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To: pharrington@lowerchurchillproject.ca; ronpower@lowerchurchillproject.ca
Cc: frankillespie@lowerchurchillproject.ca; scottobrien@lowerchurchillproject.ca
Subject: CH0032 Gates Presentation - Update on Andritz
Date: Friday, March 21, 2014 4:28:05 PM
Attachments: [.png](#)
[.png](#)
[.png](#)
[.png](#)
[.png](#)
[AH-MFG-PM-007_r21 Action Register \(MFA-AH-SD-2420-AD-A99-0002-01_B12\)..xlsx](#)
[CH0032 Executive Summary 20 Mar 2014.pptx](#)
[CH0032 Interface and Milestones Schedule - Poster.docx](#)
[CH0032-001 - Fournier - Report 006 - 06-Mar-2014.pdf](#)
[Notes for discussion with Rob Murray RE CH0032 performance to d.pdf](#)

Paul and Ron,

The presentation I gave today is attached with some supporting information:



AH-MFG-PM-007_r21 Action Register (MFA-AH-SD-2420-AD-A99-0002-01_B12)..xlsx



CH0032 Executive Summary 20 Mar 2014.pptx



CH0032 Interface and Milestones Schedule - Poster.docx



CH0032-001 - Fournier - Report 006 - 06-Mar-2014.pdf



Notes for discussion with Rob Murray RE CH0032 performance to d.pdf

If you have any further questions, please let me know.

Thanks,

Bruce Drover P. Eng

Package Leader - Hydro Mechanical Equipment

PROJECT DELIVERY TEAM

Lower Churchill Project

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w. muskratfalls.nalcorenergy.com

Lower Churchill Project CH0032 - Action Register

NE Document No. MFA-AH-SD-2420-AD-A99-0002-01_B12

AH Document No. AH-MFG-PM-007_rev21

Updated: 17-Mar-2014

Action No.	Topic	Action / Comments	Discipline	Owner (Company)	Owner (Name)	Status	Date Created	Due Date	Close Date
019.3	Team Performance	LCP to travel to AH Linz office for a visit and audit of the Eng'g team. Timeframe is planned for Mar 24 but will be reviewed based on the other task and agreed actions. LCP to visit on April 1 and 2. AI 021.3 is to develop the agenda.	Project	LCP	B. Drover	Closed	28/Feb/14	6/Mar/14	6/Mar/14
019.6	Team Performance	AH to update the 1st Progress Review meeting agenda to include a third day for a Design Coordination & Review dedicated day. Issued via Mathieu MS Email.	Project	Andritz	M. Bertrand	Closed	28/Feb/14	6/Mar/14	4/Mar/14
019.8	Team Performance	AH to provide a detail AH Eng'g organizational chart. ANDRITZH-EMAIL-000247 provides a copy of the current AH Linz ME team.	Project	Andritz	A. Zeuner	Closed	28/Feb/14	13/Mar/14	17/Mar/14
019.12	Effective Leadership	Provide LCP with the CV for Martin Pinard, the P. Eng. sealing and stamping the engineering documents. CV submitted via ANDRITZH-EMAIL-000231.	Project	Andritz	L. D'Alessandro	Closed	28/Feb/14	11/Mar/14	10/Mar/14
019.15	Project Administration	Dominique Morin to attend CH0032 Quality and Manufacturing meetings. Dominique's first meeting was Mar 5 and is now available for support to AH CH0032 team..	Quality	Andritz	M. Bertrand	Closed	28/Feb/14	5/Mar/14	5/Mar/14
019.20	Design	Revise & resubmit recent C1 unstamped documents for P. Eng. seal and stamp. Notified via ANDRITZH-EMAIL-000244, qty 15 drawings have been submitted under AndritzH-TRANSMIT-001026 with the P. Eng. stamp.	Technical	Andritz	A. Zeuner	Closed	28/Feb/14	11/Mar/14	17/Mar/14
019.26	Quality Management plan	Further to the on-going 'code of construction' discussions, AH will update the Quality Plan with a specific table taking into account that this is not a Hydro Industry know practice. Updated Quality Plan MFA-AH-SD-2420-QM-Q03-0001-01 issued via AndritzH-TRANSMIT-001004.	Quality	Andritz	M. Bertrand	Closed	28/Feb/14	27/Mar/14	10/Mar/14
019.1	Team Performance	Gerald to work in AH Pointe-Claire office for a 2 week period: timeframe Mar 15 till Mar 30. To be re-scheduled to May	Project	Andritz	A. Zeuner	Open	28/Feb/14	15/Apr/14	
019.2	Team Performance	Mathieu and Lucio to work in the AH Linz office for a 2 week period: Timeframe April 1 till Apr 15.	Project	Andritz	R. Murray	Open	28/Feb/14	1/Apr/14	
019.4	Team Performance	Gerald to travel to Canada one week per month	Project	Andritz	A. Zeuner	Open	28/Feb/14	22/Apr/14	
019.5	Team Performance	Mathieu and/or Lucio to travel to Linz one week per month.	Project	Andritz	R. Murray	Open	28/Feb/14	12/May/14	
019.7	Team Performance	LCP to review the Civil interface requirements which AH need to support, so a better understanding of the sequence of the civil works at different elevations can be proposed.	Technical	LCP	B. Drover	Open	28/Feb/14	19/Mar/14	
019.9	Effective Leadership	Mathieu to complete the deliveries of the Primary Anchors.	Hydro-Mechanical	Andritz	M. Bertrand	Open	28/Feb/14	30/Jun/14	
019.10	Effective Leadership	Bill Mavromatis to support as a coach / mentor to Mathieu.	Project	Andritz	R. Murray	Open	28/Feb/14	1/May/14	
019.11	Effective Leadership	Bill Mavromatis takes over as PM. Mathieu to shift as Installations Coordinator.	Project	Andritz	R. Murray	Open	28/Feb/14	1/Jul/14	
019.13	Effective Leadership	Review the timing to execute a joint Risk Review informal discussion on a bi-weekly between Mathieu and Bruce.	Project	Andritz	M. Bertrand	Open	28/Feb/14	18/Mar/14	

Lower Churchill Project CH0032 - Action Register

NE Document No. MFA-AH-SD-2420-AD-A99-0002-01_B12

AH Document No. AH-MFG-PM-007_rev21

Updated: 17-Mar-2014

Action No.	Topic	Action / Comments	Discipline	Owner (Company)	Owner (Name)	Status	Date Created	Due Date	Close Date
019.14	Project Administration	Assign CH0030 AH PM, Joanne and Jeanne Li to attend CH0032 project meetings	Project	Andritz	R. Murray	Open	28/Feb/14	27/Mar/14	
019.16	Project Administration	Agree on common practices between CH0030 and CH0032.	Project	Andritz	M. Bertrand	Open	28/Feb/14	28/Mar/14	
019.17	Project Administration	Resolve issue of LCP Concession Request form usage.	Commercial	Andritz	N. Hu	Open	28/Feb/14	3/Apr/14	
019.18	Project Administration	Resolve issue of LCP Change Request form usage.	Commercial	Andritz	N. Hu	Open	28/Feb/14	3/Apr/14	
019.19	Communication	Co-locate the CH0030 and CH0032 teams in Pointe-Claire office.	Project	Andritz	R. Murray	Open	28/Feb/14	14/Apr/14	
019.21	Design	Set-up P. Eng. design review of all A1 documents.	Technical	Andritz	L. D'Alessandro	Open	28/Feb/14	14/Mar/14	
019.22	Design	Develop Installation Review status sheet.	Technical	Andritz	M. Castelli	Open	28/Feb/14	14/Mar/14	
019.23	Quality Management	D. Morin to provide Canada specific training & system training to Franz.	Quality	Andritz	M. Bertrand	Open	28/Feb/14	27/Mar/14	
019.24	Quality Management	Resolve issue of certification of painting inspector.	Quality	Andritz	A. Zeuner	Open	28/Feb/14	14/Mar/14	
019.25	Quality Management	Additional support for Linz QA. Meet face-to-face to determine scope / protocol.	Quality	Andritz	R. Murray	Open	28/Feb/14	10/Apr/14	
019.27	Quality Management	LCP recommend executing a joint CH0030 Lessons Learnt review meeting. AH to advise the timeframe.	Quality	Andritz	M. Bertrand	Open	28/Feb/14	27/Mar/14	
019.28	Scheduling	Possible face-to-face meeting with LCP Jonathan is planned for in Montreal. Pending the on-line meeting results.	Planning	LCP	B. Drover	Open	28/Feb/14	21/Mar/14	
019.29	Electrical	Coordinate with CH0030 and try to standardize across the two projects.	Technical	Andritz	L. D'Alessandro	Open	28/Feb/14	24/Apr/14	
019.30	Sourcing Management	AH presented a list of possible Alternative Vendors for the gates and stoplogs being considered as a risk mitigation plan. AH will submit a package of Vendor info for preliminary review by LCP once a better understanding of factory capacities is understood.	Planning	Andritz	A. Zeuner	Open	28/Feb/14	28/Mar/14	
019.30a	Sourcing Management	AH to provide available Vendor audit reports that was performed in the past for all proposed Vendors including the pre-approved Vendors in the agreement, once the short list of European Vendors are known.	Quality	Andritz	F. Hanger	Open	6/Mar/14	28/Mar/14	
019.31	Design	AH recommends that the finalized Spillway primary anchor & template drawings be presented to the LCP Civil Contractor for information so that any comments can be reviewed and incorporated.	Technical	LCP	B. Drover	Open	28/Feb/14	21/Mar/14	

MOM log CH0032

NE Document No. MFA-AH-SD-2420-AD-A99-0002-01_B12

AH Document No. AH-MFG-PM-007_rev21

Updated: 17-Mar-2014



AH Doc #	Action Register #	Description	Meeting Date
AH-MFG-PM-0100	001.XX	Weekly Coordination Meeting	7/Nov/2013
AH-MFG-PM-0101	002.xx	Weekly Coordination Meeting	13/Nov/2013
AH-MFG-PM-0102	003.xx	Weekly Coordination Meeting	20/Nov/2013
AH-MFG-PM-0103	004.xx	Weekly Coordination Meeting	27/Nov/2013
AH-MFG-PM-0104	005.xx	Weekly Coordination Meeting	05-Dec-2013
AH-MFG-PM-0105	006.xx	Weekly Coordination Meeting	12-Dec-2013
AH-MFG-PM-0106	007.xx	Weekly Coordination Meeting	19-Dec-2013
AH-MFG-PM-0107	008.xx	Weekly Coordination Meeting	23-Dec-2013
AH-MFG-PM-0108	009.xx	Weekly Coordination Meeting	9/Jan/2013
AH-MFG-PM-0109	010.xx	Weekly Coordination Meeting	14/Jan/2013
AH-MFG-PM-0110	011.xx	Customer Kick-Off Meeting	15/16-Jan-2014
AH-MFG-PM-0111	013.xx	Weekly Coordination Meeting	23/Jan/2014
AH-MFG-PM-0112	012.xx	Weekly Coordination Meeting	Jan-30-2014
AH-MFG-PM-0113	014.xx	Weekly Coordination Meeting	6-Feb-2014
AH-MFG-PM-0114	015.xx	Weekly Coordination Meeting	13-Feb-2014
AH-MFG-PM-0115	016.xx	Weekly Coordination Meeting	20-Feb-2014
AH-MFG-PM-0116	017.xx	Quality Coordination Meeting	26-Feb-2014
AH-MFG-PM-0117	018.xx	Weekly Coordination Meeting	27-Feb-2014
AH-MFG-PM-0118	019.xx	Management Review Meeting	28-Feb-2014
AH-MFG-PM-0119	020.xx	Quality Coordination Meeting	5/Mar/2014
AH-MFG-PM-0120	021.xx	Weekly Coordination Meeting	6/Mar/2014

Discipline List

Civil

Commercial

Documentation

General

Hydro-Mechanical

Project

Quality

Technical

Lower Churchill Project

CH0032 – Progress Update

21-Mar-2014

Boundless Energy



Take a
MOMENT
for Safety

Progress

Important Early Dates

- 18-Dec-2013 Agreement
- 16-Jan-2014 Kickoff
- 28-Mar-2014 First Spillway anchors delivered to site
- 30-May-2014 Unit 1 Intake Anchors delivered to site

Early Deliverables – Management and Engineering

- Baseline schedule was rejected. Revised schedule to be submitted 21-Mar-2014
- Based on LNTP schedule and SDRL progress is less than expected but no interfaces with other packages threatened.
- Acceleration of engineering deliverables evident.
- Some early management deliverables outstanding.

Fabrication

- Anchor Delivery 1 ready pending release from Fournier Industries
- High degree of confidence in this sub-supplier. LCP will cut routine Quality Surveillance and only us TPI on an as needed basis.



Anchors on Templates



Packed and Loaded

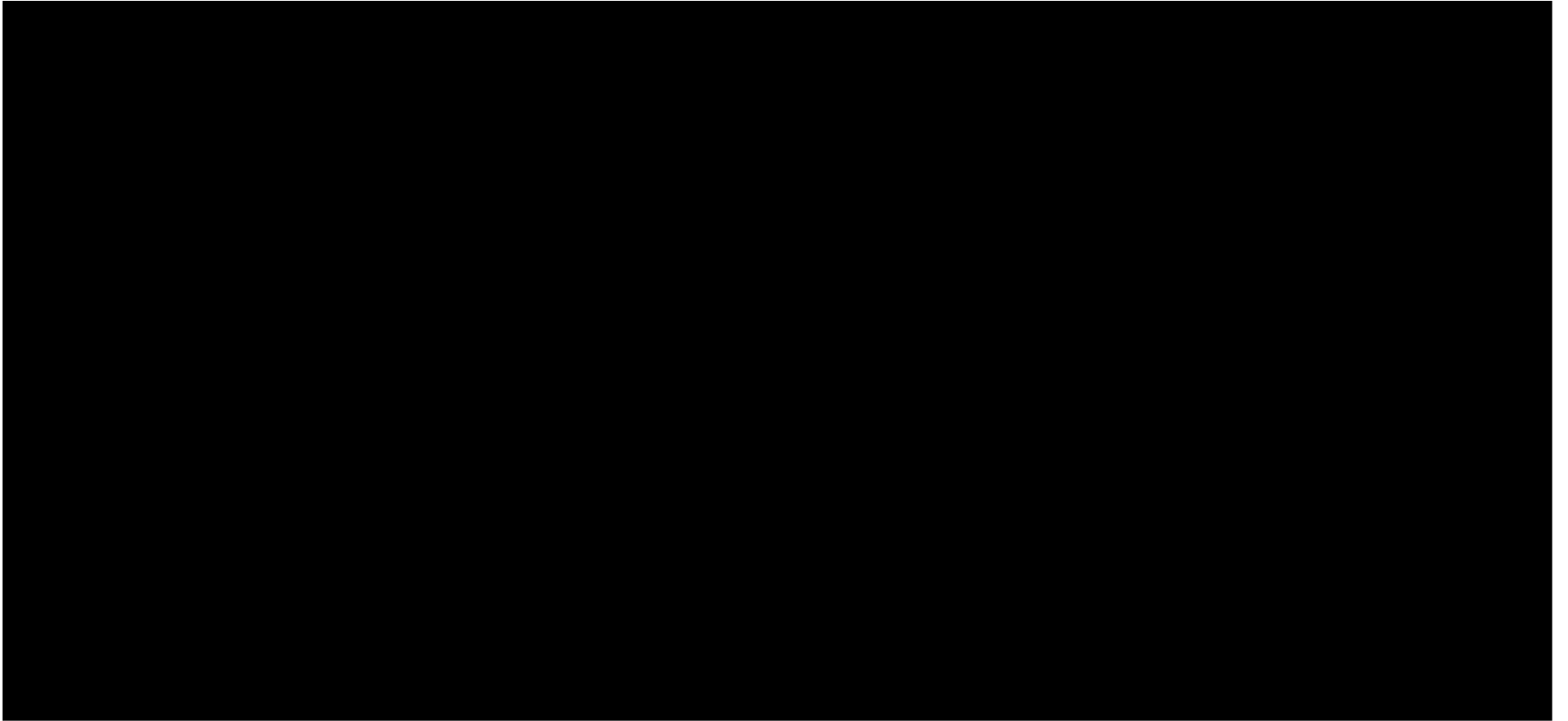
Issues and Actions

Management

- During the LNTP LCP raised concerns regarding the Andritz team organization and general performance with an emphasis on
 - Organization,
 - Communication
 - Quality
- Andritz has developed and action plan to address the specific items identified and is making progress implementing them
- LCP is monitoring action plan: [AH-MFG-PM-007_r21 Action Register \(MFA-AH-SD-2420-AD-A99-0002-01_B12\)..xlsx](#)

Second Stage Concrete Option

- Option with Andritz is valid until 30-April-2014
- A favorable price has been obtained from Astaldi
- Following required for decision:
 - Work instruction from Andritz to clarify scope and interfaces between Andritz and Astaldi
 - Clarification of Andritz Technical Advisor Role if Astaldi is completing second stage concrete
 - Clear definition and understanding of allocation of risk. Andritz is proposing contract language.
- Risk is higher if option not exercised but is a good value if well defined and managed.



Sharing our ideas in an open and supportive manner to achieve excellence.

Teamwork

Open Communication

Fostering an environment where information moves freely in a timely manner.

Honesty and Trust

Being sincere in everything we say and do.

Relentless commitment to protecting ourselves, our colleagues, and our community.

Safety

Respect and Dignity

Appreciating the individuality of others by our words and actions.

Leadership

Empowering individuals to help, guide and inspire others.

Holding ourselves responsible for our actions and performance.

Accountability

Milestone/ Interface No.	CH0032 Interface and Milestone Schedule	Date
M1	Contract Award	18 Dec 2013
M2	Substantial Completion of the Work	14 May 2018
Spillway		
M3a*	Hydro-Mechanical primary embedded parts required for the Spillway slab delivered to Site (figure 1)	14-Mar-2014 28-Mar-2014
M3b*	Hydro-Mechanical primary embedded parts for the South Pier delivered to Site (figure 1)	21-Mar-2014 28-Mar-2014
M3c*	Hydro-Mechanical primary embedded parts for the Pier 1 delivered to Site (figure 1)	25 Apr 2014
M3d*	Hydro-Mechanical primary embedded parts for the Pier 2 delivered to Site (figure 1)	16 May 2014
M3e*	All remaining Hydro-Mechanical primary embedded parts required for all Piers as shown in figure 1 delivered to site. Includes Pier 3, Pier 4 and North Pier.	30 May 2014
M3f*	All Hydro-Mechanical primary embedded parts required for downstream stoplogs delivered to site. (figure 2)	28 Nov 2014
M3g*	All Rollway Hydro-Mechanical primary embedded parts delivered to site	29 Jan 2016
I1A	Upstream of Spillway ready for start of Hydromechanical Works	16 Feb 2015
I1B	Downstream of Spillway ready for start of Hydromechanical Works	1 Aug 2015
M4*	Spillway all hydro-mechanical and electrical systems (including Trash Cleaner hoist) commissioned and ready for river diversion (Performance Bonus Milestone)	13 Feb 2016
M5	Bay No. 1 Installation of Upstream and Downstream Stoplogs Complete	3 Oct 2016
M6	Bay No. 1 Rollway Ready for Installation of Sill Beams and Modification of the Gates	14 Mar 2017
M7	Bay No. 1 Stoplogs Removed and Ready for Operation	25 Apr 2017
M8	Bay No. 2 & 4 Installation of Upstream and Downstream Stoplogs Complete	5 Nov 2017
M9	Bay No. 2 & 4 Rollway Ready for Installation of Sill Beams and Modification of the Gates	18 Mar 2018
M10	Bay No. 2 & 4 Stoplogs Removed and Ready for Operation	29 Apr 2018
M11	Bay No. 3 & 5 Installation of Upstream and Downstream Stoplogs Complete	30 May 2017
M12	Bay No. 3 & 5 Rollway Ready for Installation of Sill Beams and Modification of the Gates	20 Sep 2017
M13	Bay No. 3 & 5 Stoplogs Removed and Ready for Operation	1 Nov 2017
Powerhouse		
M20a*	Draft Tube Units 1& 2 Hydro-Mechanical, primary embedded parts, Delivered to Site	04 Jul 2014
M20b*	Draft Tube Units 3 & 4 Hydro-Mechanical, primary embedded parts, Delivered to Site	05 Aug 2014
M21a*	All Intake Unit 1 – Hydro-Mechanical primary embedded parts, delivered to Site	14-Apr-2014 30-May-2014
M21b*	All Intake Unit 2 – Hydro-Mechanical Primary embedded parts, delivered to Site	30 May 2014
M21c*	All Intake Unit 3 – Hydro-Mechanical primary embedded parts, delivered to Site	16 Jun 2014
M21d*	All Intake Unit 4 – Hydro-Mechanical Primary embedded parts, delivered to Site	25 Jul 2014
I7	Service Bay Draft Tube Gallery Ready for start of Hydromechanical Installation	1 Aug 2015
I8	Unit 1 – Draft Tube Structure Ready for start of Hydromechanical Installation	1 Oct 2015
I9	Unit 2 – Draft Tube Structure Ready for start of Hydromechanical Installation	12 Nov 2015
I10	Unit 3 - Draft Tube Ready for start of installation of Hydromechanical Installation	21 Jan 2016
I11	Unit 4 – Draft Tube Ready for start of installation of Hydromechanical Installation	3 Mar 2016
M22	All Draft Tube hydro-mechanical work complete, stoplogs installed in units 1 & 2, Bulkheads installed in units 3 & 4, and ready for water up of tailrace channel	9 Jul 2016
Intake		
I12	Unit 1 – Intake Structure Ready for start of Hydromechanical Installation	1 Apr 2016
I13	Unit 2 – Intake Structure Ready for start of Hydromechanical Installation	30 Jun 2016
I14	Unit 3 – Intake Structure Ready for start of Hydromechanical Installation	28 Sep 2016
I15	Unit 4 – Intake Structure Ready for start of Hydromechanical Installation	3 Jan 2017
M23*	All Intake hydro-mechanical work (including trash cleaner) commissioned and ready for reservoir impoundment (Performance Bonus Milestone)	22 Jul 2017

Figure 1: Interface I1A, 16 Feb 2015

Spillway and Related Works required for upstream guides installation and concreting, including:
Completion of Spillway Invert;

Completion of Spillway piers and walls (upstream 2/3 portion only), including upstream bridge;

Spillway Upstream Channel free for Hydro-Mechanical Contractor CH0032 occupation.

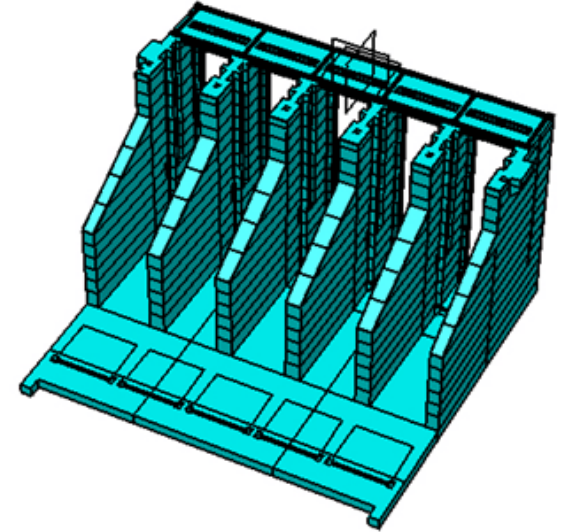


Figure 2: Interface I1B, 1 Aug 2015

Spillway and related works required for downstream stoplog guides, gates and hoists installation, including:

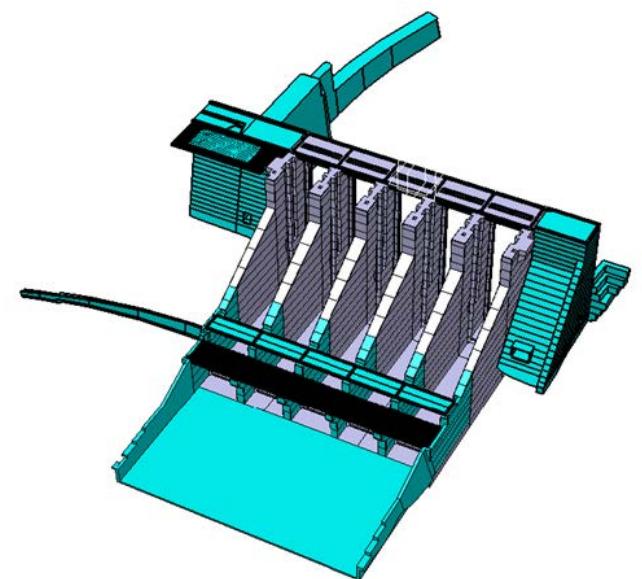
Completion of Spillway piers and walls (downstream 1/3) including both Downstream Bridges and Access Ramp Retaining Wall;

Completion of North Transition Dam;


Completion of Northern 2 Monoliths of Center Transition Dam including the Electrical Building Platform;

Completion of Spillway concrete Discharge Channel Phase 1;


Completion of Separation Wall; Spillway Discharge Channel free for CH0032 occupation.



* Liquidated damages in effect 30 days after M3, M4, M20, M21 or M23 milestones.

 QUALITY SURVEILLANCE REPORT		
Client: Nalcor Energy	Project: Lower Churchill Project	Date: 07 Mar 2014
Project N°: 505573	QSR No: 006 Rev. 0	Page 1 of 5

Reporting Period: 06 Mar 2014								
Quality Surveillance Assignment No.: QSA-CH0032001-001				Initial Visit <input type="checkbox"/>	In Process Visit <input checked="" type="checkbox"/>	Final Visit <input type="checkbox"/>		
SCOPE OF SURVEILLANCE								
PO / Contract No. and Title:				CH0032-001 Lower Churchill				
PO / Contract Line Items and Description				Fabrication of Primary Anchors, Templates and Side Lining Plates				
SUPPLIER / CONTRACTOR				SUB-SUPPLIER / SUB- CONTRACTOR				
Company Name:	Andritz Hydro			Company Name:	Industries Fournier			
Address:	6100 Trans Canada Hwy Pointe Claire, QC H9R 1B9			Address:	3787 Boul Frontenac Ouest Thetford Mines, Qc G6H 2B5			
Representative:	Michel Gagné			Representative:	Pedro Giguère, Jacques Rodrigue			
Shop Order N°:				Shop Order N°:				
PROGRESS								
SUPPLIER / CONTRACTOR				SUB-SUPPLIER / SUB-CONTRACTOR				
Fabrication:	To be announced			Fabrication:	To be announced			
PO / Contract Delivery Date:	First delivery: 28 Feb			PO / Contract Delivery Date:	First delivery: 28 Feb 2014			
Scheduled Completion Date:				Scheduled Completion Date:				
SUMMARY								
Date of Last Visit:	03 Mar 2014	Total Hrs reported in Last Report:	8					
Date of Visit:	06 Mar 2014	Hrs for this Report:	Travel:	2	Surveillance:	5	Reporting:	1
Date of Next Visit:	12 Mar 2014	Total Hrs to Date:	107					
Nonconformance Report issued during this visit:				<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	NCR No.:		
Outstanding Nonconformance Report:				<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	NCR No.:		
Preventative / Corrective Action Request issued during this visit:				<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	PCAR No.:		
Quality Surveillance Release issued during this visit:				<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	QSR No.:		
Prepared by:	Mathieu Rompré			Reviewed by:	Kayla Legge			
Date:	07 Mar 2014			Date:	07-Mar-2014			

 QUALITY SURVEILLANCE REPORT		
Client: Nalcor Energy	Project: Lower Churchill Project	Date: 07 Mar 2014
Project N°: 505573	QSR No: 006 Rev. 0	Page 2 of 5

1.0 SUMMARY

On January 22nd, Inspector received request to perform quality assurance tasks on behalf of Killick Group Ltd. for the fabrication of various steel members being sub-contracted to Les Industries Fournier Inc. by Andritz Hydro Ltd.

2.0 PURPOSE:

The purpose of this report is to document the quality surveillance activities carried out at Industries Fournier's facility for the fabrication of primary anchors, templates and side lining plates. Industries Fournier is a sub-supplier for Andritz Hydro.

2.0 Observation, and NCR Items

Observations; No observation has been added after this visit (06 Mar 2014).

NCR Items; No NCR has been issued by our services for the period of this report.

2.1 Observation Listing (Red Items are still open waiting for supplier /contractor action)


No.	Description	Status	Action Required by	Date Action Opened dd mmm yyyy	Date Action Closed dd mmm yyyy
1	Weld missing on anchor	Completed - repaired by sub-supplier	Ind. Fournier	07 Feb. 2014	07 Feb. 2014
2	Weld defects - visual (craters)	Completed - repaired by sub-supplier	Ind. Fournier	11 Feb 2014	11 Feb 2014
3	Weld defects - visual (crater cracks)	Completed - repaired by sub-supplier	Ind. Fournier	13 Feb 2014	14 Feb 2014

2.2 Supplier NCR Listing

Item	Date Opened	Brief Description	Date Closed
1	03 Feb. 2014	Approval and stamping of Andritz's drawings (NCR by Nalcor)	
2	06 Feb. 2014	Weld quality standards (NCR by Andritz)	12-Feb-2014
3	06 Feb. 2014	Welding process (NCR by Andritz)	03-Mar-2014
4	06 Feb. 2014	Preheating prior to welding (NCR by Andritz)	03-Mar-2014

3.0 INSPECTION ACTIVITY OVERVIEW

NE DOCUMENT #	REV #	DESCRIPTION	APPROVAL STATUS	COMMENTS
MFA-AH-SD-2420-ME-D04-0002-01	A1	Drawing - Anchor Hair Pins Anker	2.Reviewed – Incorporate comments, Revise & resubmit	
MFA-AH-SD-2420-ME-D04-0001-01	A1	Drawing – Anchor Templates Anker	2.Reviewed – Incorporate comments, Revise & resubmit	
MFA-AH-SD-2420-ME-D04-0001-03	A1	Drawing – Anchor Templates Anker	2.Reviewed – Incorporate comments, Revise & resubmit	

 QUALITY SURVEILLANCE REPORT		
Client: Nalcor Energy	Project: Lower Churchill Project	Date: 07 Mar 2014
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MFA-AH-SD-2420-QM-Q04-0001-01	C1	ITP – 1 st Stage Embedded Parts	1.Reviewed and Accepted – No Comments	
MFA-AH-SD-2000-ME-K10-0001-01	A1	Technical Specification – Fabrication of Hydraulic Steel structures	2.Reviewed – Incorporate comments, Revise & resubmit	
MFA-AH-SD-2000-ME-K15-0001-01	A1	Painting Specification	2.Reviewed – Incorporate comments, Revise & resubmit	

4.0 DETAILED SUMMARY OF INSPECTION:

4.1 2014-03-06

At the moment of the visit, two workers were affected on assembling and welding type A2 templates. One was doing assembly of type 1 anchors. There was also stud welding on templates type S2 being done. We performed visual inspection of fillet welds and stud welds of templates in fabrication by sampling: templates type E, type I, type T, type S2, type A2, type G. The welds were found acceptable (including stud welding). We also performed dimensional inspection on the templates, no deficiencies were found. We inspected anchors of type 1, visual and dimensional: no deficiencies were found. The threads in the nut of the type 1 anchors inspected have been checked with a bolt.

5.0 STATUS REPORTING

5.1 Inspection & Test Plan:

The inspection and test plan is same as last report.

5.2 Procedure Review:

No procedure review has been done during the period covered by this report.

5.3 Documentation Review:


Since last visit, Fournier's quality record has been updated. All of the documents that were found missing have been added. The bill of delivery has been corrected for the quantity of template type S1 (1x item to be shipped).

5.4 Material Receiving:

Material receiving is the same as last report. Storage for the material of the fabrication of the anchors and templates is done in the shop. Material is boxed and on pallets until fabrication. No items have been found damaged or altered.

5.5 In Process Inspections/Verification:

In process inspection is covered in section 4.1 Detailed summary of inspection. We inspected the welds visually and did dimensional spot checks of the templates and anchors in production by sampling. No deficiencies were found.

 <p>nalcor energy LOWER CHURCHILL PROJECT</p>	<h2>QUALITY SURVEILLANCE REPORT</h2>	
Client: Nalcor Energy	Project: Lower Churchill Project	Date: 07 Mar 2014
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5.6 Testing:

No testing has been done during the period covered by this report.

5.7 Painting:

No paint work has been done in this contract since last visit. Painted side lining plates were being packaged at the moment of the visit.


5.8 Fabrication:

Work was in progress to assemble and weld type 1 anchors and type A2 templates for the second delivery. There was also type G templates being welded to go on this next shipment.

According to Andritz, the design of the door template is under review. We will follow and report if they are to alter the piece.

6.0 Shipping:

No shipping has been done during the period covered by this report. The material for the first shipment is still at the Fournier facility (loaded on a curtain trailer). We did not issued the QA release for the first shipment.

		QUALITY SURVEILLANCE REPORT	
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Date: 07 Mar 2014		Page 5 of 5	
Project N°: 505573		QSR No: 006 Rev. 0	

7.0 Photographs:



Picture No : 01
Brief Description : Packaging of side lining plates after paint work (06 Mar 2014)

Picture No : 02
Brief Description : Packaging of side lining plates after paint work (06 Mar 2014)



Picture No : 03
Brief Description : Bundle of type G templates (06 Mar 2014)

Picture No : 04
Brief Description : Work in progress on type A2 templates (06 Mar 2014)

**Notes for discussion with Rob Murray RE CH 0032 performance to date**

Bruce Drover to: Frank Gillespie
Cc: Robert Besaw, Adam Kavanagh

02/04/2014 09:24 PM

Frank,

The following is a summary of items for discussion with Rob Murray :

Organization

Management: The CH0032 team is not yet functioning as a cohesive unit . I do not get the impression that the team is being driven from the top . It appears generally reactive in nature . Lack of experience is evident.

Hydro-Mechanical: New System Engineer -Gerald Abel - Not able to evaluate performance yet . Note that there is a noticeable difference in the quality of communication and collaborative design development when Peter Karasek is involved . We welcome any support Peter is able to provide. This group needs a strong SE to provide engineering coordination as well as technical expertise. SE needs to be very familiar with specification requirements , and should be experienced with practical design for manufacture and construction .

Quality: We have not seen evidence of the technical expertise and coordination skill required to oversee manufacturing and delivery from multiple suppliers in up to 15 countries. Submission of deliverables taking longer than they should . Is Franz working on other projects ?

Construction: Overall, Michele's seems knowledgeable and experienced . He should be providing input to all functional teams : design, quality, planning, HSE etc. Construction input to design has come late in some instances . The direction for this should have come from the project manager however in the absence of this he should be proactive and get involved even if unsolicited. We are pleased that the Installation Coordinator will be filling the Technical Advisor role for the primary anchors .

Planning: Maryam has significant technical background but she is new to the role of Scheduler . No immediate concerns. Would expect that support from AH project controls group is available to Maryam to check her work, provide support and oversight as required .

Electrical: No Issues so far - Should be coordinating with CH0030 for standardization opportunities.

Commercial: No issues. So far my dealings with Nicole have been straightforward and professional. There were some initial misunderstanding with respect to invoicing for incomplete work during the LNTP but I believe this was due to structure of the LNTP itself and since the kickoff this is not an issue .

Communication

Working to establish processes and routine communication . Have not seen full benefit of synergies with CH0030 here. Should be rolling out same registers, standard reports, progress meeting agenda / plan and adjusting to suit CH0032. Consistent and timely submission of minutes and action register to be improved . Expectation is that majority of systems in place by end of February.

Quality

1. Fabrication ongoing without C1 Drawings - Risk to Andritz. PEGNL stamp requirement for all C1 drawings was either not understood or not implemented soon enough . PM asked Package lead if drawings could be issued C1 for manufacture and stamped later - shows lack of understanding of standard engineering practices in Canada .
2. ASTM standards for material - Must continue to emphasize Chinese standard steel unacceptable and substitutes to be justified and approved by LCP .
3. Drawing standards general drafting quality lacking (unlabeled views, redundant dimensions etc.) Some drawing practices unusual by North American standards . Checker in AH office should be completing drafting QA check, not just technical.
4. Design Review Minutes in German....AH stated they will not translate.
5. Code of construction for various fabrication locations to be established and reviewed with LCP QA
6. Audit of Linz engineering offices recommended

"Extra" Focused Attitude

There have been a number of discussions following award that have immediately focused change orders without full examination of the legitimacy or benefit to either party , for example:

1. Painting inspector certification: Technical Specification requires paint inspection be done by "Qualified and experienced inspectors" by qualified we intended qualified according to a nationally recognized standard (NACE, SSPC etc.). Andritz maintains that their inspector is experienced but certification is not required by the contract language and would be a change order to implement. Painting at Andritz's suppliers in China is a known weakness verified by the most recent audits . Andritz has rejected product due to painting issues from those suppliers and also released non-conforming product from those suppliers . I expected that Andritz would view risk of rejected product , rework, schedule delay due to painting, and reputation damage for repeating known quality problems justifies getting a certified inspector (or providing training to current inspector).
2. Concession request form: LCP is introducing a new form to approve deviations from specification in advance. AH has not formally requested yet but the tone of discussion lead me to believe they will ask for a change order for extra administrative work . It is in Andritz's interest to have concessions properly documented and approved by LCP quickly and the new form is the means to do so . Concessions to the spec are usually a matter of convenience to the supplier (for example substitution of equivalent material due to better availability, lower cost etc) It seems unusual to expect LCP to pay extra to Andritz to allow them to deviate from the spec. I have advised Mathieu that we will not approve such additional administrative cost.
3. During a recent review of Andritz design it was commented that anchors were too close to the concrete surface. Andritz immediately took the position that this was a late added requirement and would result in a major change order . LCP position is the requirement is clear in the specification. This approach is counter productive to the environment I would like to foster on this package. Such unverified assertions immediately puts both parties in a

defensive stance. Familiarity with the specification and obligations of Contractor and Engineer would have prevented this.

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