



LOWER CHURCHILL PROJECT – MUSKRAT FALLS

CH0007: CONSTRUCTION OF INTAKE AND POWER HOUSE, SPILLWAY AND TRANSITION DAMS

21-Nov-2016

ACI-MFC-0892

Muskrat Falls Corporation
350 Torbay Road, Suite 2
St. John's, NL Canada

Attention: Mr. Scott O'Brien, Company Representative

Agreement No.: Contract No. CH0007-001
Title: Construction of Intake Powerhouse, Spillway and Transition Dams
Subject: Schedule Critical Path
Reference: LTR-CH0007001-1509

Dear Mr. O' Brien:

Contractor acknowledges receipt of Company's letter LTR-CH0007001-1509 through Aconex on 31 October 2016, backdated to 18 October 2016 and imposing a deadline of 24 October 2016, prior to its receipt through Aconex. We have written before protesting Company's creation of a false and unilateral record and, regrettably, must reiterate that protest.

The full Project record, including correspondence, progress reports, meeting minutes and other data submissions to and from both parties, as referenced in this letter, tend to contradict many of Company's assertions.

As the full Project record bears out, Exhibit 9 – Interface and Milestone Schedule of the Agreement has been superseded by events out of Contractor's control, including, but not limited to, imposed constraints in the early months of the Project, misrepresented labour market conditions, site conditions including overbreak in the powerhouse and Spillway foundation, Company's ongoing struggle in coordinating and providing camp accommodation, site blockades as a result of Company negotiating positions with First Nations, insured occurrences such as the Draft Tube No. 2 formwork collapse, and multiple other issues that are documented in Company and Contractor generated change requests.

Contractor also notes, and the record bears out, that late ECN submissions (i.e., ECN 47 and ECN 52) have imposed a significant scope resequencing and affected critical items such as steel erection and installation of Turbine and Generator embedded parts.

Company's description of certain Exhibit 9 milestones has also been proven incorrect and non-constructible such as, for example, "Building enclosed" (M26, M34, M42 & M53) milestone dates which are earlier than "Intake structure complete" (M28, M36, M44 & M52) milestones dates and reflecting non-constructibility of mezzanines and completing of building. Company agreed with Contractor that the original milestone sequencing was unrealistic. Company and Contractor began to address this issue with a Schedule Development Initiative (SDI) in July 2015 (LTR-CH0007001-0646) but Company has failed to carry this work through into the Agreement.



The following schedule revisions were submitted to establish Contractor's project schedule to Company's satisfaction in the following meetings and workshop sessions (see Attachment for copies of relevant letters and transmittals):

Submission date	Correspondences	Major changes/actions
May 2015	LTR-CH0007001-0574	Presentation of contractor's forecast
Aug 2015	Updated XER and Naviswork model	Following July 2016 Workshop
Nov 2015	Schedule working files and assumptions	St John's, NL planners meeting
Jan 2016	St John's Jan 2016 Re-Baseline meeting (Advanced Baseline documents and draft)	Re-Baseline reflecting no concrete in Dec 2015, Jan & Feb 2016
May 2016	LTR-CH0007001-1234	DD 1 May 2016 Re-Baseline
02 Sep 2016	3D Model for Sep workshop	Implemented some pour combinations and other actions resulted from 9 Aug 2016 workshop
07 Sep 2016	Civil workshop #2 (6 Sep 2016)	Schedule and documents presented by Astaldi during 6 Sep 2016 workshop
06 Oct 2016	DD 25 Sep 2016 draft schedule	Implemented actions from 27-28 Sep 2016 workshop
19 Oct 2016	TCP revised schedule	Optimized Winter protection durations in the schedule
31 Oct 2016 & 1 Nov 2016	Astaldi Canada - Post Blockade - BA (Nov 2016 to Apr 2017 forecast)	Preliminary updates post blockade impacted schedule. No adjustments to Blockade on final completion dates for milestones

During the 8 November 2016 Progress Meeting, Company stated that they had no further comments concerning the CH0007 schedule.

During the first week of November 2016, Contractor presented its revised schedule to Company's senior management in St John's, NL. Company's senior management expressed their satisfaction and concurrence with the content of Contractor's schedule as presented.

In the face of this Project record, Company's backdated letter LTR-CH0007001-1509 cannot be reconciled with a good faith effort on Company's part to work with Contractor for the good of the Project. It is unfair and unreasonable for Company to continue to demand compliance with an Interface and Milestone Schedule that has been revised by numerous schedule submissions and an executed 27 July 2016 Bridge Agreement which adopts the activities, logic and durations shown on the May 2016 Control Schedule Baseline Document (CSBD).

Contractor is working diligently to ensure it is meeting the requirements of the Agreement as they relate to scheduling, planning and the performance of the Work. In Contractor's respectful view, it is essential for the good and welfare of this important Project that Company take a less adversarial, and more cooperative, open and collaborative approach to the completion of CH0007.

In that spirit, and in the sincere hope that this spirit will be reciprocated, Contractor responds as follows to the key items addressed in the subject letter, adopting Company's headings.



Project Integrated Schedules

Company and Contractor should be working together with all critical high level project scheduling integration information. At present, despite repeated Contractor requests, Company has refused to share this information, to the detriment of the Project.

Company's strategic non-disclosure of the overall integrated Project schedule has been unsuccessful to date. Depending on the mobilization date for the Turbine and Generator contractor, for example, the steel structure for Unit 1 could be delayed and not affect the concrete pour sequence for Unit 1 Intake as well as Unit 2. This example illustrates how a CH00007 scope item, in this case steel structure for Unit 1, can be on the critical path of Contractor's schedule (Milestones M22 & M26) but not on the critical path of the integrated schedule if late mobilization was to be projected by Company.

In order to move forward with Company on a common footing, it is necessary to correct the Company's following statements:

- Company states that “[d]ue to Contractor's delays, and continuing slippage to Contractor milestone dates, Company has been left with no choice but to make a number of broad assumptions in preparing the Integrated Project Schedule to reflect the project status”. In fact, Contractor's late dates associated with the May 2016 Control Schedule Baseline Document (CSBD) were stable and achievable until the insured Draft Tube incident occurred. Contractor's commitment to the late dates has always been clear. Contractor requests Company to share the assumptions they refer to in their previous statement.
- Company states that Draft Tube Unit 1 concrete sequence “...should be similar for all units...”. In fact, the Draft Tube/Powerhouse sequence of work for each unit will depend on clashes with adjacent pours/units. In a continuous recovery and mitigation process, Contractor adjusts its sequence of work to achieve the best possible progress for each unit.
- Company states that “...Company is unable to provide any further information on this subject from Andritz without first providing Andritz with Contractor's up-dated schedule, which Contractor has failed to produce to-date...”. In fact, Contractor has consistently shared its planned execution strategy, schedule and plan with Company during all schedule workshops without receiving any information regarding Company's Other Contractors' schedules in return. This information is necessary to coordinate productivity, optimization of work efforts and planned interfacing with Company's Other Contractors for the benefit of the Project.
- Company states that “...Until Contractor produces a reliable schedule it is meaningless to go to Company's Other Contractors and solicit a construction plan...” and “...failure to prepare an accurate plan and then managing the work to achieve the plan...”. In fact, since the establishment of a Schedule Development Initiative (SDI) in the spring of 2015 and further since last spring 2016, when both parties began meeting with a focus to negotiate a commercially reasonable resolution to forecasted schedule and cost overruns, Contractor has continued to perform the balance of the Work in accordance



with all relevant schedules, subject only to imposed conditions and events. The early dates in the managed May 2016 CSBD are not defined by any imposed constraints and are used by Contractor only as a live representation of the work progress. Between the early and the late curves, Contractor had introduced the most probable curve (average) as a target in May 2015. It is to be noted that, prior to the Draft Tube incident impact, Contractor’s performance was consistently between the early and the most probable curves. For instance, from 1 Jan 2016 to 31 May 2016 Contractor exceeded the previous Jan 2016 Re-Baseline most probable forecast by 3669 m3.

In Contactor’s respectful view, issues involving Contractor’s Critical Path and Company’s Project Critical Path could be mitigated significantly if detailed scheduling data was freely shared by Company. Company’s current strategy of playing one Contractor against another is not working. We need to work together to effectively execute the Project and collectively deal with challenges.

September 27 and 28, 2016 Workshop

Contractor disagrees with Company’s statement regarding intake structure logic. Company has misinterpreted Contractor’s comment about the existing logic and durations. During the August 2016 scheduling workshop, Company acknowledged the Engineer’s acceptance of certain pour combinations in the different intake structures suggested by Company, and Contractor agreed to adjust the pours cycles and durations to reflect these new combinations.

Contractor has met the cycle targets.

Pour	Aug 2016 Monthly Report Planned date	Actual dates
I1U1B/USB/UNB-03	Oct 17-2016	Oct 15-2016
I1U1B/USB/UNB-04	Nov 16-2016	Nov 7-2016

Events Outside of Contractor’s Control and Draft Tube No. 2 Failure

Company’s resort to adversarial rhetoric is noted, however Company is aware that a third party review of the root causes of Draft Tube No. 2 failure is pending, and will be shared with Company as soon as it is received. Meanwhile, as requested by Company, Contractor is participating openly and in good faith with Company in a joint claim upon applicable project insurance.

Early Work and First Power

The contemporary record establishes beyond reasonable objection that Company delivered Contractor a site that was far from ready for Contractor’s mobilization, putting the unrealistic Generator pit free, and other milestones dates in the Exhibit 9 - Interface and Milestone Schedule out of reach for Contractor, or any company in Contractor’s position.

Since then, as referenced above, numerous imposed events have rendered the Exhibit 9 schedule unrealistic in any event.



Concrete Pours and the Bridge Agreement

As Company was aware when it issued its letter, Contractor's objective was to complete the bottom lifts of the South and Center Transition dam structures in order to cover the rock before winter and avoid having to heat the rock during winter or early spring as a cost-saving measure. The achievement of 315% of the planned quantities for those two structures combined made up a total of 923 m³ of concrete only.

Regarding the Powerhouse work, Contractor presented a detailed analysis of CH0007 critical path to Company's project control and management personnel during 27-28 Sep 2016 workshop. The presentation was also sent via LTR-CH0007001-1476. During this workshop, Contractor demonstrated its plan adherence with the critical path and its continuous work on the critical items. Company voiced no objection with Contractor's plan and allowed it to proceed.

Accommodation

There is an extensive contemporary record on this issue, which appears not to have been fully considered by Company in its letter leading up to Contractor's Camp Accommodation Notice of Default, which was resolved up the basis of Company's commitments in the Bridge Agreement. Contractor is to be made whole in that regard inclusive of any impact on schedule. There have been further camp accommodation issues since the Bridge Agreement, including having more than 115 of Contractor staff personnel in town, and more than 130 craft on Living out Allowance (LOA), which is illustrative of the extent and impact of Company's failure to respect its contractual obligations under Exhibit 12.

Schedule Concerns

Contractor disagrees with the highly argumentative window delay analysis proffered by Company in "Schedule Concerns" section of LTR-CH0007001-1509. Company is blind to its own responsibility for Project delays, each of which must be considered and examined in detail. Company seems more focused on building a case, however artificially, rather than in pursuing a collaborative completion strategy. Ever since Company and Contractor began meeting in mid-2015 with a focus on a reasonable and practically achievable schedule forecast, Contractor has shared its forecasted early and late milestones dates and its commitment to the late dates.

Presented below are three separate time windows reflecting Contractor's late date variation for each milestone (excluding rollways). The table is filtered to show only the milestones with variation (from the total milestones in Exhibit 9):

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	May 2015 (DD 26-Apr-2015)	Jan Re-BL (DD 29-Nov-2015)	Variance (May-2015 to Jan-2016)	Comments	May Re-BL (DD 1-May-2016)	Variance (Jan-2016 to May-2016)	Comments	Sep 2016 MR (DD 25-Sep-2016)	Variance (May-2016 to Oct-2016)	Comments
Milestone	Late	Late			Late			Late		
M18	30-Dec-16	10-Feb-17	42	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	21-Mar-17	39	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work	21-Mar-17	0	
M22	15-Jul-17	28-Jun-17	-17	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	28-Jun-17	0		28-Jun-17	0	
M23	17-Oct-17	26-Sep-17	-21	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	26-Sep-17	0		26-Sep-17	0	
M24	27-Jul-18	28-Aug-18	32	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	28-Aug-18	0		17-Oct-18	50	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M26	3-Jun-17	16-Jun-17	13	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	28-Jun-17	12	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work	28-Jun-17	0	
M28D	10-May-18	9-Jun-18	30	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	11-Jul-18	32	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work	11-Jul-18	0	
M30	30-Sep-17	22-Aug-17	-39	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	22-Aug-17	0		21-Oct-17	60	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M31	25-Nov-17	4-Nov-17	-21	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	4-Nov-17	0		4-Dec-17	30	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M32	11-Sep-18	11-Oct-18	30	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	18-Oct-18	7		17-Nov-18	30	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M34	17-Jul-17	5-Aug-17	19	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	22-Aug-17	17	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work	21-Oct-17	60	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M36D	26-Apr-18	21-Aug-18	117	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	21-Aug-18	0		21-Aug-18	0	
M38	10-Nov-17	7-Oct-17	-34	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	7-Oct-17	0		6-Dec-17	50	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)

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May 2015 (DD 26-Apr-2015)		Jan Re-Bl (DD 29-Nov-2015)		Variance (May-2015 to Jan-2016)	Comments	May Re-Bl (DD 1-May-2016)	Variance (Jan-2016 to May-2016)	Comments	Sep 2016 MR (DD 25-Sep-2016)	Variance (May-2016 to Oct-2016)	Comments
Milestone	Late	Late				Late			Late		
M39	5-Jan-18	25-Dec-17	-11	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	25-Dec-17	0			13-Feb-18	50	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M40	31-Oct-18	20-Nov-18	20	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	20-Nov-18	0			25-Jan-19	66	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M42	2-Oct-17	7-Oct-17	5	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	7-Oct-17	0			3-Dec-17	57	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M44D	30-May-18	21-Sep-18	114	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	21-Sep-18	0			21-Sep-18	0	
M46	10-Dec-17	1-Dec-17	-9	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	1-Dec-17	0			20-Jan-18	50	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M47	12-Feb-18	22-Apr-18	69	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	28-Feb-18	-53	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work		19-Apr-18	50	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M48	15-Dec-18	20-Dec-18	5	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	20-Dec-18	0			18-Feb-19	60	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M50	15-Dec-17	1-Dec-17	-14	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	1-Dec-17	0			31-Dec-17	30	Late date revised to reflect ECN's (47,52,...) Draft tube impact, Company's imposed engineering requirements, non-availability of manpower in the Province, blockade (not included)
M52D	28-Nov-18	4-Oct-18	-55	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	4-Oct-18	0			4-Oct-18	0	
M53	15-Jan-18	23-Feb-18	39	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	23-Apr-18	59	Late date revised during May 2016 Baseline Process/reflecting remobilization effect after reduced winter work		31-Jan-18	-82	
M54	1-Aug-18	3-Apr-18	-120	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	3-Apr-18	0			30-Apr-18	27	
M55	1-Nov-17	25-Nov-17	24	Revised during 2015 workshop sessions and during Jan 2016 Baseline Process reflecting no concrete work during Dec /Jan & Feb 2016 - LTR 0919/ Including Blockade of summer 2015	25-Nov-17	0			25-Nov-17	0	



Further, the production figures below show contractor’s concrete production being closer to the early concrete production curve than the late curve. Contractor’s concrete production from May 2015 to Nov 2015 is compared to the May 2015 schedule update below:

	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
May 2015 Schedule - Early	12403	22062	21337	23249	19703	13865	4220
May 2015 Schedule - Most Probable	11659	19152	17837	20317	17858	13822	4636
May 2015 Schedule - Late	10914	16243	14337	17386	16013	13778	5053
Actual	13679	20401	26394	15352	13693	10475	6784
Actual Vs Most Probable	2021	1249	8557	-4965 ¹	-4165	-3347	2148
Actual Vs May 2015 Schedule Plan	1497	m3 over the most probable					

Note: 1. Blockade 2015

And in the following table, concrete production from Dec 2015 to May 2016 is measured against the Jan 2016 baseline presented to Company in St John’s, NL:

	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16
Jan 2016 Re-BL - Early	539	0	0	11305	12364	21087
Jan 2016 Re-BL - Most Probable	539	0	0	5922	7064	13310
Jan 2016 Re-BL - Late	539	0	0	538	1763	5532
Actual	560	0	0	5136	9160	15667
Actual Vs Most Probable	21	0	0	-785	2097	2358
Actual Vs Jan Re-BL (on May 31st)	3690	m3 over the most probable				

Contractor provides the following additional comments:

- Contractor is actively pursuing an ongoing recovery plan as demonstrated by contemporary records and ongoing progress meetings where issues are tabled, discussed and actioned.
- There are no logic errors in the schedule submitted on 8 Nov 2016 unless such comments relate to missing data from Company’s Other Contractors which Contractor is unable to confirm.
- Company’s allegation of Contractor constraints is unfounded. Company is misinformed by its experts and would benefit from a more open and candid dialogue between them and Contractor to avoid such misapprehensions.
- Company’s direction to allow the schedule to reflect negative float to the Exhibit 9 – Interface and Milestone Schedule dates is highly artificial and unreasonable as this schedule fails to account in any way for a wide number of imposed delays, design changes and invalid initial assumptions as to sequence of constructability, all clearly beyond Contractor’s control.
- Contractor is currently providing the monthly schedule narratives as required in Section 3.2.3 of Exhibit 3 to the Agreement, and committed with Company’s personnel to incorporate necessary enhancements in future submittals.



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HOUSE, SPILLWAY AND TRANSITION DAMS

Contractor formally requests that Company share the Project Integrated Schedule with Contractor as soon as possible and to give serious consideration to a formal rebaseline of the Project on the basis of a candid, cooperative and collaborative approach among all parties necessary to Project completion.

Given the significant interface requirements between Contractor and Company's other contractor, Andritz, an open and transparent scheduling workshop with the three parties (and perhaps others) would go a long way in ensuring the construction of the Powerhouse can progress as expeditiously as possible at the least cost.

Sincerely,
Astaldi Canada Inc.

A handwritten signature in blue ink, appearing to read "Don", is written over a horizontal line.

Don Delarosbil
Project Manager
Lower Churchill Project – Muskrat Falls

DD/cmd

cc: MFC – Mr. Mike Harris, Mr. Mel Melhem, Ms. Vivian Wang
Astaldi – Mr. Georges Bader, Mr. Robert Gregoire, Mr. James Walsh, File

Attachments: Letters and transmittals (12 pages)



LOWER CHURCHILL PROJECT - MUSKRAT FALLS

CH0007: CONSTRUCTION OF INTAKE AND POWER
HOUSE, SPILLWAY AND TRANSITION DAMS

Muskrat Falls Corporation
350 Torbay Road, Suite 2
St. John's, NL Canada

21-May-2015

ACI / MFC – 0288

Attention: Mr. Scott O'Brien
Company Representative

Subject: LCP Muskrat Falls Contract No. CH0007
Construction of Intake Powerhouse, Spillway and Transition Dams
Native Format Primavera Schedules

Dear Mr. O'Brien:

As agreed we send you copies of the native format Primavera schedules that were summarized in yesterday's presentation.

As already stated yesterday, the purpose of sharing this schedule with you is to facilitate the CEO to CEO meeting for a prompt solution of the issues and to work together on the development of the optimizations of the interfaces with other contractors on site as well as to evaluate other scheduling optimizations together.

As agreed any alteration to the files will be done in conjunction with Astladi.

We wish you to acknowledge that these native format files are open to further development and revision based on the working group outcome and that the final version will be completed by Astaldi following the CEO to CEO meeting.

Regards,



Giacomo Orsatti

CEO

Astaldi Canada Inc.

Lower Churchill Project – Muskrat Falls

The pen drive delivered at Goose Bay office to Ron Power contains ~~two~~ files:

Draft schedule early scenario

Draft schedule late scenario

PDF file presentation of 19-May-2015

Cc: Nalcor – Mr. Ron Power

Subject:**From:** Georges Bader**Sent:** Wednesday, August 05, 2015 6:41 PM**To:** TonyScott@lowerchurchillproject.ca; AndrewWhitty@lowerchurchillproject.ca**Cc:** Costa Fabio <F.Costa@Astaldi.com>**Subject:** Updated XER and Naviswork model

Tony/Andrew,

Sorry for the delay! I have just sent you through dropbox the updated schedule with the data date pushed and the naviswork model.

Some adjustments need to be done as usual for the resources,... but we will put some efforts on it tomorrow. I did not want delay your evaluation process.

<https://www.dropbox.com/sh/vj68e7crlh7w0tk/AADkMZUaa0HXq6WhxGmE7Cwca?dl=0>

Thanks

Georges Bader**Deputy Project Manager, Eng., M.Eng.**

Lower Churchill Project

Muskrat Falls Generation Civil Works



69 Elizabeth Ave, #202-205 St. John's, Newfoundland A1A 1W8

Cell +1 (709) 899-2743 or +1 (514)-717-1670

E-Mail: g.bader@astaldi.com***Please don't print this e-mail or attachments unless necessary.******Disclaimer: this email and any file transmitted with it are confidential and may be privileged. If you have received it in error, do not copy or disclose its contents, please notify us immediately and delete it.***

To:
Subject:

From: Georges Bader
Sent: Saturday, November 07, 2015 7:37 AM
To: TonyScott@lowerchurchillproject.ca
Cc: Tahir Rana <t.rana@Astaldi.com>; Ali Montaser <a.montaser@Astaldi.com>; Moez Ben Ayed <M.Benayed@Astaldi.com>; Rocci Riccardo <R.rocci@Astaldi.com>
Subject: Schedule working files and assumptions

Hello Tony,

As discussed today, kindly find attached the data you have asked for:

- P6 file
- Basis of planning
- Comparison btw LCP dates
- Concrete forecast curves and concrete count

Feel free to call me any time on 514-717-1670 for any clarifications

Thank you

Georges Bader

Deputy Project Manager, Eng., M.Eng.

Lower Churchill Project
Muskrat Falls Generation Civil Works



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To:
Subject:

From: Georges Bader
Sent: Monday, January 11, 2016 11:19 AM
To: TonyScott@lowerchurchillproject.ca; AndrewWhitty@lowerchurchillproject.ca
Cc: ScottOBrien@lowerchurchillproject.ca; Donald Delarosbil <D.Delarosbil@Astaldi.com>; Rocci Riccardo <R.rocci@Astaldi.com>
Subject: Advanced Baseline docs and Draft

Good day Gentlemen,

Kindly find attached the XER file and advanced draft of the control schedule baseline document summarizing all the assumptions .

Not really much has changed from the previous submittals just an updated version with the progress.

The Naviswork will be shared in a few minutes via dropbox.

Please let me know if there is any problem related to this.

Thank you

Georges Bader

Deputy Project Manager, Eng., M.Eng.

Lower Churchill Project
Muskrat Falls Generation Civil Works



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Muskrat Falls Corporation

Corporate Office
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P. O. Box 15000, Stn. A
St. John's, NL Canada A1B 0M4

Lower Churchill Project Operations Office
350 Torbay Road, Suite 2
St. John's, NL Canada A1A 4E1

17 June 2016

ASTALDI Canada Inc.

358 Hamilton River Road
Happy Valley-Goose Bay, NL
A0P 1C0 Canada

Attention: Don Delarosbil, Project Manager

Agreement: CH0007-001 Construction of Intake and Powerhouse, Spillway and Transition Dams

Subject: Control Schedule Baseline Document Update

Dear Mr. Delarosbil:

Company is writing to confirm its acceptance of the May 1, 2016, re-baseline Control Schedule update. Company's acceptance is solely an acknowledgement of Contractor's intent to perform the balance of the Work in accordance with the activities, logic and durations shown in the Control Schedule update. Likewise, Company's acceptance of the Control Schedule Update does not extend to Contractor's labour hours and manpower forecasts. These forecasts are the subject of continuing discussions regarding the assumptions supporting Contractor's revised forecast cost at completion. Company further acknowledges that the calculated schedule dates are "early" dates. Contractor has also defined other dates which it defines as "most probable" and "guaranteed." At all times Contractor is to focus its efforts on achieving the "early" dates, and to continuously work to improve the scheduled dates to recover past delays and avoid current delays. To this end, and as Contractor is aware, there remain a number of optimization opportunities within Contractor's Control Schedule which have been identified by Company, and which the parties have agreed to review in upcoming schedule optimization workshops..

To avoid any misunderstanding, the Milestone Dates set forth in the Control Schedule Update are the schedule calculated dates and only a forecast of the dates the Milestone can be achieved. Referring to Company's letter of March 3, 2016 (Aconex LTR-CH0007001-1029), the Milestone Dates in the Control Schedule update do not replace or amend the contractual dates for completion of the Milestones as set out in Exhibit 9. Milestone Dates can only be changed by Change Order. Therefore, liquidated damages for failure to achieve a Milestone remain to be assessed in accordance with the terms and conditions set forth in Exhibit Nos. 2 and 9, except to the extent any of those dates have been, or may be, modified by Change Order.

If you have any questions please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott O'Brien', with a stylized flourish extending to the right.

Scott O'Brien
Company Representative
Muskrat Falls Corporation

From:
Sent:
To: AndrewWhitty@lowerchurchillproject.ca
Cc:
Subject:

Hi,
Please find below link to download the Xer file and last updated 3D model (minor changes since from last night version) to be used in the next schedule workshop.

<https://www.dropbox.com/home/Sep%20workshop%203D>

We are currently working on optimizing the Turbine and Generator milestones based on minimum requirements. The result will be presented and discussed during the next workshop.

Best regards,
Moez

From: Ben Ayed Moez
Sent: September-01-16 8:09 PM
To: 'MikeCollins@lowerchurchillproject.ca' <MikeCollins@lowerchurchillproject.ca>
Cc: 'Timothy' <TimothyRossy@lowerchurchillproject.ca>; Bader Georges <G.bader@astaldi.com>; Mazzucco Giuseppe <G.Mazzucco@astaldi.com>; Pittman Todd <t.pittman@astaldi.com>; Planning Muskrat Falls <mfplanning@Astaldi.com>
Subject: 3D Model for Sep workshop

Good evening,

Mike, Tim, Below, you can find the link to download the workshop 3D model:

<https://www.dropbox.com/home/Sep%20workshop%203D>

Georges, Giuseppe, Todd, here is the link to download it from our server:

S:\4 Contract Execution\02 Engineering\Dropboxes\120D Updated Model\Preleminary Aug update 3D model

All please note that the model is at 95% as I am still reviewing few items. I'll let you know Tuesday if there are any changes.

Regards,

Moez Ben Ayed, P.Eng.
Lead Planner
M.benayed@astaldi.com
709 899 6122

From:
Sent:
To: 'MikeCollins@lowerchurchillproject.ca'
Cc:

Subject:
Attachments:

Mike,

Please find attached the native files we presented yesterday. The attached files contains the changes and assumptions we shared with you yesterday and, in the meantime, Astaldi will start working on the next schedule and reflecting the few additional modification we agreed. Regarding the changes made so far (listed in the attached word document), please let us know during the next workshop session should you have any different opinion. Here attached the actions list we came up with. Feel free the add any item we could have missed and share it with us prior to the next meeting (if it requires an action from Astaldi).

Here is the link to download the 3D model: <https://www.dropbox.com/home/Sep%20workshop%203D/Run%207%20-%20Workshop%203D%20Model>

We appreciate and believe in the outcome of these meetings and we look forward to our next session (potentially on Sep 15th date, time and location to be confirmed by Nalcor).

Best regards,

Moez Ben Ayed, P.Eng.

Lead Planner

C: (709) 899-6122



Lower Churchill Project

358 Hamilton River Road, Happy Valley Goose Bay, NL, CANADA A0P 1C0

E-Mail: M.benayed@astaldi.com

From:

Sent:

To:

Cc:

Subject:

Attachments:

Good evening,

Please find attached files with DD Sep 25.

I have also attached a little narrative that lists the changes I did from the last workshop.

An updated 3D model can be found here: <https://www.dropbox.com/home/DD%20Sep%2025>

Regards,

Moez Ben Ayed, P.Eng.

Schedule and Planning Manager

C: (709) 899-6122



Lower Churchill Project

358 Hamilton River Road, Happy Valley Goose Bay, NL, CANADA A0P 1C0

E-Mail: M.benayed@astaldi.com

From:
Sent:
To: 'MikeCollins@lowerchurchillproject.ca'
Cc:
Subject:
Attachments:

Mike,

Please find the attached presentation listing the main assumptions used to revise the schedule.
Here is link to download the schedule files and 3D model: <https://www.dropbox.com/home/DD%20Sep%2025>

Regards,

Moez Ben Ayed, P.Eng.

Schedule and Planning Manager

C: (709) 899-6122



Lower Churchill Project
358 Hamilton River Road, Happy Valley Goose Bay, NL, CANADA A0P 1C0
E-Mail: M.benayed@astaldi.com

From:
Sent:
To: 'MikeCollins@lowerchurchillproject.ca'
Cc:
Subject:
Attachments:

Good evening Mike,

Please find attached P6 files. Please note that the protest impact analysis is still under development.
Here is the link the updated 3D model: <https://www.dropbox.com/home/DD%20Sep%2025/Post%20Blockade%20-%20DD%20Oct%2023>

Regards,

Moez Ben Ayed, P.Eng.
Schedule and Planning Manager
M.benayed@astaldi.com
709 899 6122

From: Ben Ayed Moez
Sent: October-31-16 11:23 AM
To: 'MikeCollins@lowerchurchillproject.ca' <MikeCollins@lowerchurchillproject.ca>
Cc: Bader Georges <G.bader@astaldi.com>; Delarosbil Donald <D.Delarosbil@Astaldi.com>; Planning Muskrat Falls <mfplanning@Astaldi.com>; TonyScott <TonyScott@lowerchurchillproject.ca>
Subject: Astaldi Canada Post Blockade BA (Nov 2016 to Apr 2017 forecast)

Mike,

We have adjusted the attached concrete forecast from Nov 2016 to April 2017 reflecting a preliminary blockade impact. Assumptions are listed in the attached file.

The full impact analysis on the overall schedule is still under development. However, I ll send you shortly a preliminary P6 Xer file and a 3D model.

Regards,

Moez Ben Ayed, P.Eng.
Schedule and Planning Manager
C: (709) 899-6122



Lower Churchill Project

358 Hamilton River Road, Happy Valley Goose Bay, NL, CANADA A0P 1C0

E-Mail: M.benayed@astaldi.com