which was maintained until the end
- This was not in line with their view
- We indicated this in the report
- Expecting to see 10% contingency or more but they did a range of 6%
- Their position was that they had an advanced procurement process and they had certainty in contract values
- That gives them more confidence in the P50 level
- We would have felt more comfortable with P75
- That's why we commented that the contingency estimate was aggressive
- **How was the P50 chosen?**
  - I think it's based on estimating practice
  - The confidence they had from the procurement process
  - They were giving what they thought the total contract price would be
- **In your experience do other hydroelectric projects have a standard contingency rate?**
  - No there is nothing standard
  - A lot don't have a good cost estimate because they haven't done design – this is typical
  - The risk is a lot bigger so the contingency should be a lot bigger
  - Some developers prefer to go through the design so upfront costs go up which is an additional risk
  - That's why some developers don't want to do it this way
  - Mega projects cannot be awarded to EPC contractor – they need to have many contracts because the value of the contracts are so big they wouldn't have anyone to bid on them
  - Very careful process to develop the procurement methodology for a mega project
  - You don't want to turn down the competition and limit yourself
  - You want to have access to more bids
  - If you do too much it becomes unmanageable – creating additional risk
  - Smaller contracts we might use one contractor for excavation and concrete works
  - Some contractors can take only excavation and they do it quickly and blast the hell out of it instead of neat lines – you end up with more concrete work that needs to be done by the next contractor
  - Right away when I hear they are going with a separate contract for excavation my flag went up
  - I asked why were they doing it – it ended up being quite an amount
  - It was the proper division of procurement and contract – the question was how to achieve quality
  - There is a lot of oversight to this request and they selected precise technology
  - Quite an amazing job was done
  - Big risk factor was addressed
  - Some developers would go with a very conceptual design and the cost estimate is out of the blue
  - Contingency is quite interesting – there is a political side

- If you are a private developer – how much can you afford to put to contingency
- If you are financing you may have problems with securing rates
- *Legal – the characterization of the proponents greatly affects the contingency that a financier looks for and in this case we had some very unique proponents*
- **Did you look at the size of the packages?**
  - Yeah we had the information for the packages that were awarded
  - The main one (Astaldi) – it made sense to see the division of the first phase being excavation and the next being concrete
- **Did you assess if the concrete package was the right size?**
  - It was big but it still was a size that could be handled by the contractors
  - A lot of times the contractors do conglomerate or joint venture partnership for big projects
  - They increase their bonding capacity in this way
  - Even sometimes huge contractors don't have enough bonding capacity for a big project because they already bid
- **P50 – from your experience what are mega projects starting construction with? P50? P75?**
  - And anywhere in between
  - Depends on level of estimate
  - What exactly is on the table
  - If I have only have a conceptual design I would go with a high contingency P75-P90
  - That's what I would advise the client
  - If all the design is done it will drop the contingency – they will have certain risks but most will already be addressed because it's not additional scope
  - If you don't have the final design you have to expect the contractor to need 60% design to bid
  - You are giving control to the contractor because the EPC cannot work
  - They have to have more advanced design and engineering done
  - Once you have all of that and have awarded contracts you have a better understanding of where you are going and where the market is going
  - A lot of times it's a market risk
  - A lot more projects going on at the same time
- **The P50 P75, is there a best practice on what P factor should be used?**
  - Not that I am aware of no
- **The AACEI?**
  - No
  - But I am not a cost estimator
  - I am not aware of one number required
  - The variety of cases is so huge so it's hard to standardize
  - You cannot standardize procurement either – its very state of the art
  - It's a lot of detailed work that needs to be done ahead of time

- **One of the areas in the contract says the contractor will highlight quick areas of cost structure and identify high sensitivity areas – what does that mean?**
  - That pertains to risk I believe
  - Areas with high risk
  - Our main objective is to identify risk to flag immediately
- **That's a secure creditors report**
  - Yes
  - I am not even obliged to tell Nalcor what I see
  - But it doesn't make any sense not to
  - We all want to have risks mitigated
  - If I saw something I would point it out to Nalcor and ask what they are doing about it – asked the status
  - In a big project like this there are so many sensitive areas
  - A lot of public interest
  - Perception is the ground for a lot of risks
- **What do you mean by that?**
  - Creating negative perception for something is also empowering another place
- *Legal – costs go up when that occurs*
- **Costs go up?**
  - Yes
- **Contract also says a contractor must maintain a register for all correspondence – did you do that?**
  - I kept emails from 2016 but not before because –
- *Legal – reporting to Canada didn't require that*
- **Did you go to the site in phase one?**
  - Yes
  - There was a site visit in June or May 2013
  - There was no subsequent report
  - It was one of the steps for the report issued at financial close
- *Legal – its likely in the interim*
- **How long would the field visit be?**
  - Normally one week
  - I am not sure what the first one was or if I was on the first one
- *Legal – Ray Hogenson was on the first one*
  - He's retired yes
  - I was on almost every other visit
  - It was one week because we had to go to Labrador
  - There were several sites to visit there



- They are a long drive
- The attendees are Canada, Nalcor, and the oversight committee
- The oversight committee would have one or two people
- **Phase two right?**
  - Yes
- **Phase one?**
  - Only one site visit
  - The excavation was going on I believe
  - There was nothing else going on at the time on site
- **Did you look at the annual operating and maintenance expense?**
  - Yes they presented something initially
  - The understanding and knowledge of what needs to happen will change over the project
- **So you think operating and maintenance costs would get much higher than the estimate as things progress?**
  - No I don't think so
  - I don't remember what it was – don't have any information right now
  - They had a good handle on it because they are an operating utility
  - They know operation of Churchill falls which is huge
  - The operation here is less because everything is more automated
  - Its unattended
- **Is it still unattended?**
  - Yes
- **Has any structure changed with needing more staff on site?**
  - No I am not talking about now
  - I am talking about during operation which is after first power
- **When you are looking at operating and maintenance costs once operations start, you are saying they had minimal staff on site?**
  - Yes comparatively to upper Churchill
  - The whole town is supporting the project
- **I am looking at the draft report – I have an email from Paul Harrington that has pages that are marked up. Does this look familiar?**
  - I guess it must be or , I guess it is the draft report
  - Unless it's the final report but I don't think it is the final report
  - If they have provided comments it is at draft level
  - So it can't be final
  - (David) I think that's draft that I'm looking at
  - *Legal – This isn't us*

- *Legal – This would have been a very early draft. There are comments in here that I would have insisted on which is things that Canada communicated only to us. This is Ray Hogenson's , I recognize this*
- The date is November 16<sup>th</sup>, so it is draft
- *Legal: It was coming right up towards, yeah, this is where Canada took a very active intervention on this report.*
- **So maybe you can tell me a bit about what happened there?**
- *Legal – as I had indicated Canadas requirement was responsive to secured creditors needs. The difficulty that we had with this report was it wasn't following industry usual standards in some elements. There was ... commentary that wasn't supported so we sent it back requiring additional support, this is when Nick was brought back in. We required some additional reports, things such as, you do not put in a report the requirement that the communications come through legal counsel to the report addressee. This was just a person who was preparing the rough drafts was an older person but more junior in this type of report and didn't understand report protocols. That's what at least some of this is, the handwritten comments I've never seen obviously. The evolution of the report was to get it to secured creditor format.*
- **Can you tell me about the process? The draft goes out to Canada and to Nalcor?**
  - Yes
  - I can tell you about all the site reports that I prepared , we have prepared together, my team prepares and I review
  - We send them to both entities
  - Because they are coming to the site visit together with us
  - A lot of times, as it happens, we miss names or use wrong names, wrong factual information
  - In a visit like this you are pounded with a lot of information and that's why its nicer to sanitize a little bit the data that's in the report
  - We don't want to send anything formal to Canada that's presents wrong
  - For example water elevation, elevation of excavation, or levels of concrete or quantities of concrete
  - Sometimes there are comments coming from Nalcor that are not comments to the report but they agree with, they say we take under advisement your suggestions and they make this clearly stated or they say this is clarification because we raise concerns, and they will explain we further those concerns, we were taken care right now .and this so and so and so and so we will keep you informed and if something else change you'll receive this additional information where we are in the process, or if you want, we can have a meeting with big players and we have done this several times. Just after visits and we raise some issues ,
  - I was in Montreal for a meeting with SNC and we went over some design issues as I had expressed some concern
  - They addressed them well,
  - A lot of discussions about the North Spur which is never ending story
  - I think the public became very knowledgeable, and they started to express "expert" opinions.
  - That precipitated a lot of attention to this structure
  - Nalcor finally put the things into closure, I hope, because they picked up four or five completely independent top world experts last fall and they came up with report, very conclusive report February I think, this year. I mean you could beat against the wall for as much as you want, there are some people decided that they are the experts and it creates issues and they were using also the independent engineer name
  - I see the comments – we stated so many times our position
  - It hasn't changed, hasn't changed at all

- **Phase 1 report – the process is the draft report goes to Canada and to Nalcor, then Canada and Nalcor provide feedback?**
  - That's right, Yes
- **Then what happens?**
  - Then the final report was issued end of November or beginning of December,
- *Legal – November 29 was what we called the interim draft and then redelivered December 30 mostly because you (Nick) had not had a chance to do your final read through and take it to your quality control committee. Went through you December 30 and quality control in February.*
- **This draft over here**
- *Legal - I don't know what draft that is*
- **It was an early draft**
- *Legal – Yeah. relatively early, because I know that at least a couple of the things that you've got in there I commented and Canada committed as legal matters that were (inaudible)*
  - I think Canada was the main reviewer of this report
- *Legal – We were the sole director, I know because it was coming through me, I know that from the comment that's there*
- **This report says November 15<sup>th</sup>, 2013 and this email from Paul Harrington is on November 20<sup>th</sup>, 2013. So I am believing this draft would have been the November first draft?**
  - It must be yes
- **So your involvement was different, Ray was more involved in phase 1?**
  - Yes he was the manager
  - I was the principle in charge
  - I was the most senior person in Canada – if there was any issues I would be contacted by Canada or counsel
- **Who deals with the feedback when it comes in?**
  - The project manager deals with feedback
- **So comments on the draft report are handled by?**
  - Him and the team
- **The Project manager was?**
  - Ray Hogenson
- **How does this report make it to you?**
  - The final level I see what has been put together and would sit down and review it
  - But I was not the QA
  - So there is also QA that goes through that but the final I'll say, yeah, I issue the report
  - That's the level of review I provide
- **I am going to show you how some of the comments here into the November 29<sup>th</sup> one they disappear. Then I have more understanding on the December one, I'm going to ask again about that. There's revisions to the report that is issued November 13 that winds up changing to December 13**
  - Which is expected to, otherwise there would be no comments

- *Legal – some of them I would know about, because judging from your highlighter, some of them are comments I would write*
- **Contingency – (reads) “While Nalcor adopted a theoretical P50 contingency based on analytical modelling, I.E. range uncertainty of the project’s sub element summary budgets, the IE expresses the opinion that the calculated overall 6.7% scope contingency is aggressive relative to our legacy experience with similar remote heavy civil construction endeavours that typically have contingency reserve for known but not specifically quantified risks double to quadruple of what’s currently provided for LCP”. That comment disappeared in the November 2013 and December. What changed?**
  - I think the reports still have comments on this
  - The opinion that the team had was this is aggressive contingency evaluation
  - Should be more in the range of 10-12%, anywhere between 6 and 10% for example I guess that was the idea finally with internal discussion of the team
  - There was no fixed standards/numbers
  - It was the preference of somebody that is doing the cost estimate, not particularly the person who does the cost estimate but the developer is what they allocate as the risk money. Some person could express opinion and at this level 6% is probably good
  - Our team was not particularly, I think the cost estimator at the time, he was more conservative and He wanted to say that this was aggressive and his evaluation it should be more towards 10% or something like that
- **Who was the cost estimator?**
  - It was MWH, from US
- *Legal – this was Canada’s report and Canada was fully aware of the debate regarding contingency, was kept fully informed The purpose of the report was for Canada and Canada was kept fully informed of the debate and of the changes*
- **There is another comment “As the project moves into full scale field execution with the award of CH0007, Muskrat Falls Powerhouse, the IE would advocate for rethinking and reauthorization of the project contingency fund” then it says , “Due to significant overruns recently recognized with the award of CH0007, the project contingency fund is considered to be spent at this time and unavailable for future unknowns and risks associated with the field construction phase for all subproject elements of the multiyear project”. What does that mean?**
  - I am not sure if we had an understanding of 0007 at the time
  - Finally they had the lowest bid that they were expecting
  - I don’t think this was correctly presented here
- **Under major systems compatibility and completeness and it says, “Contract CH0007 involving the construction of the Intake and Powerhouse, Spillway and Transition Dams will be performed by Astaldi Canada Inc. based in Toronto. Astaldi’s parent company is based in Italy and they have offices in the United States, Latin America and Middle East. MWH has direct working experience with Astaldi’s Latin America Company as owners engineer on much smaller hydroelectric projects with less severe weather conditions and prevailing conditions at Muskrat Falls. Our experience leads us to a suggestion that this contract be very carefully managed by the integrated project team to avoid change orders in MWH’s opinion and to keep the work on schedule”**
  - Definitely, there was experience that our South American office had with them in a contract in Peru
  - It was definitely a lot smaller
  - It’s not easy to make parallels, not unfair to make parallels like this because of different conditions that are presented there and different environment.

- The labour is different
- The labour force is completely different between North America and South America
- Based on that, one should be very careful on how they should define potentially a contract
- What Astaldi actually did not achieve was based on completely different reason than they did not put together the right team from the beginning
- They lost almost one year before accepted direction from Nalcor
- They were pushed by the management team at Lower Churchill to change their management structure and to accept different people, actually move Astaldi work a lot better
- **Your office in Peru had issues with Astaldi on a smaller scale?**
  - Yes
  - I think that the issue was the only engineer and Astaldi was the contractor for that
  - There is always friction in those situations
  - There is always tension – that's typical with North American contractors
  - It's not fair to say that we would expect the same thing to happen
  - The same happened with McNamara, Pennecon
- *Legal – it was reviewed through a number of independent channels by MWH and Canada*
  - Someone could turn back and sue us for damages
  - We have liabilities as well
  - We need to be careful on how we express our opinion on a major contractor
- *Legal – it was Canadas report*
- **In terms of liability I see that there is liability insurance requirement of 1M. Is that standard?**
  - Yes
  - I wouldn't say standard
  - But it's appropriate
- *Legal – there was an independent insurance consultant review*
- **That's standard?**
- *Legal – dead standard*
- **Was there any other issues communicated to Nalcor about Astaldi prior to financial close from your team?**
  - No I don't think so
  - That was the only concern that I know because it was expressed to me as well by the internal team from our office in Peru
- *Legal – were you in that on site meeting where it was discussed? That was the only time.*
  - Yes so Canada was aware of it at the time
- **Nalcor was aware as well because they had the draft?**
  - Yes
- *Legal – it was their meeting*

- **Its Canadas report, so if Canada wants something out of the report they do so?**
- *Legal – yes there was a legal decision for us not to put unsubstantiated potentially damaging things in a public report and it was unnecessary because Canada already had the information*
- **Two types of risk I have seen. Tactical and strategic – have you heard of these?**
  - Yes definitely
  - That's quite normal
- **What's the difference between the two?**
  - What is your understanding
- **I want to know yours, Nick**
  - Strategic – something that is difficult to be foreseen. Market conditions will change either favourably or unfavourably
  - Political issues that could happen and create impact on a project
  - Weather conditions – unpredictable
  - A lot of times its handled by a higher authority not the project
  - In this case the provincial government
- **You call that a management reserve?**
  - Yes
  - Or Nalcor themselves
  - The project team doesn't touch this reserve
- **Is management reserve usually included in a cost estimate?**
  - No its usually beyond project involvement
- **Does that mean strategic risk isn't included?**
  - Oh no, there is some strategic risk included
- **Labour market – that is defined as a strategic or tactical risk?**
  - You could define it in both
  - Technical risk is handled by labour agreements
  - There was still a known part
  - If there are three competing projects in Canada you may not have the people
- **It was known before financial close about the market condition in terms of labour?**
  - Oh yes there was a lot of research done to understand the current labour market
  - I think they had labour agreements in place
- **There were other sites being built – there was a shortage in labour?**
  - Yes – Manitoba started their project Keeyask – but it was after this one
- **Hebron?**
  - No that's an offshore project in Newfoundland and I am talking about Hydro projects
  - Manitoba had this project that is in construction
- **Which was subsequent to this one?**

- Yes
- Then Site C in British Columbia
- Started a year and a half ago – there were big gaps between these projects
- Newfoundland was largely affected by the oil sands projects because a lot of the labour was coming from Newfoundland
- With the oil decrease in price – all this labour became available to come back to Newfoundland
- **Harsh weather – strategic or tactical**
  - You could estimate
  - In this construction season its known what it should be
  - May is a good example – it could be very nice or very terrible
  - When they saw the dam the decision was made to slightly change their approach for the month of May to avoid constraints due to weather
  - Originally May was a month that was supposed to be worked
  - The contractor identified and said it was a potential risk
  - This came way after the award of contract
  - Achieved schedule reduction
  - Or avoided schedule expansion
- **What do you mean?**
  - Affected negatively by rain – many rainy days would have an impact on schedule
- **Is a schedule risk included in the contingency?**
  - You have all sorts of schedule risks in the beginning so you assign contingency for those risks
  - But this can change drastically through the project
  - If the rain impacts your schedule you cannot do the work no matter what
  - Accessibility with transmission lines can become a problem if it's too warm
- **How does this risk get built in?**
  - It is not
  - This is just a strategic risk that could happen
- **What does the AACEI say about strategic and tactical?**
  - I am not sure they use those terms
  - Its more industry terminology
- **If I am building a cost would I not include management reserve or contingent equity if I think it will occur?**
  - Yes
  - That's why the risk evaluation is first done
  - In order to determine the amount of contingency
  - Management reserve is something different – not at the project level
- **Allison mentioned the negotiation and planning had been going on for several years prior?**
  - Yes

- Probably 2010
- Engineering was going on
- **The approaching government didn't happen in 2010?**
- *Legal – no that would have been in 2011 – very preliminary*
- **The approach in 2011, is it-**
- *Legal – I can't answer 2011, I came on board mid 2012*
- **Allison when you came on board was the interconnected option already chosen?**
- *Legal – yes*
- **When was that decided?**
- *Legal – I can't verify other than the public documents you got – it was definitely before sanction. Canada couldn't have been involved in an isolated island decision. The only reason Canada can be involved is because of the effect on regional economics. Isolated island wouldn't give the regional benefits they required.*
- **You couldn't get a guarantee for financing with the isolated island?**
- *Legal – correct. I don't know if Newfoundland could have raised the money- I could speculate as well as you can*
- **What does regional affect mean?**
- *Legal – because it had a multi province arrangement so what it was doing was providing Nova Scotia access to green energy bring them from 8% to 20%. Stable source of energy to NS which was vital. Also being able to sell excess energy. If you read the guarantee itself you will see it in there. I can highlight the section for you.*
- **Nalcor knew about this?**
- *Legal – they would have to know yes. I can't comment on what went on in their minds but they did know the basis of the regional requirement*
- **Draft reports – I see November 15, 2013, then I see November 27, 2013, then November 29, 2013 which I believe is the final?**
- *Legal –that's the interim final*
- **Then the final final I've got, one is dated December 2013, and one is dated December 30, 2013**
- *Legal –December 30<sup>th</sup> and December 2013 are the same report, in other words we just put the date in*
- **Okay, I haven't compared the two. And did you say, on the stick everything is there?**
- *Legal – yes I have everything.*
- **And that is for me to take away with?**
- *As long as you give us some assurance that draft reports are not public. In other words the final report is public public in it's somewhat redact form. There is in these materials some commercially sensitive statements from clients that are not suitable even under freedom of information they would not be released completely as is although I will say the redactions are very minor in this report but if there is direct commercial information or direct information regarding a party such as Astaldi it would be redacted for public issue under access to freedom principles of Canada..*
  - So the drafts for many of the site reports, they have comments by Nalcor – those are drafts, they are not public and should not be made public. It is for your information definitely but they are not public
- *Legal –Again, there are very very strict policies for Canada's reports that have to be vetted through constitutional lawyers and vetted through other justice lawyers. Neither you nor I have the authority to release Canada's materials and information until it's gone through those processes and that is if you look in the freedom of information act, you'll find that that process is there, it is to delete commercially sensitive information and these*



*have not been vetted for that purpose. We've attempted to accommodate your request. And by the way I do think that's the list, I'm trying to go from memory, but I think that is complete. You've got them all here. At least all that came out of internal*

- Factory shop visits reports
- Which is another type of report
- *Legal – these are mostly post financial close*
- **So there may be other drafts of the Independent engineer reports**
- *Legal - no this is complete. On the formal report this is complete. This is all of the drafts that came to Canada or Nalcor*
- **Is it industry practice that you would share with the owner and financier the draft copy?**
  - Yes there is absolutely no reason not to
  - Particularly if we want to be correct with the information
- *Legal – every project I have done either as owner or lender I have gone through the IE reports*
  - This is practice to have draft report, there is a complete transparency here that no one is trying to avoid something
  - For us, the most important is to identify risk
  - I don't hide that when I sit with Nalcor and discuss, or the oversight committee or Canada
- **Was Canada concerned about cost at all? If it was known that the cost was going to be higher than the financing?**
- *Legal – unfortunately I can't truly answer that, that would have been decisions that were made – there were budget reviews but what Canada would think about it is out of my knowledge*
- **I have an email from James Meany dated November 21, 2013 – (shows email)**
- *Legal – definitely didn't see this*
- **The line I am interested in is “I don't think any of them are naive enough to think further increases definitely won't happen...” – It sounds like Nalcor thought it would be more**
- *Legal – I feel like that is recognition of the reality that no one going into a mega project is stupid enough to think the price will stay fixed. The discussions at the time would have involved examining with MWH reasonableness of assumptions on contingency. And that's how I would read that*
  - There is a lot of things one could perceive
  - A lot of estimates are optimistic – nothing to say something will happen or not happen
  - I have had projects that came in at just the bottom of the line, and I have had projects that came in above because of schedule issues and this and that
  - No one expected overruns
  - 80% (stat by PMI) of projects are considered a failure which mainly relates to schedule
  - Looks like everyone is optimistic when they start
  - One time I had to make a comment that it looks like our progress is based on failure – human error
  - Optimism is always good at the beginning
  - That's why a lot of people may say they expect it to overrun
  - Most projects do – look at Hebron

- Hebron went more over budget than Muskrat – I am surprised they aren't doing an inquiry on that
- They are at 14B and were supposed to be 4B
- *Legal – there is published statistics about mega projects in the hydro industry – an average of 35% overrun is normal and that was known to the participants at the table*
- **The first draft (Nov 15) where we only have part of the comments, it talks about on page 226 it says the DG3 total cost of the three projects is about 6.2 – estimate in a range -20/+30%, expected range is 5B-8B. When I look at the DG3 package I am seeing class 3 -10/+10, when I look at the draft report I see -20/+30 then I see a change**
  - I think it was -10/+20
- **The ending one in December 2013 was -5/+20**
  - Something like that yeah
- **AACEI – how does that work with class?**
  - Those are based on probabilities
  - Whatever cost level they predict it to be
  - They might say the range is +10/-10 or +20/-5 so that's probability of exceedance of cost
- **When you are at a class three is there a standard range you would quote?**
  - There are several classifications of that – not sure what the correct one is
  - Several agencies have their own
  - I am not an expert on this
- **Someone on your team identified this as the range and somewhere along the lines something changed?**
  - Yeah I guess over a period of time and discussions people were convinced the original was not appropriate
  - This is more of a defined estimate from the beginning
  - There was a lot of information in a very short period of time
  - There could be comments on risks
  - They were becoming
  - irrelevant because of our increased knowledge of what was done so far
- *Legal – the report timetable was accelerated as a consequence of the decision of when things would come together. We put time pressure on. Early drafts were rougher. The team was moving quickly*
  - I would even question you talking about this because it allows someone to think it could be 5
- *Legal – that was the initial thought*
  - It goes both ways
- **A comment from Paul Harrington in this email that's dated November 20, 2013 sent to James Meany it says “the AACEI accuracy range for class 3 estimate is incorrect... pg. 226 is particularly troubling...” – I understand the +10/-10 was an error and shouldn't have been used in the DG3, it should have been -5/+21. I think in the December one you have -5/+20. That would change things though. If the feedback comes on Nov 20, what needs to happen to show they are factually correct?**
  - The team would have to go back and figure out if they made a mistake
  - Things get picked up in the wrong way
  - The understanding might be slightly uninformed

- With discussions the team could re-evaluate and realise their first statement was wrong
- That's why we do drafts
- There is no hard rules
- **You are saying it's an art more than a science?**
  - Yes
- *Legal – the instructions given is that the assessment is supposed to be on reasonableness of approach, reasonableness of assumptions and it is not an independent engineers instructions and not to ensure that every nickel was done*
- **If I go back to the email from James Meany about being naïve about further increases. They are at 6.5B – what changed? They are saying it will be higher than this price?**
  - You have to expect that there will be changes
  - You would be naïve to assume there would be no changes
  - You cannot quantify those
- **In terms of financial close – up to what point could Nalcor stop and not take the financing?**
  - *Legal – I am not sure that we would know how to answer that – no deal is done until the deal is done but I would say by December 13<sup>th</sup> for sure there was a public announcement – not sure what that means for the ability to back out*
- **Prior to November 29, 2013 what penalty would Nalcor have received as a result of stopping?**
  - *Legal – I can't say the issues the government would have had but there were no financial penalties built into the arrangement at that time*
- **If they need more money past what was set up at the beginning, where was the additional money coming from?**
  - *Legal – built into the terms of the financial agreement – the additional financing was coming from the province of Newfoundland in terms of its back up. Those are public documents*
- **Was there a restriction on the maximum amount that the province could provide?**
  - *Legal – imposed under the terms of the financing?*
  - Yes
  - *Legal – there was no specified maximum. I have never in 40 years seen a cap imposed because its not possible to really do so*
- **Nick, back to your comment on over 80% of mega projects being failures**
  - This is more anecdotal
  - Giving you a statistic
  - *Legal – the point was all the people at the table receiving the reports and information were well aware of the difficulties of a mega project and were aware of the possibility and therefore there was focus on contingency, process, management assurances, etc. they were built in to the project financing agreements. The purpose of noting that was that those are facts that are known and taken into account by people at the table*
- **Is there a percentage of overrun out there? I have heard 24%**
  - I won't comment on this as I am not knowledgeable on this
  - I know projects in BC are 100% over
  - *Legal – there is no industry average*

- Keeyask for example is running way more than 25%
- I could probably consider a few factors but I can't give you a percentage
- *Legal – when we are negotiating for assurances we can't say this is how much additional for assurances*
  - In my opinion one of the drivers for the increase in project costs are the different standards that were not available in previous years
  - Back in the early 2000's the safety standards were not there at all
  - The stringent requirements across North America contributes to a high increase because productivity drops
  - Not only is there additional spending for health and safety but the productivity is reduced – they are not so nimble in a way
  - Hard to put a cost on a human life
  - Environmental regulatory processes also hugely firm up the requirements
  - The penalties would be very tremendous
  - This plus the level of other regulatory issues as well
  - Also quality requirements are much higher than before
  - Put together all that
  - Keeyask, site C are both the same
  - No one expected this when they were doing the cost estimate
- **You are saying from the 6.5B to over 10B, the cause is –**
  - No not only that
- **It's just a part of it?**
  - Yes it's a part – quite a major driver
  - Site conditions which were not expected
  - Along with the transmission lines
  - The cost of the access road which was quite a lot
  - I don't remember how much but it increased a lot with the transmission lines
  - Foundation conditions – you can never estimate the conditions of the ground
  - These transmission lines are a different type – DC
  - This is a new design – conductor
  - Conductors for AC lines sometimes fit the DC but that's not the case
  - Normally it has to be designed from scratch
  - There is no standard process for that
  - It was geometry
  - It could fit so many strings – they calculated it too tight
  - Because of this the tightness caused pressure on one of them so that came out of the blue
  - Contractor didn't even notice this in the shop
  - Then they had to take all of them down even after it was strung

- **What kind of financial impact would that have?**
  - 50m or 60m – of course there was insurance but I don't think it was significant enough to cover all of it
  - Let's not dismiss Astaldi's performance in the first year
  - We made a comment that it was becoming an obvious risk because they were reaching their cap on labour and when they reach that what will they do?
  - We put that in the report
  - Everyone was aware of that – they didn't work, their productivity rate was very low
- **Do you know the productivity rate used in the estimate?**
  - No
- **Is there an industry standard?**
  - That's what I am talking about
  - Because of all the new regulations and health and safety the productivity is down
  - Keeyask project – Bectel bid and was awarded. Apparently they used numbers from the mid-90s and they are in the same place right now
- **Does the schedule ever go according to plan**
  - Yes
  - Take it went very well
  - With one of the highest risks
  - Icebergs, and submarine environment – so many unknowns
  - It went right on schedule and budget
  - The LTA line is on the mark as well
  - That's the transmission line from muskrat to Churchill Falls
- **Doesn't financial close delay the start time?**
  - No I think excavation had already started
- **Was there any concern on financial close regarding scheduling?**
  - No
  - It was over a good period of time – five years or something
- **In Astaldi's proposal they were to construct a dome. This didn't go so well – how did they come up with the idea to put a dome in**
  - This is not the first time for something like this
  - It gives them a big advantage of working all year round instead of a short summer season
  - They can continue with concrete – not with embankment dams
  - With concrete you can still do it in the winter but the cost goes way up
  - Heating, tarping, etc.
  - Huge cost
- **Without the cover?**
  - Yes without the cover

- **When did they start putting the cover up?**
  - They started right away
  - When it was supposed to start
  - Nalcor could tell you the date
  - Something went wrong with Astaldi and the subcontractor – I am not sure on that
  - It is not advisable even for Nalcor to interfere with a contractor even if they provided fixed price
  - The contractor could say they are slowing them down
  - It's important to know the parameters
  - At this stage no one knew what kind of deal was going on with Astaldi and this subcontractor
- **Was there a second attempt to put up this cover?**
  - Well they were attempting to for the next winter but progress was miniscule
  - They didn't have any restrictions to prevent it
  - I was on site when they were erecting frames
  - Everything was going well then the pace went down
  - They realised they couldn't close it
  - They were supposed to close it in the first year
  - After that Astaldi realized it was an obstacle because it was in the way of cranes
  - They decided to kill this idea and dismantle it
  - They started to incorporate with Nalcor more
  - This started to work more a year later
- **Astaldi – how do they know harsh winters?**
  - They work everywhere – global contractor
  - Bectel are facing harsh winter too in Manitoba
  - Chinese contractors work everywhere as well
  - This is not uncommon
  - Big contractors – they know the risk
  - This project in Peru was 4300m elevation – it's hard to breathe
  - The winters are winters
- **What was your involvement with SNC?**
  - I was with them for 9 years
  - Manager of engineering in Vancouver
  - I was engineering manager for a few project
  - Left in 2007 and started with MWH
- **So when you started with Nalcor are you interacting with SNC at all?**
  - I think the interaction was through Nalcor or SNC because they were an integrated team
  - SNC was originally the EPCM and at that time (2013) they created an integrated management team

- SNC was responsible for engineering – construction manager Normand Bechard
- They had an engineering manager – Greg Snyder
- They had particular roles
- Anything engineering and design came from SNC
- **Did you or your team work with Normand?**
  - I met with Normand once on the site
  - Then I saw him around
  - I work with Greg Snyder a lot and many people from their team
  - Geotechnical, structural teams
  - Visited Montreal and had a long meeting with them on the North Spur
  - That's the level of interface
  - I do the same with GE – go there often
  - I need to have everything they are doing in order to know where they are
  - What stage are they at
  - Identify significant risks way before they are realised
  - One of them related to the protection control software for the converter station
- **What happened there?**
  - It was a long process and they weren't progressing well
  - Delays were obvious
  - Problems with their team
  - Nalcor followed our advice
  - So finally they got it where they needed to be
  - Complete functionality of the package is not there yet
  - They managed to get the schedule okay
- **Have you heard about the SNC report that was released?**
  - Yes last year was it
  - That's all I have heard of it
  - I didn't know about it
  - Very interesting
  - Not sure if you are aware but SNC was going through a tough time over the years
  - I am not sure who made the decision
  - They are still participating and are a valuable part of the team
  - A few days ago my geotechnical guy emailed me and put the SNC geotechnical people in line with them – we are meeting with them next week
- **Would SNC come to the IE with issues?**
  - No IE came to SNC with issues

- *Legal – they don't have entitlement to access the IE – that's not the legal relationship*
  - I have the rights and responsibility to go and ask them about any issues I have
- **Is it normal for the EPCM to order an internal risk report?**
  - No
  - They could make a risk evaluation
  - I am not sure why the report was kept off the table like this
  - It is very strange
- **Was there anything in the report that wasn't known?**
  - I don't think so
  - I don't think anyone was surprised
  - It was very strange for an engineer like SNC to do something behind the project like that
  - At the time there were a lot of internal divisions
- *Legal – you probably shouldn't speculate on why SNC did what they did. You made a very generic question which cannot reasonably be answered*
  - Its beyond my understanding and comprehension
- **December 2013 report – this shows the ACEI class -20/+30 and what they classify it as -5/+20. Do you know why it's different?**
  - Its level of risk
- **What does contingent equity mean? If the project goes over?**
- *Legal – it's probably not a state of the art term. I would use it as the ability to pull additional equity from other sources – it would mean you would have assured equity which would be our team daily or monthly contributions which evens out with cost to complete and debt/equity ratio. Contingent equity would be assurances to receive on top and it is done in a number of ways. It's done by way of proponent assurances, additional guarantees, and additional letters of support. This would be over and above what is required to go in on a routine basis*
- **One of the things I understand in terms of cost overruns is the difference in terms of the original estimate compared to the bids that came in. So there was the estimate that was set up for package CH007 and then when I compare the estimate to the bids that came in – they are higher**
  - That doesn't mean the volume of concrete in the bids was higher
  - It means the price was different – because of productivity rates or current market conditions
  - Most likely their perception or understanding on labour cost will effect it
  - In terms of rate performance
  - That would be the reason for the bids to be higher
  - This happened with the dam bid which was further down the road
  - They had a different market landscape at the time
- **Is there a best practice for when rebaselining is required?**
  - There is no standard to rebaseline
  - Generally you try to keep the baseline to compare anything further
  - It can be done if there are unusual circumstances
  - Complete contractor default or major changes



- That would require rebaseline
- **In the first draft that I showed you talked about revisiting contingency because it's used up and that was as a result of the estimate of the package being different from the lowest bid. Is that an indicator that the project should be rebaselined?**
  - Not necessarily
  - At this moment they are getting some of the bids
  - When you have multiple packages there is a balancing act
  - Higher bid here and lower bid here
- **With packages – am I allowed to move budget from one package to another?**
  - To an extent yes
  - Its controlled by the management team
  - Not exactly a rebaseline, just rebalancing the budget
- **To rebalance the budget am I allowed to move from one package to another**
- *Legal – I don't think he can comment on that because its project specific and it would not have been under his control*
- **Was there any restrictions put on to Nalcor in terms of financing not being able to be moved?**
- *Legal – no there was nothing in the requirements*
- **Would that be something that you look at? Movement of budget from one package to another?**
  - No
- **From what you've done, what happened? Why has it gone over? Astaldi, different standards, what else?**
  - Very difficult accessibility
  - Issues with a conductor
  - One more component that might have even doubled the package which was accommodations on site and catering costs – this was surprising
- **How was it different?**
  - I don't remember – it wasn't my contract to monitor
- **Do you know why it would have been different though?**
  - The requirements of comfort by the labour
  - From levels in early 2000 to what it is now is a significant change
- **Because of competition?**
  - Yes
  - Oil sands – apparently their camps are three star hotels
  - In order to attract people and keep them you have to match those standards somehow
- *Legal – also the domino effect so Astaldi is not a stand-alone issue*
  - Yes that's right
  - It affects Andritz which affects BLP
- **Has a domino effect on the schedule you mean?**

- Yes
- Once you have already awarded the contracts, they are just sitting there waiting
- Delay and time loss
- Astaldi put a claim right now because Andritz achieved even before schedule the installation embedded parts for four units and passed it off to Astaldi
- However the number one unit delayed the schedule milestone by two weeks – Astaldi will claim time delay
- Numerous things like that
- I put my attention to the interface in the powerhouse
- Interface management
- I was concerned right from the beginning but they have achieved quite a bit
- Nalcor has the right team on site
- Gaps like this will happen sometimes
- They are trying to mitigate some of the delays
- **I understand Astaldi's productivity is much better now. What did it go from and change to?**
  - Huge improvement
  - I think because of the personnel
- **Do you see productivity schedules?**
  - No I only see concrete placement
  - I see where they are
- **What changed? How did they do that?**
  - I think it's the quality of the people they managed to get
  - Because of logistics and organization
- **It's not additional people?**
  - No additional people is actually counterproductive
  - It is the right amount of people
  - It happens in many projects
  - Argentia project – they overcrowded, and productivity dropped way down
  - A measure of good management
  - It gets crowded when there are too many people
  - You have to know how to handle these things
- **Did anyone at Nalcor ever ask you to do anything that made you uncomfortable?**
  - No
- **Is there anything that you thought I would ask you that I didn't ask?**
- *Legal – you have some thoughts on the quality of Nalcor's management and handling*
  - Yes that's a good point
  - We were right in the middle of quite difficult management decisions

- *Legal – Newfoundland, Canada, and Nick*
  - I was amazed by the professional handling of things
  - I will mention Paul Harrington and Lance Clarke
  - Several times in the beginning I was wondering how that team would handle it
  - How they handled the Astaldi issue was state of the art
  - They approached this with such a depth of understanding and detailed risk analysis
  - Had strong leverage at the end
  - Astaldi was on the verge of global bankruptcy
  - Even with my report I could have caused the shares to go down
  - You have to be careful because you don't know what you will achieve
  - Sometimes you think you will do something but you achieve quite the opposite
  - If you bring in a new contractor you will pay more
  - Unless this contractor does not perform further, but if they show that they are improving performance and you still kick them out, you are in for a rough ride
  - There is a learning curve with any contractor
  - We were positively surprised with how they handled the situation
  - If I had to go back and do it myself I couldn't have done it any better
  - I don't know what else we haven't discussed
- **Is it ok if we ask you more questions later if needed?**
- *Legal – as long as we are clear that Nick is the independent engineer and his reports have always been to Canada and have been to a secure lender standard to Canada. He is not an alternate engineer to this project and Canada is doing this as an accommodation*
  - I am not sure if Canada will be ok with it
- **Allison do you see a problem?**
- *Legal - As long as it's within the lines what I just said it shouldn't be a problem*
- **Can you tell me the difference one more time between the November 29<sup>th</sup> and the December 30<sup>th</sup> report?**
- *Legal – the reports were more rushed than we would have liked, although they were at a point where Nick was satisfied and he doesn't get satisfied very easily. There were two requests made – because we were announcing and relying on the report we had time to give Nick time to go over the report again for typos and things like that. There were minimal changes. Then it had to go to MWH global assurance with minimal changes – no material changes.*
- **The November 29<sup>th</sup> one was made public though?**
- *Legal – there was extremely little redaction regarding commercial sensitivity which is required by law*
- **Was that released in 2013?**
- *Legal – yes , I forget the exact date*
- **Was there a need to release the final version?**
- *Legal – no they were identical. No material change*