

<b>MFI – Interview Summary</b>		
<b>Date:</b>	April 10, 2018	
<b>Location:</b>	Le Westin Montreal, Montreal	
<b>Attendees:</b>	David Malamed (Interviewer) Scott Shaffer (Interviewer) Laura Miller (Note taker)	Paul Lemay (Interviewee) Sheilagh Murphy (Legal Counsel for SNC) Melanie Proulx (In House Counsel SNC)

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: April 25, 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 time April 10, 2018 (9:00am) with Paul Lemay**

- **Tell us a bit about involvement with Nalcor**
  - Hired May 2011 by SNC to go on Muskrat Falls project as Lead Estimator
  - Role was to put all information that engineering prepared and gather all information to determine price of this very interesting project.
  - The main task that I had to do was build up team estimators and give them ground rules to establish the aim of work, so nobody goes in different directions. I set up ground rules and told them anytime a new estimator was coming in were given ground rules, schedule, start to do work during 6 months we had to do the estimate
  - Arrive end of May 2011 and had to determine estimate by Dec 15, 2011
- **Is that a timeline Nalcor gave you?**
  - More SNC - My boss said we had to turn that estimate for Dec 15, 2011, called gate 3
  - Make all effort to meet that
- **Who was your boss who told you that?**
  - Andrew Saint-Jean – Project Manager first
  - After that, Stan Wynne was boss until November. Had physical problem with one of his legs and had to withdraw in beginning of November
  - Was replaced by Mahmoud. He finished effort with them in December 2011 (talking about finishing estimate this time)

- **Who took over after Mahmoud?**

- Serge Garrett
- Mahmoud Nov 2011 – July 2012
- After that Serge came for approximately one year until Sept 2013
- After that, there was a guy from Nalcor
- Prior to that was always somebody from SNC. After Sept 2013 it was a Nalcor person that I was reporting to, his name was Ken Macintosh was boss
- Ken was there for about 3 months. In Jan 2014 I left St. John's and came back to Montreal and was working on project from Montreal and travelling on request to St. John's.
- My task was, and is as we speak, making estimates for all request for changes during the project

- **Serge Garrett SNC employee?**

- Yes

- **Ken Macintosh was Nalcor?**

- Yes, after January 2014 that was Ed Bush. He was there for 1 year then went into construction site
- Was replace by Anthony Embrey, stayed for year until 2016
- In May 2016 he was replaced by Tanya Power – now reports to her on project

- **Who's Jason Kean?**

- He is one who was my boss at Nalcor
- Was reporting to my boss an SNC of course, but client was Jason Kean everything we do had to be blessed by Jason Kean
- Jason was main person that I was reporting to
- After Dec 2011 I was almost reporting only to him. Mahmoud was there but had other things to take care of
- Mahmoud was aware of anything Nalcor needed, but I had to report directly to Jason.
- Because after Dec 15, 2011 Gate 3, Jason request that all his estimator (11 to 12 estimators), 4 closest ones asked to move on Nalcor site at Torbay Road (drew diagram) about 250 people and Nalcor was maybe 100 in same building
- From May 2011 – Dec 2011 during estimate. After that time went out for Christmas break. When we came back Jason asked to come into their bullpen area so he has a good quick communication with them

- **Was that normal?**

- That was unexpected. We thought we would continue because
- Up to gate 3, we did estimate with information that we had gathered and the work breakdown structure by contract package was not completely defined (its huge)
- So we had set up by structure, everything that we had to price and bill
- After that, our goal after December, Gate 3, we had to complete the contract package, engineering has to finish, to define each contract package, which part of, which of the structure we are doing, this contract package you know for the power house, for the north spur and everything so they continue
- So the goal now for May 2012 to fine tune the estimate, to turn in Nalcor's authority how we came up and how much we cost the estimate

- **Estimate originally as I understand was \$5.1 base cost – you had nothing to do with calculation of contingency?**
  - No
- **Why would that be?**
  - I did not ask the question. Contingency was kept by Nalcor person – they took control in other words from Jan 2012. Jason wants to take control of the finishing of the estimate himself. He said if I had you near myself it will be easier instead of organizing and meeting and get rooms.
  - He had one of his person, working for him, Mark Turpin. We were working with Mark, Mark was reporting to Jason. We were working together to make sure that we finish everything for that date, May 2012 and finish the 5.1\$
  - It was \$5.1 on Dec 2011, Gate 3. That was capital cost excluding the Nalcor owner cost and the financing
  - There was a contingency. We did put a contingency in our estimate. A contingency for labour, unproductivity or , because we didn't know how the labour would be at that time so I'm going back to
  - I had somebody from Washington DC, Jim Dober Smith, for the concrete. I have 3 guys from Calgary one was the windy architecture, the other one electrical and you know, I said you're not going to go and take a factor of what you think will go in .
  - You will estimate under normal condition. Let's say that we know that a cubic meter of concrete or a steel beam is taking so many hours per cubic meter or per kilogram, you put that under normal conditions. At end we will put contingency to address the particularity of having a job done one on island and one on Labrador in camp. It's not same thing when your worker has to fly and come back get used to the camps living condition. So we said we will address that separately.
- **Who said that?**
  - I did , I said that
  - That's what we did during that period that we were with Jason and Ian, we had established about 20% of the labour force was about \$318M that we had spread into the estimate to address possible lack of productivity that we would have over there
- **Did your estimate include that stuff is what you're saying?**
  - Yes
  - We did put that contingency in our capital cost of course, but that's the only contingency that we had put in the estimate to address uncertainty
- **The contingency was how big?**
  - Contingency was \$380M, something like that
- **That was in the \$5.1B?**
  - No, it has been done after, in the final adjustment at the beginning here.
  - Actually, I have to rerun that, We did put a number but we fine tune it here
- **We're trying to understand with the numbers that were seeing**
  - In \$5.1 we did put \$380M there, but when we finished the number here, crystalize it, we fine tune that. In both exercise, we did, you know, adjust the contingency. Not only at 1 place. We did the exercise at both
- **Calculation for contingency \$380M of 5.1B?**
  - Only on the labour
- **Only on labour?**

- Yes, to address unproductivity that we may face. We had approximately 20M hours, the whole project. What we did, we said normally about \$10M of it was direct labour- the workers, then you had the staff people as well that was travelling as well and would have certain constraints. So we said 15M hour at 20% that made 300M that we put in estimate. That's how we established the \$380M. It started at \$300M and it ended up to be \$382M here because I remember Jason wrote on board when we sat down it ended up to be \$382 something like that. Am I clear?
- **The reason for the labour contingency, what would the money used for?**
  - Money will be for productivity. Let say that we start hiring people, there is a pool of labour people. During that period you have other project in giant St. John's that was taking place– there was Hebron that Kiewit was building. So maybe we will not get the cream of the carpenters, so we're not going to get maybe the bottom. But we say we're going to say we would get middle average. The productivity of a carpenter of 50 years old and 32 years old not the same thing
  - Guy from 52 years old doesn't work for nothing, he has experience
- **Showing attachment BA Cost Model Used in Tactical Risk Analysis. This is something that we were given. Have you ever seen this document before?**
  - Nope. There is several pages.
- **On the front Paul, is like the lead sheet that totals \$5.4B which includes... I think that's all in.**
  - No I have not seen that document. I see your 5.4. It's another document that was produced but I have never seen that document
- **So your saying when you calculated original base cost you had the \$300m contingency?**
  - Yes. It was \$300M and after that when we fine-tuned from January 2012 to May 2012 we turned to Nalcor Energy, we finished contract package, said oh we don't have enough money here and a bit too much there, so we have fine-tuned estimate and of course contingency as well.
- **So \$382M was final?**
  - Yes
- **Was to cover labour?**
  - Yes
- **Is contingency usually just for labour?**
  - The contingency that I was involved with had to do strictly with that, probably Nalcor did other contingency that include other costs. I don't know. He must have been but Paul come to my office, what about this, are we going to include that, I was not part of the discussion from January 2012
  - The guy was in charge of estimate was not me. It was Jason Kean
- **Dec 2011 when you finalized budget do you recall what percentage of design was done?**
  - Good question, I don't know exactly. I will explain to you something. We were committed in 2000 at the beginning to prepare class 3 estimate. This is a range set up by the AACE. All estimate generally speaking in North America when client asks for price, said well what type of estimate. I can do an estimate in 2 hours, 2 months. There is 5 grades, Class 1 is top one you get to be very accurate and 5 is +/- 50% or something like that. It goes with the percentage of the definition of the engineering done. If you don't have the drawing and not enough spec it will be very had to do the estimate
  - We were committed to do a Class 3 = -10% and +20%
- **What does that mean?**
  - I said \$5.1B would be \$6.1B or \$4.8B

- That was range we had with level of definition of engineering 10-40% engineering complete. So to answer your question, we aim to have at least 40% engineering complete with class 3 estimate but I was not leading engineering effort and I don't know if it was 40%, 35%, etc. because everything was not finished. At end if they meet 10-40% range is huge, but that is class 3 estimate parameter. I have copy of that, we can give to you if you want
- **Is that 42R-08?**
  - There is a good very well definition
- *(Legal Counsel) – the AACE definition of the different classes of estimate, we can provide that if you like*
  - To answer question about completion degree of engineering, that would be my answer
  - One thing I can add to that – when we finish in May 2012 Jason Kean came to me and he said I want to congratulate your team because John Hollman from AACE look at your estimate and gave you AAAA. You did a good job
  - Thank you very much. That's the best we came up with
- **So in May 2012, SNC assisted Nalcor in preparing a risk analysis. Were you part of that?**
  - No
- **I'm just wondering, have you ever seen these documents?**
  - I know there was a team dedicated to risk analysis but I was not involved
- **They didn't seek your input or ask any questions?**
  - No
- **Do you know who was leading that team on SNC side?**
  - I know Jean Daniel Tremblay and Michel Mackay were working on that task
- **You said it was rated as class 3 with -10 or +20 % variance. Who ultimately decides which class it lives in? Is it just using the legend or the map?**
  - I don't know who set that up
- **Do you have any involvement in setting class of estimate?**
  - No SNC will provide, when I was hired I was working for Kiewit in hydroelectric project in Ontario and they offered me to come with SNC for Nalcor on Muskrat and when I arrived, said Paul you have to prepare class 3 estimate you have to find the estimator, rental rate, labour rate, rental, software, everything. Have to put number by Dec 15, 2011
- **Clear start is pretty good?**
  - At least it was clear
- **As going through the process as the Lead Estimator what are your thoughts are there enough information there based on what you've seen on other class 3's?**
  - This project was huge – you're talking about electrical transmission line, powerhouse, substation, synchronized condensers. Engineering level of definition was not the same everywhere. We tried to do the best we could with what they were giving us. Of course I would say I would have most information as possible but we never satisfied, always asked for more and they always said where are you now? Were just getting info as they were producing it. Now have drawings for the towers but maybe 6-7 different types, before we were able to make estimate, fine tuning when we had meetings sitting
  - Estimator that I had hired I was just finishing 1 and 1a
  - 2 hydroelectric projects back to back so I knew what it looks like, how much it costs, so I was able to in once case don't have enough info to make assumptions. We are going to assume this. We were able to get cost

something with information that we have. But the degree varies in transmission line, structure, in other things, level of definition varies. It was not 40% everywhere.

- **When you say level of finishing, you mean level of design finishing?**
  - yes
- **You're 40% design have range and worked up estimate. Now if your 80% done design do you go back look in again and change estimate, is that normal?**
  - 10-40% not a lot. Ideal to have at least 75% level definition. But almost impossible in the time that we had to produce the cost of estimate to have all engineering done and more than 75% it's almost impossible
  - I guess that people from SNC, my boss, and people of Nalcor, when they decide that class 3 estimate would be enough information to put price on this project, they must have accept possibility that there will be some missing information. That I don't know, I was not sitting there during that decision.
- **You had no input into that?**
  - No
- **Other projects, hydroelectric, what percent design was done at the time?**
  - Good question, well again I was not involved with engineering but with Hydro Quebec information would be more than 60%
- **More than 60?**
  - Yes
- **Compared to 10-40% engineering completed here?**
  - Yes
  - From what I've saw in engineering for the estimate that we were preparing it looks it was a little bit more defined than 10-40%. We tried to do our best with these limits.
- **Does an estimator, I'm hearing that you don't feel that it should have been class 2 or 1. Does estimator say wait a second this is not a class 3, it should be class 4 or 5?**
  - Nobody came to me with that remark
- **With other jobs, does that ever happen?**
  - No, with 2 projects that was involved, nobody ever talked about it. I was not aware that class 1, 2, 3, 4 etc. was implemented. I heard about that when I arrived at Muskrat Falls Project
- **What was practice before?**
  - I would have to ask my boss with hydro Quebec, what was their range? I was not involved
- **So they give you range?**
  - No in the two projects, I was not involved with this definition. My work was more receiving info direct from hydro Quebec. I was working for the construction division of Hydro Quebec
  - I was getting information out of package and everything so we were executing our estimate with the information that that came on. I was not checking that there were enough information
- **Is there disclaimer in preparing the estimate? Is some expectation of limits, accuracy, and probability of error? If you don't know how far engineers reports are, if at 10% they wouldn't necessary expect your accuracy to be within a 10% variance?**
  - I'm not understanding
- **You had gone through when we started, list of people you reported to, Wynne, Mahmoud, and then Serge. Why was there change of so many people?**

- That is not something that I can answer. I don't know why these people. Well Stan was sick, Andre left, why exactly, I don't know the decision of management people why they left. It was uncomfortable I can tell you that, to go through all people and get used to them. For me it was tough. But why exactly these people left I don't know. It was tough for me to change from one to another. You wish it doesn't happen but on course of huge assignment like this stress of getting everything in short period of time I was not taking much time to ask why
- I didn't have time to worry about that, I was aiming to get price done
- **Why the rush?**
  - I ask that several times. That's tough!
- **Did anyone tell you why had to get done so fast?**
  - No,
- **Did you every have conversations with anyone about it?**
  - Well of course among ourselves we say why we cannot go over Dec 15<sup>th</sup> and finish that? We never got the answer on that. I was talking to Stan Wynne and Normand, he was the main guy from SNC there, a former employee from hydro Quebec
  - Said try to get us more time. We are rushing to get this thing real quick and we have tried to do our best but it's tough. \$5B in 6 months was quite a challenge. But we did finish in time for the Dec 15<sup>th</sup> and we turn in what we call cost of project to the best of our knowledge
  - All the quotation we got, we produced 13 binders that we turned into Nalcor in December 2011 and by May 2012 we had 43 binders. I have copy of that
- *(Legal Counsel) – produced to inquiry*
  - Having all that stress we got AAAA – I think we did pretty good job. John Hollman is well known in industry and to have said that, that was really
- **Why would you bring in John Hollman?**
  - Jason Kean asked to have look at this, I guess to raise level of confidence
- **When did Mr. Hollman look at this?**
  - During May 2012 after we finished estimate. May – June something like that
- **Back in May of 2012?**
  - Yes, after we finish Jason showed him and asked him to look at estimate. Jason came to us and said we did good job
- **So Dec 2012 gate 3 closes and construction starts in January is that correct?**
  - January 2014 for construction of the power house
  - Excavation started in 2013
  - Sanction, estimate finish in May - June 2012 and sanction came on December 2012. Not gate 3. Gate 3 is Dec 15, 2011 that's what I remember
- **Excavation starts early 2013?**
  - I believe right after that. Beginning January 2013, right after sanction
- **As estimator, what info starts flowing back to you after work starts?**
  - Nothing – from time we turned estimate May 2012, things were not going well between Nalcor and SNC
- **What was going on?**

- They decide to remove SNC from the EPCM contract
- And that was taking place when?
  - In April 2012
- **Do you know why made that decision**
  - The real reason I don't know
- **What do you think it might be?**
- *(Legal Counsel) – opinion only offered*
  - Politics, I don't know. They decided to hire us because we knew what we were talking about
  - I was astonished when I heard this
- **Do you know if it was Ed Martin, or who made that decision?**
  - I don't know
  - Specific individual. Of course Ed Martin had to be involved because he is the top. Who exactly and under what circumstance and why, I don't know
- **When you find out Nalcor wants to take over – what happens at that time? Are people from SNC leaving the job?**
  - Not exactly, but gradually depending. They had to renegotiate contract with SNC, details of that I never been involved I don't know. The only thing I know is that we were not getting information on what going on, on the side, who got job that was published on internet but amount was kept by Nalcor.
  - Nalcor leading show when we finished estimate in May 2012
- **When did they remove SNC from the job?**
  - April / Easter 2012, not sure exact date. Easter 2012 SNC contract was modified
- **You said you didn't get any information back as of May 2012? Would it be normal practice for estimating team to get back information?**
  - Well if you stay in process you would get information. From procurement point of view, I was not on list to get
  - We don't have anything with Paul Lemay, this guy working for SNC and procurement was taking care, I had nothing to do after that date
- **How do you continue estimating without result how do you revise the estimate or fine tune the estimate unless you see those things?**
  - We don't change the price after that. Once we said \$5.1 and that include SNC cost the EPCM cost salaries and everything was for \$600M.
  - So if I subtract \$5.1 – 0.6, \$4.5 after fine tuning goes to 4.4 after salaries subtracted
  - After that I was not involved. How much they put for financing, owner costs, I was not involved in that at all
- **In process of working up estimate, did you talk to any of outside contractors to determine what they would charge? Is that normal?**
  - Not directly to contractor because we were going – we asked budget price. When I answer that, there is a contractor who manufactured, there is the manufacturer who will build synchronous condensers.
  - We got quotes from them from information that we received from engineering but once we got the price, I didn't say this was too much. We were taking the lowest one. We didn't have time to sit down with contractor to say hey this doesn't make sense



- **But that's not the final price of what they actually charge in the end?**
  - The budget price they were giving us was to the best of their knowledge
  - Ex. Fabricating the concrete, I got a price from Thunder Bay, Ontario, and Capital Concrete St. John's. \$235/cubic meter and \$240/cubic meter, and in St. John's \$425 cubic meter.
- **Delivered?**
  - To fabricate whole concrete in Muskrat Falls. I'm not taking phone to call Capital Concrete – this is ridiculous. It was not my job to do that.
- **These quotes are just quotes, not firm bids is that correct?**
  - Yes those are budget price
- **If I'm concrete company, just because I quoted price back then, that doesn't mean same price when I answer RFP?**
  - Cannot come with \$400 after, they would have to have good reason if I was part of procurement (which I was not) I would argue with them and say why did you quote the budget \$235 and when we get the project going that you will charge \$275 or more unless you have a good reason for that.
- **Was anyone at SNC involved with procurement process?**
  - I don't think so
- **The 10-40% that we spoke of engineers being complete when stuff is going out for RFP how does somebody quote something only 10%?**
  - I guess there was more than 10%, this was just guidelines. Some may be at 50-60%, it was a range we were given some range has to be put on how much it is, of course 10 isn't enough. That's why it's a budget price
  - my price is \$235 but don't change the information, and gave us a price for concrete of 20, 35, NPA
  - NPA strength concrete – 4 type of concrete, when you start doing your work you have lean concrete that you put on the ground this is only 20 or 15 NPA no rebar. As you go up the quality / strength of the concrete is required to be more than 30
  - 4000psi and 5000psi
  - Of course this guy putting that information, don't come with things that if 30 NPA, my price should not change that much, it should be within that range. Having myself I know range of -10 +20 overall, we cannot miss the boat that much
- **-10 +20 if engineering is only 10-40% complete, I would think it would be very challenging to stay within that range because there's a missing piece that you don't see.**
  - That is an opinion that you have and I think that I agree with you it's very thin but you know we didn't have time to deal with that, those were the guidelines. More information would be better the more accurate our price will be
- **Is there estimating methodology/standard used when doing estimates? Is there a certain guidelines?**
  - When I arrived I set up the ground rules, I established all list of plugs – if you need to build I don't want you to put \$175 for wood while its only \$150. I gave them guidelines to use prices when needed. I gave them rental rate for equipment and Nalcor provided us the labour rate to use because labour agreement was not in place for the project. In NL the labour convention has been set up for special project have to negotiate with union – that was not in place so Nalcor gave us labour rate to use
- **How do you receive labour rates on schedule with different levels?**
  - All the various trade and they have numbers for each rate for electrician, mechanical, carpenter, cement finisher, all these trades, and I gave them also the guidelines for indirect cost of the contractor

- **Email that you wrote out it says ground rules – is that guidelines you provided?**
  - Yes
  - You have the answer and you ask me the question
- **When you sent that email out did you get any feedback from Jason or anyone from Nalcor disagreeing?**
  - No
- *(Legal Counsel) - is there any date on this?*
- **No came out of this package**
  - I can find the date that this was written
  - I was trying to keep control of everyone. Everybody is on the same rules
- **Why would Nalcor say use their labour rates and not rates that you think it would cost?**
  - When you go on a foreign province like this you, I didn't know what the labour rate in NL was. So no big discussion about that so we are going to give rate and used. When labour agreement will be set up we will make an adjustment on that, then Nalcor were cuffed a little bit with that *(makes gesture to refer to handcuffs)* with result of their agreement of the labour, they didn't know how these things will be finalized.
  - The labour union will sit down and say okay now capital were going to get for 2012 5 cents for this, 2 cents for that and its going to end up at the end of the day it's not going to be 50/55, its will be \$60/hour. All of these little things that are negotiated because labour agreement that was signed was signed for 5 years 2012-2017
- **At time you worked up estimate and in end you did not have any input or knowledge of what they paid? Do you know if rates paid agreed to estimate?**
  - If they had to have an adjustment, if the negotiation was higher, Nalcor will address that
- **How would they have done that do you think?**
  - They have special agreement with Nalcor Energy, how they are going to deal with that, I don't know. Probably say difference will not be that important. 5 cents, 6 cents there, 9 cents here they will have difference but, I don't know.
- **So those labour agreements were negotiated after finalized estimate?**
  - Yes
- **Rates given to you, is there a standard rate that you would expect to see?**
  - Of course the rate that I see there looks reasonable to me, because I compare with price we were having in Quebec and Ontario and it was fairly the same thing. Carpenter varies from province to another 50, 52, 54,. It was making sense, the list that they gave us.
- **I understand other projects going on at same time. One of risks that I read from the risk registers said that a shortage of labour is a concern and one way to mitigate that risk is through incentives higher pay, more attractive benefits and I guess I don't know if those numbers were factored into rates they gave you?**
  - Good question
- **You don't know?**
  - No
- **But rates you did see, seemed consistent with rates you've seen?**
  - In the industry, you know, for that type of work. Seems to be in the range
- **In QC or ON, on any of the jobs that you've worked on would they have paid premium for shortage of labour at all?**

- In ON?
- **In ON or QC?**
  - I did not analyse that. I did not look at that specifically
  - Each contractor deals with that they pay their own people and they are including that in their price. If we have to hire people now where am I going to get my plumber, where am I going to get my labourer, there is 50 guys available in St. John's but I may have to sub people from NS, NB, or QC. He has to do his own exercise to know how much this will cost him and depending on availability of each labour pool. It's something, its not black and white
  - He has to deal with the situation of that moment without a job, running around you know, so it's always risk that contractor
- **You said 20M hours and I saw budget that referred to 20M hours, is that example number?**
  - That is approximate total hours when we finished the old estimate, we calculate direct labour, staff, approximately 20M hour job
  - That number was identified for that purpose to establish the ratio that you want to compare from one job to another but 20M I mentioned earlier was to tell you how we came up with contingency. We took an average but that's why it was counted to check how many hours we were having on that job so far
- **And you said labour rate agreement ends in 2017?**
  - Yes
- **So there's a new agreement?**
  - Supposed to, I'm not aware
- **Pause for break – requested by Paul at 10:13 am**

**Restarting Paul Lemay April 10, 2018 10:21 am**

- **We were just talking about estimating methodology. One of the things I don't understand yet – there's class ratings and P ratings – P50, P75 are you aware of those at all?**
  - No
  - What does the P stand for?
- **Email you wrote to Jason Kean back in May 2012 that has to do with the concrete pour and the aggressive schedule that was on and you had concerns about it. Attached to it were a lot of calculations do you recall that?**
- *(Legal Counsel) – do you remember any of this?*
  - It was 7 years ago.
- *(Legal Counsel) - that's fair*
  - Well that's my name there – yeah, so from what I can see there that was an indication that in the contingency that Jason wants to put he would have to consider that it was a tight schedule and he would have to take that into consideration
- **Do you know if Jason did that?**
  - I don't know
- **You suggested in the contingency plan – when you say “I suggest putting time or money provision in our contingency plan to overcome possible failure that may occur”. I assume that means either increase budget for potential or increase schedule which would eventually increase schedule. Either way, to me you're saying it would cost more money, you have to think about this this?**
  - don't know if he concluded that – my concern was that he should include it in contingency figure

- **In the contingency they use firm called Westney Consultants – do you know who they are?**
  - No, first time I heard about that
- **I'm showing you something that's been called attach B10 Base Estimate Tactical Risk Exposure Input – are you familiar with that document, have you ever seen it?**
  - When was that produced?
- **It says final revision June 14, 2012**
  - That is after we finished the bid
  - No
- **So you had no input in that document?**
  - I saw my name here on the last pages that I should review it but I never seen that document
- **I missed that, can you show me where your name is?**
  - Paul Lemay to review – but I didn't review
- **Partial liner Paul Lemay to review – you didn't see any of this?**
  - No, it never got to me I didn't see that
  - So this document came from who?
- **I don't know, I'm not sure it was just part of the total production**
  - Well maybe it never been distributed
- *(Legal Counsel) - I don't think you have any of our documents based on my understanding. Unless you got something between Thursday and Friday to now.*
- **We're getting a lot of documents so it's hard to say**
- *(Legal Counsel) - hand delivered documents on Friday because of difficulty opening but they may not have had time to look and send to you*
- **Is there a specific document you thought of referring us to?**
- *(Legal Counsel) - no, just in general when you referred to who produced, it wasn't us*
- **B5 Initial Screening of SNC Risk Register for Probabilistic Analysis - email from Yuri Raydugin is he SNC employee?**
  - I don't know that guy
- **Can you let me know if you've ever seen that document or any schedules?**
- **All of this was part of DG3 project cost and schedule risk analysis report issued Oct. 1 2012 – all these documents part of that.**
  - I already answered I never been involved in any risk assessment for SNC and I wanted to look at the risk and my name was there and I tried to explain that but it should not be because I have not been part of that
- **There's document here it looks like list of signatures of folks that attended a risk workshop on May 23, 2012 but I think you were there on that if you recall?**
  - Yeah here, my name is here
- **That's your signature? It was a two day workshop may 23 and 24, 2012 it looks like based on signatures you were at May 23 not May 24. Do you recall anything about that workshop?**
  - I know I probably attend a meeting but that one in particular
  - Sometimes Nalcor meeting organized invite everyone. Everyone has to come and sign who is present there

- **Do you recall what was discussed at this workshop?**
  - I'm trying to remember
- *(Legal Counsel) - So May of 2012*
  - Unfortunately I cannot understand what it was
- **Were any documents given out at that workshop?**
  - I don't recall
- **Do you recall who ran the workshop?**
  - Is that Jason who called that meeting?
- **I'm asking, he signed the top**
  - Well I assume any meeting during then, I cannot remember specifics that were discussed and everything
- **On May 23 workshop that you attended, you did not attend May 24 workshop, because your signature not on that attendee list. However, document that was produced as result of that workshop. The Key Risk Status report – have you ever seen this document?**
- **Attachment B7 updated key risk status report from May 24 workshop**
- *(Legal Counsel) - This document says Sept 16, 2012*
- **I know, it came out of here**
  - I'm just trying to see. I was not – that was not my job but it may happen that sometime because he wants to have everyone present at an exercise that I was going there but I was not involved in discussion, just listening what was said. It's been a while maybe my memory cannot recall that
- **One of the things that I've read when we're talking about the need for your team to be completed by December 2011 one of the things I read in terms of risk for construction speaks about if there is a condensed time or time pressure can cause issue, time as a constraint can cause issues to the overall project because there's so much pressure**
  - Of course, I guess Nalcor was aware of that there was stress at the time you may forget things, slip things, but again part of the time that we had to do it and the class 3 that both parties have accepted to live with. I guess they have analysed these possibilities of time restraint and accuracy may not be as accurate. I always go back to 2 or 3 bases, class 3 estimate -10 +20 set up the ground rules, and make sure everyone has same info to do work so I control that and address separate as contingency 4.4 + SNC = 5.1 and fine-tuned in bullpen on Nalcor side. That was my work and after that it was out of my hand.
- **If there were any concerns, how would any concern from you or your team be escalated to somebody at SNC, somebody at Nalcor – what was the process? Who do you go back to?**
  - I would have gone to my boss and said were not going to make it were going to kill yourself so let's raise a red flag that we cannot meet Dec 15<sup>th</sup> but I came close to do it .
- **Do you think anyone else on team would have gone to Mahmoud or to...?**
  - I don't know, maybe someone would want to do that but not to my knowledge.
- **Did any of your estimators come see you at the time?**
  - To complain about that? Not that I recall. Not specifically. Of course I said we don't have much time we have to do the best we can, but no one specifically came to me about this saying they were really concerned
  - I believe we did have enough information within the range of -10 +20 to put a reasonable price to the job so then we said okay this is what this project would cost within our guidelines

- **Help me understand – this is 2011 and you finalized the estimate and you have error range (low and high) based on where you're at in the process, you're not part of procurement process at that point, is that normal though? In other words, you work up the bid talking to some of these contractors who give you range and estimate. Now goes hard bid (take Astaldi) \$687M work package CH0007 the bid starts coming in range from \$1.1B – 1.8B you're not part of process at that point. What should have happened what's best practices?**
  - The contract was an EPCM so normally we would have been involved in every step of the way and we would have seen that Astaldi was not getting the work done in a normal period of time, I would have said hey this is too slow, you have to take measure to speed up a little bit it's not normal to be that slow for that task. I would have argued of course with the contractor but we were not part of that. I would have loved to be on the site and there because we could see from the report we got on internal Aconex system that we had and concrete pour was not what we had expected and we knew, I could see something was going wrong. It was surprising for me to tell you. Working for Hydro Quebec and see contractor not performing, we had a little chat
- **I assuming normal course of business remain as EPCM?**
  - EPCM you involved everywhere and would step in and try to resolve the problem and not go from \$1.1 – 1.8B this is terrible
- **So in normal course bid would have come in and you would have been involved to see what's going here and try to figure out why there's such a big difference?**
  - Procurement is to hire the contractor. After that goes to construction management and construct administrator to follow contractor and have meeting with him and make sure schedule produced is being met. That's not my job but if I see something going wrong I will talk to him and tell him problem with schedule you're going to kill yourself and we would have argue and put in place something to see that situation was corrected. I would have stepped up. Nothing I could do, this is a disaster.
- **And that's because no longer EPCM? You were no longer involved?**
  - No, it's frustrating
- **Who's responsibility then would it have become in Nalcor to put hand up if there was an issue? Nalcor taken over what SNC role was initially. Now that Nalcor has taken some of the role of SNC, I would believe someone on their team should be putting up their hand if there is problem with contracting**
  - That's a large question, I don't know what is the structure they have put in place
  - Of course Nalcor taking the lead on that is responsible to me
- **It's Jason Kean?**
  - Maybe not alone but his team and people on the side, contract manager, project manager are involved with what's happening and something wrong
- *(Legal Counsel) - in fairness wasn't your position*
  - No – I can make comment but I could not intervene. I was not entitled to do that
- **You've been doing this for how many years?**
  - About 25 years in industry
  - Engineering 35-36 years
  - Working and studying part time and because engineering
  - When I started for Kiewit in 1990 it was in estimating was 28 years ago
- **When was first time you seen that report? The SNC Lavalin Risk Assessment April 2013**
  - Is he talking about same report that was published

- **In the press?**
  - In newspaper?
- **Yes**
  - I have not been involved heard about it in 2016 in newspaper. I was never put aware of that report
- **Nobody ever asked you for input? You weren't involved in preparation?**
  - No
- **One of the things it says, is that there were some major construction packages that were coming in well above original construction schedule – were you aware (other than just general knowledge) that some of these packages were coming in a lot higher than the estimate, if so who did you talk to about it?**
  - Of course later eventually working myself on the floor we finally heard by contract manager who administrate that contract that the price they came were higher than our budget, but I was not part of procurement not on the list, again its procurement.
- **Who was the contract manager that you heard that from?**
  - All of them there were 6 or 10 of them each package has own contract manager. Being an estimator being all of these things, going out Paul can you make me an estimate for that? I didn't get a copy of the bid this was kept secret procurement was trying to keep as much as possible of money control secret
- **Who ran procurement?**
  - Pat Hussey
- **From day 1?**
  - Yes he's still there I believe
- **Originally SNC hired as EPCM because I guess Nalcor didn't feel they had experience. Do you know why hired EPCM?**
  - I don't know what to tell you, these questions for management I don't know on what premises or why they should have done this or that. I was kind of a number that they fall to do capital estimate. I heard that something was going wrong but I was not there
- **Asking questions to everyone I've been talking to – these folks put in a lot of effort and time to do this. What do you think happened here? How can with all the planning and hours here, how can it go from original budget to where there winding up to today. What's your thoughts?**
- *(Legal Counsel) - who do you mean by these folks?*
- **Nalcor**
  - Of course inexperience in hydroelectric project, never done project like that and you decide that engineers you hired are going to do the work you are exposing yourself to these extreme because costs you don't know what to do when these things come in. It was not an oil and gas project like they used to be involved in
  - Hydroelectric work they never been exposed to. They really took a big chance to say hey, we going to do it
- **Without SNC?**
  - Yes
  - You know it's like me, Jason Kean hired me because he knew I been doing 2 similar projects in the past 10 years from 2001 to 2010 and Paul, I think he knows this domain and is the guy that should be doing the work for us and it's so true

- **As the Lead Estimator, if you had been on project from start to today, one of the things we spoke about was that as actual prices come in you would revise estimate – is that standard operating procedure?**
  - Yes, probably you know that was intention after we do the estimate was to follow the work and do the estimate for changes since January 2014 from Montreal, what I'm doing right now is every time there is a change or a request from contractor because he has to store his materials for longer period because job is late can you make estimate to see how much it will cost to get these pieces? That's what I'm doing now, it was supposed to be 4 years now I'm there 7 years because job is late.
  - You do lead estimate and after that you continue to be estimate for changes was the plan
- *(Legal Counsel) – I think he missed part of question, I think what he's asking you is, earlier when you were talking... If they had given me a bid for this amount and price for that, and then they gave me a timing for that. I think you said I'd pick up the phone and call them no way (not trying to put words in your mouth) what would you have done as Lead Estimator in role started in*
  - I would have seen contractor manager I would have tell them when something is going wrong react and do something, were going to kill ourselves. EPCM contract should have been first thing that we were supposed to do and all of a sudden no, were doing engineering and partially some pieces and ends.
- *(Legal Counsel) – I think the question they want you to know, if SNC remained EPCM and your role as estimator, if bids came in high / low what would you do and how is that different from what you actually did because you were no longer the EPCM?*
  - I would have within information that I had I would have gone to see contract manager and tell him my opinion and say let's look at what's going wrong. Now, with new role we couldn't do that. I wish I could do it but we have no mandate to do that so I just remain myself doing estimate changes from contract
  - From time Nalcor gave the contract to a contractor, the number that are there you cannot lower or higher it. You have to live with it even if you disagree with it. Each cubic meter you have to pay what's in the bid. Once bid is out, you cannot go after that. If new item comes in ask to give estimate on that. But once award contract cannot change.
  - But is that portion when bid comes in and you have to award, during that period of time we are arguing with them – I was involved in first contract (Astaldi) before they award that contract we had discussion with him trying to get the best price that we could get
- **When was that?**
  - 2013 the tender came out during February March 2013 and the award was in early fall 2013
- **Do you recall when tender came out in February 2013 did they then (Astaldi or any others) did they then issue bids right away?**
  - Had 6 months to prepare the bid. June or July 2013, so we had 2 months to work in that period between bid going out and the award of contract. Had meeting with them because he had 4 bids, sat down with 4 bidders
- **Who was in those meetings besides you?**
  - Everyone
- **Jason?**
  - Yes
- **Gilbert Bennett?**
  - Sometimes, not all the time



- **Harrington?**
  - Paul, he came but didn't stay whole meeting if I recall. Those people that were coming in were labour representative and people of technical and schedule and work were discussing with Daniel to try to get the best price. Our goal is to get best price as possible so we want to make sure that everything is covered, nothing has been forget. So he's the lowest guy and we can go with, but I think Nalcor people everyone who were involved there
- **Was Ed Martin involved in meetings?**
  - No
- **There's bid meetings that take place, it sounds like a number of meetings took place and when final contract awarded were your involved in that process for Astaldi?**
  - I was involved before the award but after that no. Sat down with Astaldi, Kiewit, Accon, and it was normal procedure to look at their bids and see what the best they can do but the guy running the show was Pat Hussey – he was the one who was leading the effort there and I was partially part of it during one period of time between deposit of bid and award of the contract, but after that I was not involved
- **Were you aware they were coming in at \$1.1B and estimate much lower?**
  - My estimate was much higher than that, I had to add inflation that was another area of the adjustment that made by Jason and the contingency. I ended up comparing apples to apples \$850M and it was \$1.25B. So I was about 15-20% below
- **When did you first find out about that?**
  - When they got the bid
- **Where you at the bid opening?**
  - No, I was part of the team what Nalcor did for that specific jobs set up two pools in 2 bunkers. One commercial which I was part of, and one technical. Technical were analysing the award and the schedule and commercial looking at the money so I was going through each item of bid compared to price that we had in our estimate to see if unbalance his price to get all money first. So mobilization \$400M, hey you don't do that
  - So we make sure that everything was well distributed and that's stage I was involved and actual
- **Contract awarded in fall 2013 Astaldi, and you're telling me that your estimate of \$850M includes escalation?**
  - Yes
- **Is it fair to say that fall 2013 that they knew budget had to be increase? Just for that item alone**
  - Just for my work alone I could say that in 2013 something was going wrong
- **Who did you see in the picture?**
  - They were published 450,000 cubic meters, he has 2000 cubic meters poured, way slow
- **So you could tell by picture they were having problems by day 1**
  - Yes, we were not leading that effort people at job site were not saying they send that to Paul Lemay
- **How did you see those pictures?**
  - In the Aconex communication system you can go there report every month, a weekly report it was published by the site by Nalcor its on internet
- **SNC wasn't project manager at that time?**
  - No

- **The other thing is the base bid we have these sheets this budget that I showed you with work packages adds up to \$6B, the CH0007 is Astaldi package, the number on that doc is \$689M is there some sort of worksheet reconciliation to get from \$689M to \$850M you talked about. Who would have that?**
  - I can produce that for you
- *(Legal Counsel) – I think it's probably already at commission*
- *(Legal Counsel) - is that in binders?*
  - No I have to go through all my notes and try to go from that amount of money. I don't know if in binders or my own calculations
- **It would help, we want to understand what was your estimate based on escalation and was it comparable to award?**
  - I can produce that no problem.
- *(Legal Counsel) – so this is notes that you already have*
  - I can go through my working copy binder, not in 44 binders
- **Would Jason have this? Would he understand the escalation charges?**
  - No, I don't think so
  - No big issue about it because we were within our range so I didn't make big story about it. Within range that we were committed too (-10+20) is 20%
- **Westney Consulting was hired to do the quantification, the dollar amount of the contingency and I believe of the escalation charges.**
  - Nalcor hired Westney to do that?
- **Yes**
  - I was not even aware
- **Nalcor has a report Decision Gate 3 Capital Cost Estimate and in that report is a breakdown of cost plus contingency plus escalation. I don't know if you've ever seen that Paul**

Break at 11:18 requested by Paul

11:21 April 10, 2018 continuing conversation with Paul Lemay

- **Paul what I have in front you of is page 13 of decision gate capital cost estimate you table 9.1 summary of project capital cost estimate base estimate of \$5.4B and another \$729M for growth allowance and basically contingency and escalation allowance, and it totals to 6.2B to go to sanctions – of \$729M approximately half and half between escalation and the other contingency. If you did the Astaldi, when you did your estimate at \$689M and added \$160M or so for escalation that brought you to \$850M, that means you've already used up about 160M of that escalation allowance?**
  - This was not strictly escalation, I had to make some adjustments for some items, for instance CH0031 mechanical and electrical auxiliaries system and CH0007 is concrete sometimes there is something in engineering description that should go into CH0031 so should have not been include in CH0007 but should be in CH0031, for example architectural. The contract CH0031 is mechanical electrical system auxiliaries including architectural. This is done at end of job that contract package, there is item there that you know that was at beginning but a portion of it should have gone into CH0007 because before they going to be able to do that Astaldi will have to put insert into slab to receive base for wall
  - I'm going to give you my explanation between by \$687 to \$849 that I came up with but it's not only escalation it's also only transfer from one package to another

- **Wouldn't that be on final breakdown of work packages that add up to 6.2B?**
  - Yes once we got the May 2012 and all contract packages have been defined, whether you transfer between packages the bid total won't change
- **(Shows document that totals \$6.2B for bid packages) Af (referring to lettering in document of capital A, followed by lower case f) intake powerhouse spillway and transition dams**
  - Yes
- **See 690M?**
  - Yes
- **Here's breakdown of what makes up \$690M. It's CH0007 that makes up Astaldi contract and this document was actually part of the package I mentioned before that was signed off on October 1, 2012. Question is does that \$690M already include the transfer of costs from 31 to 0007**
  - Yes, positive
- **If \$690M the final cost for CH0007 in your estimate and you included escalation of another \$160M to get to 850M?**
  - Yes but I told you the \$170M different from 690 – 850M that I came up with is not completely escalation amount
  - I think the best thing I'll send you document and you will see. I'm just going through my mind 7 years ago so I don't know what exactly was description but there is an identification of how I came from \$690-850M
- **Did anyone at Nalcor every talk to you about escalation allowance?**
  - No
- **Send us document and may have more questions maybe just on conference call or something**
  - Yes, I take notes on everything and don't pick up numbers from the cloud
  - I why I'm still here because they know me there and I don't say grey one day and blue the other day
  - I always say same thing and nobody gets confused
- **Do you recall, what was the total escalation charges that you included for your total estimate (not just Astaldi)?**
  - No I was not part of the escalation discussions I don't want to mislead you I was not part of that
- **Michel Mackay what was your involvement with Michel?**
  - Zero
- **He was Project Risk Manager and you didn't do anything with risk?**
  - I didn't have anything to do with risk, and I don't know his exact title.
  - I know there was a risk analysis task done by some people, but I don't know
- **Are you doing something now with change orders?**
  - No the estimate I'm doing is come from the contract administrator of a contract so when the engineering doing a change, we have to put longer pipe (example), we have to issue administratively a document and they need an estimate so they are sending me the new quantities.

- **New change order comes to you for the estimate?**
  - Yes, there is ECM approved change orders and the first one to sign is me. And says capital cost TBD, if what is on that sheet is not specific enough for me to make a price I say send specs and drawings and I will estimate change. They send and I put number of how much it cost and I sent back to the contract administrator.
- **When we spoke about estimates you also said estimates are fixed unless change order?**
  - Yes, no engineering change notice, contractor does for price awarded for
- **Astaldi there was 3 other companies, presentation bid was \$1.1B but you said negotiation amount was \$1.25B?**
  - I don't recall exact number but there was a small difference something to do within the contract (labour min and max) Astaldi if finished job quicker we did a little bonus, if exceeded, we said wait a minute maximum labour should not exceed that amount, set maximum. So those were difference between
- **So something happened that it did go to 1.8B would that mean that any of those change orders come to you first?**
  - The change orders that come in are not in that nature, the change that I'm doing are really small because when you build powerhouse like that you don't have another turbine its stay it doesn't change too much. The only thing that change is the duration, the number of people that stay on project and pour concrete over a longer period. I am not involved on estimating on that.
- **I'm not sure I understand yet that there was Astaldi contract, a bridge contract, and amended contract?**
  - I was not involved with that bridge agreement at all I just saw on news that there was a bridge agreement to give them \$800M more. What was that, on what basis, something wrong
  - Because myself right now the estimate are just for small items, nothing of that magnitude
- **Revised contract though, or bridge contract, would they not have to go to an estimator or someone internally to see what new cost would be?**
  - Normally, yes
- **AACE American Association of Cost Estimates, do they have any guidelines?**
  - No
- **Best practice that you would have been 1.1B you exceed it, too bad?**
  - Yes that's contractor risk that if it doesn't go as you bid it, he has to live with the extra cost. Involved with Kiewit and owner does not give more money. Sign the contract with condition we have and that's all the money you should get for that period
- **If owner decides to give more money and the contractor saying another \$800M and I assumed you as the estimator would have gotten involved?**
  - Of course, and said on what basis are you getting that much money
- **And you weren't involved?**
  - Not at all
- **You said you were part of team that looked at or reviewed 4 bids for contract CH0007?**
  - Yes
- **Do you remember if Astaldi had any experience working harsh winter in NL or somewhere else?**
  - I was not involved in that decision, this would have been technical team. And signed paper not to talk to each other and not to influence

- **Does that make sense?**
  - Yes, because if they have schedule crazy ridiculous and hey he's missing money, so revising what we got for each number it makes sense and the other team looking at the method and schedule and someone from Nalcor was going over all that and saying is it okay, ask this question and try to make sure we have the right proposal but I was not part of that question that you ask me
- **How did you prepare for today's meeting?**
  - I have no specific preparation than just listen to the question because I didn't know what kind of question you were going to ask but what I'm committed is what I did for the \$5.1B and after that I'll tell whatever I say. I didn't need to be prepared because I have nothing to hide. I said lets go and I'll answer honestly. Anytime you have question, I have no specific preparation
  - I'm telling the truth
- **No instruction from council?**
  - Well, yes from these people
- *(Legal Counsel) – guidance from counsel is to be helpful but that's privileged*
  - Legal side
- **Is there anything you thought we would ask you today that we didn't ask?**
  - It's a probably what I would expect. How did you come up with this famous number and here we are, something wrong, what happened and we have to find out the truth and I wish you good luck. I have not been involved since that \$5.2B and we need to find that
- **I see extension of Astaldi, this is only part of story, what else is there?**
  - There is other factors, not only Astaldi, themselves in the middle of the other contracts cannot start their work until he finishes, there is a delay caused by Astaldi. Everything has been impacted because you don't have the box to work on, they were building the big box
- **Someone revises that schedule?**
  - I don't know, I'm not involved in planning
- **Any concerns over fraud that happened on the project?**
  - Not at all
  - Everyone that I know there are all honest people and the people I wish good for them
- **Anything else we need to know?**
  - Nothing in particular
  - I hope I've been clear to you and that there is no grey zone except the \$650 I will provide that information but beside that it was interesting exchange and I'm happy and I wanted to explain my point of view to you and wish you good luck in your efforts to find what happened
- **We have a lot of information today and going to process more, we may down the road have a few more questions and ask to sit down with you?**
  - Yes, sure
  - Are you satisfied with my interview?
- **Yes**

**Stop time 11:55**