From:
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 To:
 Fernandez, Carlos

 Subject:
 Risk MR 1207

Date: Friday, August 3, 2012 11:25:00 AM

Attachments: <u>LCP-1207-RMR.docx</u>

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Carlos,

Please find attached the 1207 monthly Risk Report.

Regards

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Period Ending: 03-August-2012

Page: 1 of 11

1.0 INTRODUCTION

Transitioning of Risk Management files and tasks is ongoing. Current risk matters have been addressed. Newly appointed Risk Coordinator has attended 2 day risk training session in Montreal on July 10 and 11, 2012. Several Risk inventory sessions have been held and bid clarification session was held with 2 major suppliers.

1.1 RISK MANAGEMENT

Project Risk Register is unchanged since previous monthly report. There are 146 risks (including eight opportunities) in the LCP Risk Register addressed by 492 actions. Top seven project risks that have low manageability are as follows:

- Project Sanctioning Delay
- Construction Labour Availability
- Construction Labour Productivity
- Contractor's Availability
- Class of Estimate & Cost Escalation
- Archaeological Sites
- SLI Nalcor Contract Coordination

Several risk based variant studies were undertaken in previous months to facilitate design decisions (spillway, head pond clearing, transition compound location, service bay location in power house, use of wire mesh in excavation areas). Two of the variant studies (spillway and transition compound) were completed. Early works risk review was carried out.

Figure 1 – Risk Management Statistics

	Total				
Number of	RR	C1	C3	C4	LCP
Risks & Opportunities	146	56	32	33	25
Opportunities Only	8	2	0	2	4
Addressing Strategies	234	93	42	59	40
Addressing Actions	495	177	90	137	91



O n	alcor energy R CHURCHILL PROJECT
Period Ending:	03-August-2012
Page :	2 of 11

High Level Risks ("Red") Before Addressing ("as-is")	76	28	19	17	12
High Level Risks ("Red") After Addressing ("to-be")	26	8	4	6	8
Medium Level Risks ("Yellow') Before Addressing ("as-is")	57	22	13	13	9
Medium Level Risks ("Yellow') After Addressing ("to-be")	93	36	24	20	13
Low Level Risks ("Green') Before Addressing ("as-is")	5	4	0	1	0
Low Level Risks ("Green') After Addressing ("to-be")	19	10	4	5	0

Risk Category	Risks & Opportunities	Opportunities Only
Commercial	40	2
Commissioning & Start-up	6	0
Completeness	6	0
Construction	20	1
Environmental	6	0
External	6	0
HSS	22	0
Interfaces	6	1
Organisational	6	1
Operations	2	0
Regulatory	10	0
Technical	16	3
TOTAL	146	8

SECTION 2. RISK AND OPPORTUNITY MANAGEMENT

Overview of the LCP Master Risk Register and Supporting Risk Register:

- The LCP Master Risk Register contains 146 risks (including eight opportunities) in MOINS - RISC – LESS (Stature). There are 234 addressing strategies supported by 495 addressing actions to manage the 146 identified risks in the LCP Master Risk Register (Figure 1, stats for June 12th, 2012).
- Eight general LCP risks were introduced to play a role of 'umbrellas' for managing corresponding Component risks (Table 1). The 'duplication' of the kind enforces



Period Ending: 03-August-2012
Page: 3 of 11

"Line-of-Sight" risk governance concept to coordinate and manage risks at both Component and LCP level.

- There are dozens of HSS risks that are managed separately following HSS guidelines. They are kept in LCP HSS Risk Register in MOINS RISC LESS (Stature). All HSS risks are rolled up to 22 HSS risks in the LCP Master Risk Register for visibility and communication purposes (Table 2).
- There are risk inventories for about two dozen packages developed in MOINS -RISC – LESS (Stature). Key package risks are represented in the LCP Master Risk Register.
- There is a file in MOINS RISC LESS (Stature) that was developed as a result of the Component 1 HAZOP review. Key technical risks from that file are represented in the LCP Master Risk Register.

Overview of Top Project Risks:

• Seven top LCP risks are shown in Table 3. These risks are high level both before and after addressing despite proposed addressing actions (low manageability).

<u>Discussion: Concerns and Overview of Newly identified, Occurred Risks, Upgraded</u> and Downgraded Risks:

- No new risks were added to the Risk register this month.
- Signing of Nalcor-Emera agreement for Maritime Link was announced on July 31, which is deemed positive step towards Sanctioning of LCP.
- Base estimate completed and transferred to PM+ and baseline schedule completion imminent

Engineering

 Some engineering and design decisions have yet to be finalised such as the diversion head pond clearing strategy. Corresponding risk-based variant studies were initiated to facilitate design decision making and two of them were completed.



Resolved Engineering and design matters include:

- o final selection of transition compound location confirmed
- use of wire mesh on mass excavation rock faces confirmed
- o location of 2nd service bay in Powerhouse confirmed.

Procurement

- CH0006-Construction of Bulk Excavation Works and Associated Works, Bid reviews to take place from August 6 to 24, 2012.
- CH0007-Construction of Intake and Powerhouse, Spillway and Transition Dams contracting strategy being developed in preparation for RFP.

Construction

- Package CD0512-Construction of Construction Power has entered into execution
 - Land ownership issues were raised and resolved in two locations (Muskrat Falls tap and Churchill Falls switchyard) follow-up on all potential land ownership matters will be
 - CFLCO interfaces for outages coordination were positive as outages were carried out successfully
- Access road clearing and construction is progressing. Clearing is approximately 33% complete and has reached the accommodation complex area. Road construction is approximately 30% complete. Access road construction completion is forecasted for end of October, in time for Powerhouse Mass excavation (CH0006) start.
- Construction Management taskforce workshop was held on July 3, 2012.
- 2 day constructability review of C4 Transmission Lines, was held on July 26-27 and action items register issued.

Project Risk Management Activities:

- 2-day Risk Management Training session attended by LCP Risk Coordinator on July 10 & 11, 2012.
- Risk sessions for risk inventory of following Commitment Packages were conducted:



n LOWE	alcor energy R CHURCHILL PROJECT
Period Ending:	03-August-2012
Page :	5 of 11

- o CD0509 Telecom Services Phase 2
- CD0501 Supply and Install Converters and Cable Transition Compounds
- Scoring of Prequalification Risk questionnaire for CH0007-Construction of Intake and Powerhouse, Spillway and Transition Dams, was completed.
- Risk questionnaire for CH0007-Construction of Intake and Powerhouse, Spillway and Transition Dams, was prepared and issued for inclusion in RFP documents.
- Bid clarification meetings were held with PT0302-Supply of Steel Towers 315 kV
 HVac two preferred bidders representatives
- CH0049-Supply and Install Log Booms. Head pond clearing strategy options study for construction period meeting was held.

Table 1 - LCP Master RR - Umbrella Risks

Risk ID	Co mp.	Risk Title	Risk Owner	Risk Category	Level Before Addressing	Level After Addressing
R3	LC P	EA Release Special Conditions	Ron Power (NE)	Regulatory	Medium	Medium
R67	C3	Electrode vs. EA Release Special Condition	Darren DeBourke (NE)	Regulatory	Medium	Medium
R172	LC P	Construction Labour Availability	Ron Power (NE)	Organisational	High	High
R43	C1	Construction Labour Availability	Scott O'Brien (NE)	Construction	High	High
R123	C3	Construction Labour Availability	Darren DeBourke (NE)	Commercial	High	High
R124	C4	Construction Labour Availability	Kyle Tucker (NE)	Commercial	High	High
R65	C1	Availability of Construction Management Personnel	Scott O'Brien (NE)	Construction	High	High
R164	C3	Availability of Construction Management Personnel	Darren DeBourke (NE)	Construction	High	High



nalcor energy LOWER CHURCHILL PROJECT

Period Ending:

03-August-2012

Page:

6 of 11

R165	C4	Availability of Construction Management Personnel	Kyle Tucker (NE)	Construction	High	High
R52	LC P	Contracting Strategy Adjustments	Ron Power (NE)	Commercial	High	Medium
R173	LC P	Construction Labour Productivity	Ron Power (NE)	Organisational	High	High
R127	C1	Construction Labour Productivity	Scott O'Brien (NE)	Construction	High	High
R128	C3	Construction Labour Productivity	Darren DeBourke (NE)	Construction	High	High
R129	C4	Construction Labour Productivity	Kyle Tucker (NE)	Construction	High	High
R175	LC P	Sensitive Areas	"Steve Pellerin (NE)"	Regulatory	Medium	Medium
R9	C1	Excavation vs. Water Contamination	Michael Maeyens (SLI)	Construction	Medium	Medium
R10	C1	Archaeological Sites	Scott O'Brien (NE)	Regulatory	High	High
R19	C1	Fish Habitat	Steve Pelerin(NE)	Environmental	Medium	Medium
R20	C1	Terrestrial Habitat (Loss of Wetlands)	Steve Pellerin(NE)	Environmental	Medium	Medium
R21	C1	Bird Nesting	Gervais Savard (SLI)	Environmental	Medium	Medium
R105	C4	Terrestrial Habitat	Steve Pellerin (NE)	Environmental	Medium	Medium
R106	C4	Bird Nesting	Claude Daneau (SLI)	Environmental	Medium	Medium
R180	C4	River Crossings vs. TSS	Real Mailhot (SLI)	Environmental	Medium	Low
R176	LC P	Construction Permits	Ron Power (NE)	Regulatory	High	Medium
R36	C1	Construction Permits	Scott O'Brien (NE)	Regulatory	High	Medium
R119	C3	Construction Permits	Darren DeBourke (NE)	Regulatory	High	Medium
R120	C4	Construction Permits	Kyle Tucker (NE)	Regulatory	High	Medium
R177	LC P	Contractor's Availability	Ron Power (NE)	Commercial	High	High



nalcor energy LOWER CHURCHILL PROJECT

Period Ending:

03-August-2012

Page :

7 of 11

R44	C1	Contractors Availability	Scott O'Brien (NE)	Commercial	High	High
R85	C4	HVdc Contractor Availability	Kyle Tucker (NE)	Commercial	High	High
R125	C3	Contractors Availability	Darren DeBourke (NE)	Commercial	High	High
R178	LC P	Interfaces	Ron Power (NE)	interfaces	High	Medium
R64	C1	Interfaces	Scott O'Brien (NE)	Interfaces	High	Medium
R71	C3	CFLco-Nalcor Interface	Darren DeBourke (NE)	External	Medium	Medium
R75	C3	Outage Planning	Darren DeBourke (NE)	Commissioning	High	Medium
R76	C3	Maritime Link Assumption	Darren DeBourke (NE)	Interface	Medium	Medium
R78	C3	System Integration & Commissioning	Darren DeBourke (NE)	Commissioning	Medium	Medium
R162	C3	Interfaces	Darren DeBourke (NE)	Interfaces	High	Medium
R163	C4	Interfaces	Kyle Tucker (NE)	Interfaces	High	Medium
R179	LC P	Suppliers Availability	Ron Power (NE)	Commercial	High	Medium
R33	C1	Manufacturing Labour Availability	Michel Landreville (SLI)	Commercial	Medium	Medium
R68	C4	Insulator Supplier Availability (HVdc)	Hartfield Stevens (SLI)	Commercial	Medium	Medium
R115	C3	Manufacturing Capacity & Availability	Tousignant, Daniel (SLI)	Commercial	Medium	Medium
R147	C1	Supplier Availability	Scott O'Brien (NE)	Commercial	Medium	Medium



Period Ending: 03-August-2012
Page: 8 of 11

Table 2. - LCP Master RR - HSS Risks

Risk ID	Com	Risk Title	Risk	Risk Owner	Level Before	Level After Addressing
	pone nt		Category (RBS)		Addressing	
R13	C1	Safety vs. Heavy Equipment (C1)	HSS	Scott O'Brien (NE)	High	Medium
R14	C1	Safety vs. Construction Hazards (C1)	HSS	Scott O'Brien (NE)	High	Medium
R15	C1	Safety vs. Traffic Incidents (C1)	HSS	Scott O'Brien (NE)	High	Medium
R22	C1	Safety vs. Schedule Acceleration (C1)	HSS	Scott O'Brien (NE)	High	High
R29	C1	Wild Fires (C1)	HSS	Scott O'Brien (NE)	High	Medium
R138	C1	Drug & Alcohol Abuse (C1)	HSS	Scott O'Brien (NE)	High	High
R83	C1	Site Safety Coordination (C1)	HSS	Scott O'Brien (NE)	High	Medium
R82	C3	Site Safety Coordination (C1)	HSS	Darren Debourke (NE)	High	Medium
R98	C3	Safety vs. Heavy Equipment (C3)	HSS	Darren Debourke (NE)	High	Medium
R100	C3	Safety vs. Construction Hazards (C3)	HSS	Darren Debourke (NE)	High	Medium
R102	C3	Safety vs. Traffic Incidents (C3)	HSS	Darren Debourke (NE)	High	Medium
R107	C3	Safety vs. Schedule Acceleration (C3)	HSS	Darren Debourke (NE)	High	Low
R111	C3	Wild Fires (C3)	HSS	Darren Debourke (NE)	High	Medium
R139	C3	Drug & Alcohol Abuse (C3)	HSS	Darren Debourke (NE)	High	Medium
R170	C3	Site Safety Coordination (C3)	HSS	Darren Debourke (NE)	High	Medium
R99	C4	Safety vs. Heavy Equipment (C4)	HSS	Kyle Tucker (NE)	High	Medium
R101	C4	Safety vs. Construction Hazards (C4)	HSS	Kyle Tucker (NE)	High	Medium
R103	C4	Safety vs. Traffic Incidents (C4)	HSS	Kyle Tucker (NE)	High	Medium



R108	C4	Safety vs. Schedule Acceleration (C4)	HSS	Kyle Tucker (NE)	High	Medium
R112	C4	Wild Fires (C4)				
				Kyle Tucker		
			HSS	(NE)	High	Medium
R140	C4	Drug & Alcohol				
		Abuse (C4)		Kyle Tucker		
			HSS	(NE)	High	High
R171	C4	Site Safety				
		Coordination (C4)		Kyle Tucker		
			HSS	(NE)	High	Medium

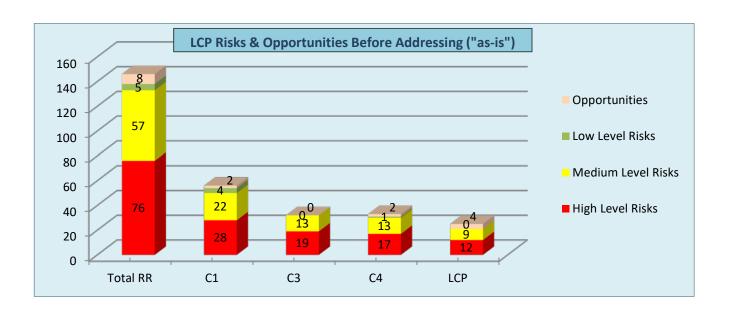
Table 3. - LCP RR – Top Project Risks

Risk ID	Com p.	Risk Title	Risk Owner	Risk Category	Level Before Addressing	Level After Addressing
R10	C1	Archaeological Sites	Scott O'Brien (NE)	Regulatory	High	High
R77	LCP	Class of Estimate & Cost Escalation	Jason Kean (NE)	Commercial	High	High
R156	LCP	SLI – Nalcor Contract Coordination	Ron Power (NE)	Organisational	High	High
R172	LCP	Construction Labour Availability	Ron Power (NE)	Commercial	High	High
R173	LCP	Construction Labour Productivity	Ron Power (NE)	Commercial	High	High
R177	LCP	Contractor's Availability	Ron Power (NE)	Commercial	High	High
R181	LCP	Stakeholder Delay/ Project Sanctioning	Ron Power (NE)	External	High	High



Period Ending: 03-August-2012

Page: 10 of 11





Period Ending: 03-August-2012

Page: 11 of 11

