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**Subject:** Fw: As requested  
**Date:** Friday, April 3, 2015 1:39:10 PM  
**Attachments:** [.png](#)  
[Note to IE re CH0007 2 April 2015- Final.docx](#)

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fyi - file sent by Paul to Independent Engineer re Astaldi

----- Forwarded by Ron Power/NLHydro on 04/03/2015 01:38 PM -----

From: Paul Harrington/NLHydro

To: "Nikolay Argirov" <[Nikolay.V.Argirov@mwhglobal.com](mailto:Nikolay.V.Argirov@mwhglobal.com)>

Cc: James Meaney/NLHydro@NLHYDRO, Steve Pellerin/NLHydro@NLHYDRO, Gilbert Bennett/NLHydro@NLHydro, Karen O'Neill/NLHydro@NLHydro, Lance Clarke/NLHydro@NLHydro, Ron Power/NLHydro@NLHydro

Date: 04/02/2015 12:04 PM

Subject: As requested

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Nik

Please find attached the requested response to your question regarding CH0007, I trust this is adequate for your purpose. If not pls let me know.

Regards Paul



Note to IE re CH0007 2 April 2015- Final.docx

**Paul Harrington**

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Astaldi Situation – 1 April 2015

## Background

### CH0007 Contract for Powerhouse and Spillway

Nalcor have been meeting regularly (weekly) with Astaldi Senior management on operational matters, in addition 6 CEO level meetings have been held also since with the mid Year 2014. The focus of every meeting has been the same, i.e. Nalcor's concerns regarding Astaldi's Safety performance, Project Management, Construction Management, Production rates, Organization , Readiness to execute and Priorities.

This effort by Nalcor to improve Astaldi's overall performance and organizational abilities culminated in December of 2014 when an action plan was developed by Astaldi to respond to Nalcor's concerns, which were based on actual concrete production and volume of concrete placed versus planned.

Astaldi have been responsive and have endeavoured to make improvements in all areas, Astaldi have requested Nalcor's assistance ( and Nalcor has responded positively) in all areas with working groups established in the Summer of 2014 to address challenges and concerns regarding various aspects of this contract including the Integrated Cover System, Winter Readiness, Spillway Production, Crushing, Batch Plant, PowerHouse production, Productivity, Construction Management. Incremental improvement was noted in the Summer/Fall of 2014 following the impact of the working groups but the improvement in production levelled off in November and was not sustained. The cause of this lack of sustainability was attributed to a Construction Management organization and methods not suited to operate in Canada's cold weather, using negotiated labour agreements, following the Benefits Strategy and IBA with the Innu Nation. This culminated in November 2014 with a request by Astaldi, to release to them senior construction personnel within the Nalcor construction management team who were very familiar with major civil construction work and methods commonly used in Newfoundland and Labrador. This request was agreed to and a "reset plan" by Astaldi over the Christmas break was put into action. This reset plan, developed and implemented by Astaldi, included a lay off of almost all craft labour other than those needed for site maintenance and a "recall " of labour after the Christmas break. The recall of labour would be a modest number of craft persons and a relatively low concrete production and placement schedule during the very cold winter months. The Astaldi Construction Management organization under the new leadership was put in place and follows the Canadian model well known by craft labour and supervision in Newfoundland and Labrador. The Astaldi plan was to establish the new Construction Management team, replace the Project Manager, bring in Project Management support personnel ( which is continuing) get the Direct to Indirect labour ratio back into an acceptable band and plan the work more efficiently. These steps have been taken and in many cases are continuing and are showing improvements. However the real test will be over time, to determine if all these changes and improvements result in the concrete production and placement levels required to recover the schedule, which will only be evident in the June/July period when the craft labour ramp up has been achieved and the weather improves.

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#### Current Status

Spillway status as of 22 March 2015 – Concrete poured 24,400 m<sup>3</sup> , remaining concrete to be poured 25,000 m<sup>3</sup>. Nalcor's PM at site is not overly concerned that Astaldi will complete the Spillway in order to install the gates and achieve river diversion in November 2016

Powerhouse status as of 22 March 2015 – Concrete poured 2,800 m<sup>3</sup> – remaining concrete 312,400 m<sup>3</sup>. The delay in the ICS construction has impacted the ability to work in the powerhouse, because it was not possible from a safety aspect to have people working under the ICS on concrete placement whilst work overhead was ongoing. Astaldi made the decision late 2014 not to install the ICS over units 3 and 4. Concrete works for Units 3 and 4 will be constructed in summer and through winter using hoarding and insulated tarpaulins similar to those used on the spillway. The plan going forward is to ramp up concrete works in the powerhouse and intakes in the coming months as the weather improves and the craft labour is mobilized. The ability for Astaldi to produce and place the amount of concrete in the time remaining is Nalcor's focus with Astaldi. The following actions are ongoing

- ICS commissioning of overhead cranes in Units 1 and 2
- New batch plant installation underway
- Activation of back up crushing plant
- Tower Cranes for Units 3 and 4 are ordered
- Entire logistics plan and analysis of site and planning
- Optimizations of construction methods

The following Astaldi senior management support changes are implemented or underway:

#### Implemented

- Production Manager on site
- Technical manager on site
- Procurement manager – April 12
- Safety Manager- April 12

#### To be implemented

- New Chief Engineer
- New Contract Manager
- New LR Manager

The Nalcor approach has been to constantly highlight areas of deficiency with Astaldi, engage at all levels with Astaldi , support Astaldi by bringing Senior Nalcor staff onto site to augment the existing Site Team and to work cooperatively with Astaldi to address the production and organizational issues. Nalcor feels that Astaldi are now poised to ramp up and get back on track, however the next 120 days will be the proof of that. Astaldi have prepared a 120 day plan which forecasts that the total cumulative

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concrete placed will be 90,00m<sup>3</sup> with 360,00m<sup>3</sup> remaining . The number of pours are planned to double month over month March to May inclusive .

The forecast shows the pours levelling out at ~120 in June and July. The labour count will increase over the next 4 months to 1350 . Until we are able to see Astaldi achieve these latest targets we will maintain pressure on Astaldi using all of the contractual levers available to Nalcor , whilst continuing to engage at all levels of Astaldi's management and leadership and providing support wherever possible whilst still maintaining the current contract relationship.

Appendix A

Extracts from the NL Oversight Committee

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## Appendix A

The Oversight Committee Report for the period ending 31 December 2015 asked the following questions regarding the CH0007 performance specifically schedule slippage. The Nalcor responses as reported by the Oversight Committee are also shown.

Q. What Mitigating measures are Nalcor undertaking to address the progress slippage?

A. Nalcor advises that they have had numerous meetings with the civil contractor for CH0007 over the last several months. The contractor has been responsive with the implementation of a new Project Management organization which it began implementing in January 2015, including the hiring of additional new site Managers with experience from other major capital projects ongoing and/or completed in this province. Nalcor has increased its Project team members working on site and are working closely with the civil contractor on several performance improvement initiatives to mitigate this slippage. The civil contractor has also modified its project delivery plans to introduce an additional concrete batch plant to increase its concrete pouring capacity. This increased capacity will facilitate the pouring of concrete for Units 3 and 4 of the Powerhouse during the summer of 2015 and will continue through the winter of 2016 using the winter protection method involving tarp coverings and heaters that has proven successful on the Spillway during the current winter of 2015. These efforts are designed to mitigate this schedule impact resulting from the decision not to complete the ICS over these two units.

It is currently anticipated that this slippage in schedule progress will continue over the upcoming winter months while these mitigation actions are implemented. Nalcor anticipates schedule improvement over the spring and summer of 2015 as the mitigation actions take effect. Nalcor advises that though the timelines may change for the individual work within the project, such as the progress on Units 3 and 4 over this winter, the slippage to date has not had an impact on the key Project milestones or the critical path for first power in December 2017.

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The Oversight Committee will continue to monitor progress and the results of the mitigation measures being implemented by Nalcor and the contractor.

Q . The Committee sought information from Nalcor with respect to the performance of the Contractor under contract CH0007 at the Muskrat Falls Generating Facility.

A. Nalcor advised that it is working closely with the contractor to address the work progress. Actions being taken by both Nalcor and the contractor are designed to improve production, increase productivity and regain the schedule to ensure there is no impact on the critical path to first power in December 2017.

The contractor is responsible to take all necessary actions to address any variances between planned and actual progress on the Powerhouse & Intake and Spillway & Gates Contract. The contract format requires the contractor to meet certain milestones or be liable for liquidated damages if a milestone is not achieved.

Mitigating measures are being taken on a number of fronts with this contract. These measures include:

- Nalcor and the contractor's leadership have regular dialogue to address any issues that may affect progress.
- The contractor is mobilizing additional management resources and Nalcor is supporting and providing additional project oversight.
- The contractor is taking initiatives to improve performance.
- The contractor is mobilizing additional plant material and equipment required for concrete placement.
- Additional equipment is being procured where required.
- Working groups have been formed to address key focus areas including the Powerhouse/ Intakes, Spillway, and Productivity.