

**From:** Mike Harris  
**To:** [brucehallock@lowerchurchillproject.ca](mailto:brucehallock@lowerchurchillproject.ca); [lanceclarke@lowerchurchillproject.ca](mailto:lanceclarke@lowerchurchillproject.ca); [scottobrien@lowerchurchillproject.ca](mailto:scottobrien@lowerchurchillproject.ca); [edbush@lowerchurchillproject.ca](mailto:edbush@lowerchurchillproject.ca); [ronpower@lowerchurchillproject.ca](mailto:ronpower@lowerchurchillproject.ca)  
**Subject:** RE: Confidential  
**Date:** Thursday, March 5, 2015 3:16:13 PM  
**Attachments:** [...png](#)  
[Status Of ICS.docx](#)

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My comments attached.

Mike

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**From:** BruceHallock@lowerchurchillproject.ca [mailto:[BruceHallock@lowerchurchillproject.ca](mailto:BruceHallock@lowerchurchillproject.ca)]  
**Sent:** Thursday, March 05, 2015 12:21 PM  
**To:** LanceClarke@lowerchurchillproject.ca; ScottOBrien@lowerchurchillproject.ca; EdBush@lowerchurchillproject.ca; RonPower@lowerchurchillproject.ca  
**Subject:** Confidential

Attached as requested is a draft of a letter proposed for Astaldi re the ICS.

Your comments, edits etc are encouraged this a draft.

Bruce

**Bruce Hallock, PSP, CFCC**

**Disputes Avoidance Manager**

**PROJECT DELIVERY TEAM**

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5 March 2015

ASTALDI Canada Inc.  
 358 Hamilton River Road  
 Happy Valley-Goose Bay, NL  
 AOP 1C0 Canada

Attention: Giacomo Orsatti Project Manager

Subject: Agreement No.: CH0007- 001: Construction of Intake and Powerhouse, Spillway and Transition Dams – The Integrated Covered Structure

Dear Mr. Orsatti:

The Company would like to express its continued and increasing ~~deep displeasure and heightened~~ concerns with Contractor's Astaldi's lack of progress on the Project, with particular regard to the ~~especially with the~~ Integrated Covered System ("ICS") and Contractor's Astaldi's apparent inability, ~~or unwillingness,~~ to connect to the permanent construction power.

~~The ICS history is a long and increasingly frustrating one.~~ As presented in Contractor's Astaldi's tender, the ICS ~~it~~ was seen as a critical element of Contractor's your execution plan; and accordingly, one of the key reasons Company selected Contractor Astaldi to perform CH0007-001 scope of work. this work. The LNTP, dated September 24, 2013, directed Contractor Astaldi, amongst other tasks, to proceed with the immediate selection, contract approval, detailed design, and mobilization of the ICS subcontractor. The LNTP provided that Contractor Astaldi would be compensated for the performance of this initial but crucial work, including \$15,000,000 as part of the overall advance payment. Contractor utterly failed in this regard. ~~This did not take place.~~ On December 20, 2013 Contractor Astaldi finally awarded a subcontract to Constructions Proco, Inc. ("Proco"), for the ICS works, based on Proco's revised proposal dated December 19, 2013. The subcontract was supposed to would have an effective date of January 6, 2014 based on and a scheduled completion of the erection of the structure and installation of all cladding by September 30, 2014. This did not take place. Following award of the subcontract to Proco, it does not appear that Astaldi Contractor failed to manage-managed ~~the the~~ design, ~~work,~~ fabrication and of erection works and did not achieve the planned ICS completion date of with the intent of completing the work by the by the end of September.

By December 10, 2014 the ICS was still less than fifty percent complete and Contractor Astaldi could not provide any credible plan as to when ~~had no plan when~~ the ICS would be complete. It was clear that the ICS would not be available for use during the winter of 2014-2015, thus its

overall benefit to the project was and is in serious doubt. At the Powerhouse Execution Review Plan presentation on December 10, 2014, Astaldi Contractor proposed to halt any further work on the ICS over Units 3 and 4, keep only the structure of Units 1 and 2, and enclose the north end of the ICS with tarps so that work on the SSB and Units 1 and 2 could proceed. The overhead cranes, at least over the intake structure where access was difficult, were planned by Contractor to be commissioned in early January 2015. The tarps were installed however high winds over the Christmas period ripped them off. The Contractor failed to commission the cranes ~~were not commissioned~~ in early January and to-date they still have not been commissioned.

On February 11, 2015, Astaldi submitted a 120-day schedule which included work in the power house. On Saturday, February 14, 2015, and contrary to the 120-day schedule submitted just three days earlier, Contractor Astaldi had decided to halt all further work on the power house, transfer its resources to the spillway and transition dams, and attempt to complete while Astaldi completed the work on the ICS in order required to make it fully functional. To-date Astaldi Contractor has not provided Company with a clearly defined scope of work required to complete the ICS or a detailed schedule, with specific distinct milestones which can be monitored, for completing the ICS structure. Company is aware that there are issues with the bolted connections with missing bolts, the use of incorrect bolts, and a lack or torqueing records. At this stage and based on Contractor's continued lack of diligence and overall performance, Needless to say Company's has serious concerns that Contractor Astaldi may does not even know what is required to complete the ICS, how much it will the cost or how long it will take, notwithstanding a complete lack of risk and benefit analysis by Contractor. the time.

During the powerhouse execution review presentation in December, Contractor Astaldi planned on having the cranes at least over the intake structure operational. During the ICS working group meeting on February 19, 2015 Contractor Astaldi acknowledged there had been no contact with the crane vendor, Kone, to determine what would be required to commission the cranes, and even more importantly, could the cranes operate in an exposed and partially open environment considering as they were originally intended to operate within in a closed structure. environment. Contractor finally arranged for a Kone's representative to be was on site on February 26, 2015 to conduct and conducted a cursory review of the cranes. Company has not been provided with a report on the Kone TA's his findings. Furthermore it is Company's understanding that on a number of the cranes, if not all, However, Astaldi was made aware that Proco has ~~d~~ welded the crane rails clips the to the supporting I-Beams without the rails being aligned. This will make the process of aligning each crane even more difficult, and costly and time consuming. Company has We have still not been en advised whether the cranes can operate in an exposed environment or not?.

In order to complete the ICS and to energize the cranes, permanent construction power connections have to be installed. Company has not been provided with a plan by Contractor for Astaldi to complete the power installations, which and believes it could take six to eight weeks, before the cranes are operational.

In the absence of Contractor an Astaldi risk assessment, Company has prepared its own considering the following factors;

1. Completion of the ICS Structure
2. Installation of permanent construction power
3. Commissioning of the cranes
4. Crane operations including lifting and travel rates, multiple handling, waiting time, crane reliability and maintenance.
5. Powerhouse Work schedule
6. Future dismantling of the ICS
7. Current dismantling of the ICS

The preliminary risk assessment has identified items 1 and 2 as high risk with item 3 an extreme risk. Absent any of these three items the ICS becomes is totally dysfunctional.

Item 4 is also an extreme risk. All of these factors have a very direct influence on Contractor's future performance and are likely to prevent any improvement in Contractor's current poor and unacceptable productivity level of above 30%. Contractor's demonstrated lack of Astaldi's demonstrative problems with equipment management and maintenance provides additional concerns that any indicate crane breakdowns would all but cripple work in the ICS. Another serious contributory factor is whether Company is also very concerned Kone will not honor the crane warranties leaving Contractor and therefore with all repairs. will fall to Astaldi.

Item 5 is critical and has is considered a very extreme risk with a probability of occurrence of 95 to 100%. Astaldi Contractor has utterly failed to provide not provide Company with any form of schedule when work on the powerhouse will resume, when Andritz can commence installation of the turbine and generators, and when the powerhouse will be completed.

Item 6 is critically linked to item 5, however all current indications point towards Contractor are that Astaldi will be forced to will be forced to dismantle the ICS during the summer working season which will and thus result in an even have an even greater negative impact on access for Andritz and the powerhouse completion date.

Item 7 is the least risk option. It eliminates items 1, 2, 3 and 4. Even if the ICS is dismantle now, the lack of a working schedule (Item 5) is still a problem. With its focus on the powerhouse and not the ICS, and more qualified planners, Contractor should Astaldi may be able to develop a meaningful work plan and schedule. If Contractor Astaldi persists in completing the ICS then it is almost assured that the the ICS will eventually have to be dismantled at a time when it will have major and negative impact on productive work, the worst time and and combined with Items 1 thru 5, will it is all but guarantees guarantee the first power date will not be met.

Dismantling the ICS now is Contractor's Astaldi's least risk and cost option. It makes no very little sense to waste throw more money and time at trying to complete the ICS and make it operational, which can only result in with the probability that the operation of the ICS creating

~~will be an~~ even greater problems, and facilitating more and unwarranted costs costly in terms of ~~lost~~ loss of productivity and time.

There is only one ~~Company has come to but one~~ logical and project beneficial conclusion that Contractor can reach pursuant to the past, current and future circumstances pertaining to the ICS and that is Contractor that Astaldi needs to proceed to dismantle the ICS immediately and complete its removal with an aim to have it dismantled by the first week in May 2015. This will ~~to~~ allow construction to proceed unfettered.

Company is committed to continue in cooperating with Contractor, and to do all it reasonably can to resolve this matter and move on to the greater challenges and work that remains to be done.

Regards,  
Muskrat Falls Corporation

Scott O'Brien  
Muskrat Falls Generation Project Manager  
Company Representative