

Project Change Notice

PCN-0787 CH0032-001 Amending Agreement 1

Section 1: Request for Proposed Change

<p>CM X-Ref. DAN-2989, DAN-1645, PCN-0545</p>	<p>Date Originated 28 Nov 2017</p> <p>Originator Stephanie Stewart</p> <p>Package Leader / Engineer Bruce Drover</p> <p>Area Manager Paul Adams</p> <p>Scope / Project Manager Scott O'Brien</p> <p>Current Status Under Review</p> <p>Revision 0</p> <p>TL 267 Project <input type="checkbox"/></p> <p>TTO <input type="checkbox"/></p>
<p>Origin</p> <p><input checked="" type="checkbox"/> Internal PMT <input checked="" type="checkbox"/> Contractor/Supplier</p> <p><input type="checkbox"/> Other Nalcor <input checked="" type="checkbox"/> Construction Site Event</p> <p><input type="checkbox"/> SNC-Lavalin <input type="checkbox"/> Other External <input type="text"/></p>	

Agreement No.	Description
CH0032-001	Supply and Install Powerhouse & Spillway Hydro-Mechanical Equipment

Description

This PCN is for documentation of Amending Agreement No. 1 to Contract CH0032-001 as well as allocation of the required budget from MF Contingency. The Amending Agreement settles the claims for acceleration of the Spillway work (Change Order 10), extension of time (CHR-2045 / CHR-CH0032001-0109) and site conditions (CHR-2046 / CHR-CH0032001-0114). The total settlement value is \$58M + \$2M bonus.

Please reference the PCN attachments for further background and details related to the CH0032-001 Amending Agreement 1.

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Rationale

Completion of the Hydro-mechanical scope in the Powerhouse according to project milestones is critical to achievement of First Power and the overall project schedule. Due to the dispute and legal action by the CH0032-001 Contractor associated with the acceleration of the Spillway work (Change Order 10), the Contractor was refusing to move forward with the Powerhouse installation work without agreement on associated costs for extension of time and site conditions (Change Requests CHR-2045 and CHR-2046).

Exhibit 9 revised 24-Apr-2017 required the CH0032-001 Contractor to recommence work by 1-Aug-2017. Internally, LCP established 31-Oct-2017 as the latest date to resume work without impacting overall schedule.

The CH0032-001 Contractor's total claim for the above three items was \$120M. Termination of the CH0032-001 Contractor and completion of the work by others was estimated to cost significantly more than the Contractor's total claim.

Company and Contractor continued to develop positions with input from meetings, audits, third party consultant reports that were not converging towards an agreement. The 1-Aug-2017 interface date passed without agreement between the parties. Mediation was sought as a means to reach a reasonable financial settlement before the Project critical path was impacted.

Benefits

The CH0032-001 Amending Agreement 1 settles outstanding claims which allows the Powerhouse hydro-mechanical installation work to proceed benefitting schedule, cost and quality.

Failure to reach an agreement would have resulted in an interruption of the work and later acceleration of the work in order to maintain the schedule. Continuation of the work has mitigated this risk.

The total cost of the settlement is one half of the total sought by the CH0032-001 Contractor. Settlement of CHO 10 out of court eliminates the legal costs and uncertain outcome as well as impact on other changes.

Timely settlement with the current Contractor reduces risk to quality. Additional delay to the start of work in the Powerhouse would require acceleration to achieve the end dates. Depending on the extent of acceleration, quality could have been impacted. Reassignment of all or part of the scope to another Contractor would increase risk because the Contractor would be less familiar with the specific design and already established installation methods.

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Section 2: Impact of the Proposed Change to Project

Categorization

- Scope Addition/Deletion
- Scope Modification
- Non-Scope Change

Affected Project Component

- Muskrat Falls Generation
- Labrador Transmission Assets
- Labrador - Island Tx Link
- Maritime Link
- Nalcor PM
- Other

6.0

Cost Control Account Summary

Cost Control Account	Description	Estimated Cost
5.3.523.2420.1030.15.03	MF Gates	\$13,020,000
5.3.990.0000.0699.99.02	MF Project Contingency	(\$13,020,000)
Total Estimated Cost		\$0

Direct and Indirect Impact by Change Analysis Team

Basis of Design

Construction

Completion of the hydro-mechanical scope in the Powerhouse according to project milestones is critical to achievement of first power and the overall project schedule. The amended agreement with the CH0032-001 Contractor has resolved outstanding claims with the Contractor and will facilitate completion of their scope of work related to hydro-mechanical installation.

Contracts/Procurement

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The new amended agreement with Andritz Hydro for the CH0032-001 Contract addresses all previous outstanding commercial issues with the Contractor. The Contract requisition will be revised to reflect the new Amended Agreement.

Attachment 01 is a summary of the situation, the events that occurred and a summary of the overall settlement.

A copy of CHO-CH0032001-0010 is contained in Attachment 02. Attachment 03 is a presentation given by Andritz Hydro in May 2017 stating their position with regards to the Change Order.

Copies of CHR-2045 (CHR-CH0032001-0109) and CHR-2046 (CHR-CH0032001-0114) are contained in Attachments 04 and 05.

The CH0032-001 Contractors mediation brief is included in Attachment 06 and LCMCs is included in Attachment 07.

Attachment 08 is the Site Conditions Agreement signed by Andritz Hydro, Canmec and CRT.

Attachment 09 contains LCMCs assessment of the value of the individual claims related to CHR-2045 and CHR-2046. It includes the minimum assessed value, the maximum assessed value, LCMCs starting offer and the Contractor's asking offer.

Attachment 10 is the CH0032-001 Contractor's Statement of Claim related to CHO-CH0032001-0010. Attachment 11 is LCMCs statement of defence.

Attachment 12 is the finalized Amending Agreement.

*Attachment 14 contains a copy of the mediation mandate and settlement update to the CEO.
30-Nov-2017*

Attachment 13 contains a delay summary of CH0032-001 completed by LCP.

G.L.

<input checked="" type="checkbox"/> Cost Control	Reviewed By <i>Jill Hawkins</i>	Date Reviewed: <i>29-Nov-2017</i>
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As noted, the total value of the settlement is \$60M (including a \$2M potential bonus payment); the payment structure for these changes is outlined in the attached Amending Agreement (Attachment 12). The existing package budget (as per AFE Rev. 5 set in June 2017) includes funds for this settlement - \$46.98M. The remaining required funds will drawn from MF Contingency - \$13.02M.

<input type="checkbox"/> Design Philosophy

<input type="checkbox"/> Environment and Regulatory Comp.
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<input checked="" type="checkbox"/> Execution Approach

A revised Execution Plan will be submitted by Andritz. As per the Amending Agreement, a portion of the settlement will be paid upon submission and approval of the revised Execution Plan.

<input checked="" type="checkbox"/> Health & Safety
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A revised Safety Plan will be submitted by Andritz to align with the revised Execution Plan. As per the Amending Agreement, a portion of the settlement will be paid upon submission and approval of the revised Safety Plan.

<input type="checkbox"/> Operations/Reliability
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<input type="checkbox"/> Property and Lands
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<input checked="" type="checkbox"/> Quality
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Timely settlement with the current Contractor reduces risk to negative impacts on quality. Additional delay to the start of work in the Powerhouse would require acceleration to achieve the end dates. Depending on the extent of acceleration, quality could be impacted. Reassignment of all or part of the scope to another contractor increases risk because the contractor would be less familiar with the specific design and already established installation methods.

Reputation

Schedule Reviewed By *[Signature]* Date Reviewed: 29 NOV 17

Delays to completion of the Muskrat Falls Spillway, Intake and Draft Tube structures by Civil (CH0007-001) Contractor resulted in delays to the schedule (Exhibit 9) interfaces in the Hydro-Mechanical (CH0032-001) Contract. The interface date for start of hydro-mechanical work in the Powerhouse was 1-Aug-2017 (Reference Attachment 01). Internally, LCP assessed that failure to start before 31-Oct-2017 could impact the project critical path.

The Amending Agreement includes updates to Exhibit 9 Interface and Milestone Schedule that acknowledges a later start in the Powerhouse and achieves end dates that do not materially impact the overall schedule or result in costly acceleration. The settlement includes an additional \$2M bonus to achieve the full scope of M23 on 15-May-2019 instead of 21-Jun-2019. This bonus is a true incentive to cooperate and meet the date as Contractor waives its claim to this bonus if the date is not met for any reason whatsoever.

Other

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Section 3: Risk Screening

N/A:

Comments

Failure to resolve outstanding commercial issues with the CH0032-001 Contractor would have almost certainly resulted in major impact to the overall project schedule and failure to achieve the First Power Milestone Date. The costs associated with this are estimated to be greater than \$100M due to extension of overall construction, loss of revenue, resolution of Contractor disputes, etc.

Agreeing to a settlement of \$58M + \$2M bonus greatly reduces the risk of impacting the overall project schedule at a much lower cost. The potential range of the settlement of the change requests and claim associated with this Amending Agreement was identified in the QRA completed in Q2 2017. The agreed settlement is at the top of the range identified within the current budget.

This risk is described as LCPR061 - CH0032 Extension of Time (Andritz Align plan w/ Astaldi & potential commercial impacts & ability to achieve the install program) in the LCP Strategic Risk Register. The risk impacts and mitigations will be updated to reflect this agreement and the reduction of risk.

[Signature] 29-Nov-2017
Risk Coordinator Date

* Reference Project Risk Management Plan for risk screening guidelines.

	Risk Pre-Change	Proposed Change
Low	<input type="checkbox"/>	<input type="checkbox"/>
Medium	<input type="checkbox"/>	<input checked="" type="checkbox"/>

High	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Risk Pre-Change

CATEGORY					
Cost (\$Millions)	Schedule (Months)	Safety	Environ.	Quality	Reputation

Extreme	> 100	> 12	Single or multiple fatalities	Extensive Effect	System & safety requirements are not achieved	International media coverage. Irreparable stakeholder impact
Major	10 - 100	3 - 12	Serious personal injury - permanent disability	Major Effect	Substantial effect on performance objectives	National media coverage. Substantial stakeholder impact

PROBABILITY				
< 10%	10% - 30%	30% - 50%	50% - 70%	70% - 90%
Very Low	Low	Medium	High	Very High

RISK SCORE					
5	5	10	15	20	25
4	4	8	12	16	20

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High	1 - 10	1 - 3	Injury to personnel - not permanent disability	Localized Effect	All design and operating margins eliminated	Regional media coverage. Moderate stakeholder impact	3	3	6	9	12	15
Medium	0.1 - 1	0.25 - 1	Medical Treatment - Lost time incident	Minor Effect	Minor decrease in system performance	Local media attention. Minor stakeholder impact	2	2	4	6	12	15
Low	< 0.1	< 0.25	Minor Impact - First Aid only	Slight Effect	Slight degradation of element performance	Slight media attention. Little stakeholder impact	1	1	2	3	4	5
								1	2	3	4	5

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With Proposed Change

CATEGORY					
Cost (\$Millions)	Schedule (Months)	Safety	Environ.	Quality	Reputation

PROBABILITY				
< 10%	10% - 30%	30% - 50%	50% - 70%	70% - 90%
Very Low	Low	Medium	High	Very High

Level	Cost (\$Millions)	Schedule (Months)	Safety	Environ.	Quality	Reputation
Extreme	> 100	> 12	Single or multiple fatalities	Extensive Effect	System & safety requirements are not achieved	International media coverage. Irreparable stakeholder impact
Major	10 - 100	3 - 12	Serious personal injury - permanent disability	Major Effect	Substantial effect on performance objectives	National media coverage. Substantial stakeholder impact
High	1 - 10	1 - 3	Injury to personnel - not permanent disability	Localized Effect	All design and operating margins eliminated	Regional media coverage. Moderate stakeholder impact
Medium	0.1 - 1	0.25 - 1	Medical Treatment - Lost time incident	Minor Effect	Minor decrease in system performance	Local media attention. Minor stakeholder impact
Low	< 0.1	< 0.25	Minor Impact - First Aid only	Slight Effect	Slight degradation of element performance	Slight media attention. Little stakeholder impact

RISK SCORE					
Level	1	2	3	4	5
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	12	15
1	1	2	3	4	5

Section 4: Implementation Plan

Implementation Strategy

As noted in Attachment 01, mediation took place 01 to 03-Nov-2017 and an agreed settlement was reached 03-Nov-2017. Since then, the agreement has been finalized and signed by both parties. To facilitate payment to the CH0032-001 Contractor for the settlement agreement, a budget transfer from MF Contingency to package CH0032 is required. The current requisition also requires revision.

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Actions

Action	Actionee	Status
Create / revise current requisition	Bruce Drover	Incomplete
Update Current Control Budget in PM+	Jill Hawkins	Incomplete

Documents

Name	File Name
Attachment 01	Attachment 01 - CHO 10 CHR's 2045 & 2046 Settlement Support Package.pptx
Attachment 02	Attachment 02 - CHO-CH0032001-0010.pdf
Attachment 03	Attachment 03 - CHO-CH0032001-0010 Presentation Rev12.pdf
Attachment 04	Attachment 04 - CHR-CH0032001-0109.pdf
Attachment 05	Attachment 05 - CHR-CH0032001-0114.pdf
Attachment 06	Attachment 06 - Andritz - Muskrat Falls Mediation Memorandum October 27th - Final Version.pdf
Attachment 07	Attachment 07 - Mediation Memorandum - Muskrat Falls Corporation.pdf
Attachment 08	Attachment 08 - Revised Settlement Terms (LCP revisions 10 Nov 2017).DOCX
Attachment 09	Attachment 09 - Claim Ranges Spreadsheet Revised.xlsx
Attachment 10	Attachment 10 - Andritz Amended Statement of Claim - August 8 2016.PDF
Attachment 11	Attachment 11 - MFC Defence (signed).PDF
Attachment 12	Attachment 12 - AMD-CH0032001-0001 Amending Agreement - Executed.pdf
Attachment 13	Attachment 13 - CH0032-001 Delay Summary by LCP.pdf

Attachment 14 Attachment 14 - CEO Mediation Mandate and Settlement Update

Process References

CHO-CH0032001-0010, CHR-CH0032001-0114, CHR-CH0032001-0109, CH0032 Extension of Time (Andritz Align plan w/ Astaldi & potential commercial impacts & ability to achieve the install program)

Additional Review

		Date
Area Manager	<u>Frank Gillispie Jr P. Adams</u>	<u>29-Nov-2017</u>
Component Change Management Coord.	<u>Stephanie Stewart</u>	<u>29-Nov-2017</u>
Component Project Controls Lead	<u>M. McKinnon</u>	<u>29-Nov-2017</u>
Component Deputy Project Manager	<u>N/A</u>	<u>N/A</u>
CH0032-Package Leader	<u>Bruce D</u>	<u>29-NOV-2017</u>

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Section 5: Distribution

- | | |
|--|--|
| <input checked="" type="checkbox"/> Originator | <input type="checkbox"/> GENERATION - General Project Manager |
| <input checked="" type="checkbox"/> Package Leader/Engineer | <input checked="" type="checkbox"/> GENERATION - Project Director |
| <input checked="" type="checkbox"/> Area Manager | <input checked="" type="checkbox"/> POWER DEVELOPMENT - Executive VP |
| <input checked="" type="checkbox"/> PM Muskrat Falls Generation | |
| <input type="checkbox"/> PM HVdc Specialties | <input type="checkbox"/> TRANSMISSION - Deputy Gen. Proj. Man. |
| <input type="checkbox"/> PM HVac & HVdc | <input type="checkbox"/> TRANSMISSION - Project Director |
| <input checked="" type="checkbox"/> Project Controls Manager | <input type="checkbox"/> POWER SUPPLY - Executive VP |
| <input checked="" type="checkbox"/> Supply Chain Manager | |
| <input checked="" type="checkbox"/> HSS & ER Manager | |
| <input checked="" type="checkbox"/> Quality Manager | <input type="checkbox"/> Building the Prod. Org. (BTPO) Manager |
| <input checked="" type="checkbox"/> Environment & Reg. Comp. Manager | <input type="checkbox"/> Ready for Integration (RFI) Manager |
| <input checked="" type="checkbox"/> Business Services/Commercial Manager | <input type="checkbox"/> TRANSITION TO OPERATIONS (TTO) - VP |
| <input type="checkbox"/> Completion Manager | <input type="checkbox"/> Other |
| <input type="checkbox"/> Technical & Design Integrity Manager | <input type="checkbox"/> <input type="text"/> |
| <input type="checkbox"/> VP Finance - LCP | <input type="checkbox"/> Other |
| | <input type="checkbox"/> <input type="text"/> |
| | <input type="checkbox"/> Other |
| | <input type="checkbox"/> <input type="text"/> |

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Section 6: Acceptance Phase

Decision			
<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Rejected/Cancelled	Decision Date	03-Dec-2017
<u>Functional Management</u>		<u>Organizational Management</u>	
<input checked="" type="checkbox"/> Ms. Yvonne Scott O'Brien 29-Nov-17 Scope / Project Manager (Date)	<input type="checkbox"/>	<input type="checkbox"/> GENERATION - Gen. Project Manager (Date)	
<input checked="" type="checkbox"/> Janyia Power 29-Nov-2017 Project Controls Manager (Date)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> P. Houghton 29 Nov 17 Generation Project Director (Date)	
<input checked="" type="checkbox"/> [Signature] 29 Nov 2017 Supply Chain Manager (Date)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> W. F. B. A. 3 Dec 17 POWER DEVELOPMENT - Executive VP (Date)	
<input type="checkbox"/> _____ HSS & ER Manager (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ TRANSMISSION - Dep. Gen. Proj. Manager (Date)	
<input type="checkbox"/> _____ Quality Manager (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ TRANSMISSION - Project Director (Date)	
<input type="checkbox"/> _____ Environment & Reg. Comp. Manager (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ POWER SUPPLY - Executive VP (Date)	
<input type="checkbox"/> _____ Business Services/Commercial Manager (Date)	<input type="checkbox"/>		
<input type="checkbox"/> _____ Completion Manager (Date)	<input type="checkbox"/>		
<input type="checkbox"/> _____ Technical & Design Integrity Manager (Date)	<input type="checkbox"/>		
<input type="checkbox"/> _____ VP Finance - LCP (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ Building the Prod. Org. (BTPO) Manager (Date)	
<input type="checkbox"/> _____ Other (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ Ready for Integration (RFI) Manager (Date)	
<input type="checkbox"/> _____ Other (Date)	<input type="checkbox"/>	<input type="checkbox"/> _____ Transition to Operations (TTO) - VP (Date)	
<input type="checkbox"/> _____ Other (Date)	<input type="checkbox"/>		

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Section 7: Close-Out

Implementation Status Complete:

Signoff:

Change Management Lead:

Date:

Scope/Project Manager:

Date: