

From: Lemay, Paul <paul.lemay@snclavalin.com>
Sent: Monday, October 6, 2014 11:05 AM
To: roylewis@nalcoreenergy.com
Subject: TR: CH-0009 CONFIDENTIAL
Attachments: Appendix A2.1 Schedule of Price Breakdown CH0009 rev-1.xlsx

Roy, I am re sending this, the first address was not good!

De : Lemay, Paul

Envoyé : 6 octobre 2014 09:31

À : 'roylewis@lowerchurchillproject.ca'

Objet : CH-0009 CONFIDENTIAL

Hi Roy,

As promised, here is the complete CH0009 estimate for your eyes only!

I am not sending this to anyone else, only you!

The day prior to the bid opening, I will send it to Ed Bush, in case there is other addenda until October 22nd the closing day!

If you have any question, give me a call.

Paul.

Paul Lemay, Ing./P.Eng.

Chef Estimateur - Projet Muskrat Falls /Lead Estimator, Muskrat Falls Project.

Energie/

Tél./Tel. : 514-393-8000 x 55707

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LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN							APPENDIX A2.1		
				ISSUED FOR: BID							Rev. B1		
				DATE: 31 - Jul - 2014							BIDDER'S NAME:		
No	REFERENCE Exhibit 2 - ATT 1	WBS CODE CODE	SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS AT SITE	MANPOWER COST/UNIT (\$ CAN) B	MATERIALS COST/UNIT (\$ CAN) C	EQUIPMENT COST/UNIT (\$ CAN) D	PROFIT COST/UNIT (\$ CAN) E	UNIT PRICE (\$ CAN) F= (B+C+D+E)	TOTAL PRICE (\$ CAN) G= A x F
				DAMS AND COFFERDAMS - GENERAL									
				UPSTREAM COFFERDAM									
				CIVIL WORK									
				Excavation									
30	4.1.1		2341.01	Overburden excavation in dry condition									
				Foundation Preparation in dry condition									
31	4.1.2		2341.02	Foundation Cleaning (water/air jets and Vacuum trucks)									
32	4.1.3		2341.03	Rock Excavation including dental excavation and Scaling									
33	4.1.4		2341.04	Dental Concrete									
34	4.1.5		2341.05	Slush Grout									
35	4.1.6		2341.06	Dry Pack									
				Embankment Materials									
36	4.1.7		2341.07	Compacted Till - Zones 1 and 1C Materials									
37	4.1.8		2341.08	Dumped Till - Zone 1A Material									
38	4.1.9		2341.09	Compacted Granular - Zone 2A Material									
39	4.1.10		2341.10	Compacted Granular - Zone 2C Material									
40	4.1.11		2341.11	Dumped Granular - Zone 2E Material									
41	4.1.12		2341.12	Dumped Rockfill- Zone 3 Material									
42	4.1.13		2341.13	Dumped Large Blocks (300-1000 mm) - Zone 3 Class 1									
43	4.1.14		2341.14	Dumped Large Blocks (≥1000 mm) - Zone 3 Class 2									
44	4.1.15		2341.15	Dumped Large Blocks (≥1300 mm) - Zone 3 Class 3									
45	4.1.16		2341.16	Compacted Crushed Stone - Zone 3A Material									
46	4.1.17		2341.17	Compacted Rockfill - Zone 3C Material									
47	4.1.18		2341.18	Compacted Rockfill - Zone 3D Material									
48	4.1.19		2341.19	Dumped Crushed Stone- Zone 3F Material									
				Investigation for Jet Grouted Cut-off Wall and Bedrock Grouting									
49	4.1.20		2341.20	Percussion Drill Holes in embankments, river sediments and bedrock									
50	4.1.21		2341.21	Verification Core Drilling in jet grouting cut-off wall and bedrock									
51	4.1.22		2341.22	Core Diamond Drill Rig In Standby									
				Jet Grouting cut off wall									
52	4.1.23		2341.23	Mobilization and demobilization									
53	4.1.24		2341.24	Drilling Holes for Jet Grouting in embankment, river sediments and bedrock									
54	4.1.25		2341.25	Jet Grouted Cut-off wall									
				Bedrock Grouting beneath the Jet Grouted Cut-off Wall, if required									
55	4.1.26		2341.26	Drilling Holes for Grouting in embankment , jet grouting cut-off wall and bedrock, if required									
56	4.1.27		2341.27	Dry cement incorporated in the grout, if required									
57	4.1.28		2341.28	Grouting - Successful connections, if required									
				SUB-TOTAL UPSTREAM COFFERDAM									
				DOWNSTREAM COFFERDAM									
				CIVIL WORK									
				Excavation									
58	4.2.1		2342.01	Overburden excavation									
				Foundation Preparation									
59	4.2.2		2342.02	Foundation cleaning (water/alt jets and Vacuum trucks)									
60	4.2.3		2342.03	Rock excavation including dental excavation and scaling									
61	4.2.4		2342.04	Dental Concrete									
62	4.2.5		2342.05	Slush Grout									
63	4.2.6		2342.06	Dry Pack									
				Embankment Materials									
64	4.2.7		2342.07	Compacted Till - Zones 1 and 1C									
65	4.2.8		2342.08	Compacted Granular - Zone 2C									
66	4.2.9		2342.09	Compacted Rockfill - Zone 3C									
67	4.2.10		2342.10	Compacted Rockfill - Zone 3D									
				SUB-TOTAL DOWNSTREAM COFFERDAM									

LOWER CHURCHILL PROJECT MUSKRAT FALLS CH0009 - CONSTRUCTION OF NORTH AND SOUTH DAMS				SCHEDULE OF PRICE BREAKDOWN							APPENDIX A2.1		
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				DATE: 31 - Jul - 2014							BIDDER'S NAME:		
No	REFERENCE Exhibit 2 - ATT 1	WBS CODE CODE	SUBCODE	PRICE ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY A	MAN HOURS AT SITE	MANPOWER COST/UNIT (\$ CAN) B	MATERIALS COST/UNIT (\$ CAN) C	EQUIPMENT COST/UNIT (\$ CAN) D	PROFIT COST/UNIT (\$ CAN) E	UNIT PRICE (\$ CAN) F= (B+C+D+E)	TOTAL PRICE (\$ CAN) G= A x F
				NORTH DAM									
				CIVIL WORK									
				Clearing									
105	4.5.1	2320.01		Clearing of the North Abutment									
				Excavation									
106	4.5.2	2320.02		Overburden Excavation									
				Foundation Preparation									
107	4.5.3	2320.03		Foundation Cleaning (water/air jets and vacuum)									
108	4.5.4	2320.04		Rock Excavation including Dental Excavation and Scaling									
109	4.5.5	2320.05		Dental Concrete									
110	4.5.6	2320.06		Slush Grout									
111	4.5.7	2320.07		Dry Pack									
112	4.5.8	2320.08		Drilling Holes in RCC and Bedrock for Grouting									
113	4.5.9	2320.09		Grouting - Successful Connections									
114	4.5.10	2320.10		Dry Cement incorporated in the grout									
115	4.5.11	2320.11		Cored Drill Check Holes									
116	4.5.12	2320.12		Percussion Drilling Check Holes									
117	4.5.13	2320.13		Water pressure test (lugeon - 5 Stages)									
118	4.5.14	2320.14		Water Pressure Test - Successful connections									
119	4.5.15	2320.15		Uplift gauges									
120	4.5.16	2320.16		Thermistor (measure temperature in grout holes)									
				Drainage Holes									
121	4.5.17	2320.17		Drilling Holes for Drainage in Foundation from Drainage Gallery, Ø76 mm									
122	4.5.18	2320.18		PVC Caps for Drainage Holes									
123	4.5.19	2320.19		Drilling Holes Upward for Drainage from Drainage Gallery into RCC, Ø76 mm									
				Instrumentation									
124	4.5.20	2320.20		Drilling Holes for piezometers									
125	4.5.21	2320.21		Vibrating Wire and Standpipe Piezometers TYPE - 1, excluding Cables									
126	4.5.22	2320.22		Vibrating Wire and Standpipe Piezometers TYPE - 2, excluding Cables									
127	4.5.23	2320.23		Instrument Cable including PVC Conduits and Pull Boxes									
128	4.5.24	2320.24		V-notch Weirs									
129	4.5.25	2320.25		Vibrating Wire Weir Monitors.									
130	4.5.26	2320.26		Data logger, Terminal Box, Barometer Box including Grounding									
131	4.5.27	2320.27		Crest Survey Monuments									
				Concrete and RCC operations									
132	4.5.28	2320.28		Roller Compacted Concrete (RCC)									
133	4.5.29	2320.29		Conventional Vibrated Concrete (CVC) (Crest and Flip Bucket)									
134	4.5.30	2320.30		Facing Concrete									
135	4.5.31	2320.31		GERCC or GEVR - Formed Faces									
136	4.5.32	2320.32		Conventional Vibrated Concrete (North Abutment Crest Surface)									
137	4.5.33	2320.33		Increase or decrease in quantity of cement - Bid Mix (rate only)									
138	4.5.34	2320.34		Increase or decrease in quantity of flyash - Bid Mix (rate only)									
139	4.5.35	2320.35		Increase or decrease in quantity of cement - Source B (rate only)									
140	4.5.36	2320.36		Increase or decrease in quantity of flyash - Source B (rate only)									
141	4.5.37	2320.37		Precast Concrete									
142	4.5.38	2320.38		Steel Reinforcement									
143	4.5.39	2320.39		Steel Guardrails									
144	4.5.40	2320.40		Waterstop									
				NORTH DAM - Auxillary Services									
				ELECTRICAL WORK									
145	4.6.1	2370.01		Exothermic Connections.									
146	4.6.2	2370.02		Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 500 kcmil									
147	4.6.3	2370.03		Bare, Stranded, Medium Hard-Drawn Copper Conductor, size 4/0 AWG									
148	4.6.4	2370.04		Embedded Copper Grounding Plates									
				SUB-TOTAL NORTH DAM									

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No	REFERENCE Exhibit 2 - ATT 1	CODE	SUBCODE										
	5	3100		Powerhouse Channels									
	5.1		3120.00	Tailrace									
				CIVIL WORK									
				Tailrace Rock Plug - Overburden Excavation									
149	5.1.1		3120.01	Overburden Excavation, excluding excavation of Cofferdam 3 - Dry Conditions									
				Tailrace Rock Plug - Rock Excavation									
150	5.1.2		3120.02	Tailrace Rock Plug Excavation including access ramp to powerhouse -Dry Conditions									
151	5.1.3		3120.03	Tailrace Rock Plug - Underwater Excavation									
				Tailrace Rock Plug - Stabilization and Rock Surface Protection									
152	5.1.4		3120.04	Grouted Rock Bolts Type A									
153	5.1.5		3120.05	Grouted Rock Bolts Type C									
154	5.1.6		3120.06	Chain Link Wire Mesh - Installation									
155	5.1.7		3120.07	Chain Link Wire Mesh - Removal									
156	5.1.8		3120.08	Existing Temporary Safety Fence - Removal									
				SUB-TOTAL TAILRACE									
				TOTAL MAN-HOURS:									
$=H14+H47+H86+H103+H120+H155+H211+H227$													
ROW A	CALCULATED TOTAL OF LUMP SUM AND UNIT PRICE ITEM (BASED ON APPROXIMATE QUANTITIES), AS DETAILED IN ITEMS 1 TO 169										\$	167,719,750.00	
ROW B	ESIMATE OF TRAVEL ALLOWANCES - TRADES LABOUR										\$	-	
ROW C	CALCULATED TOTAL OF LUMP SUM AND UNIT PRICE ITEMS (BASED ON APPROXIMATE QUANTITIES) PLUS ESTIMATED TRAVEL ALLOWANCES - TRADES LABOUR. (ROW C = ROW A + ROW B)										\$	167,719,750.00	

NOTES

Note 1 : If there has been an error in the calculation to establish the total of Column G (Total Price) or Column F (UNIT PRICE), then the figures of column A (Estimated Quantity of Units), column B (Man Hours), column C (Manpower), column D (Equipment) and column E (Profits) will prevail.

Note 2 : This Document is provided to the bidders in Native Excel File format. It is the bidders responsibility to verify cell formats and formulas.

Note 3 : Bidders shall not include any HST/GST from any source (whether from Bidder, subcontractor, vendors or suppliers) in the unit and lump sum prices in this Schedule of Price Breakdown. Bidders shall claim input tax credits on taxable supplies received from vendors, suppliers and subcontractors and thereof Bidders shall exclude HST/GST payable to the vendors, suppliers and subcontractors from the unit and lump sum prices in the Schedule. Bidders shall exclude HST/GST on the total listed in Row A.

FOR THE LOWER CHURCHILL PROJECT - MUSKRAT FALLS

This Appendix forms part of the Proposal submitted by:

Name of Bidder:

Request For Proposal, Package No: CH0009

Signature:

Date of Proposal: DD-MMM-YYYY