

Lower Churchill Project

CD0502 Construction of AC Substations

Interim Bid Evaluation Progress Report (18-Dec-2013)

Boundless Energy



Purpose

The purpose of this document is to provide a preliminary progress report of the bid evaluation for CD0502 – Construction of AC Substations.

Scope of Work

Generally, the scope of work for this package is for an Engineering, Procurement and Construction (EPC) turnkey solution including design, engineering, manufacturing, supply, delivery, construction, erection, commissioning, trial operation, turnover, and training for the following facilities:

- A new 735 kV substation extension at Churchill Falls;
- A new 735-315 kV substation at Churchill Falls;
- A new 315-138 kV substation at Muskrat Falls; and,
- A new 230 kV substation at Soldiers Pond.

Bidders

RFPs were issued to the following approved Bidders:

- Alstom Grid Canada Inc.
- Bechtel Power Corporation
- Burn & McDonnell Canada, Ltd.
- Elecnor Canada
- Peter Kiewit Infrastructure Co. (replacing ABB Inc.)
- Siemens Canada Ltd.
- Valard Construction LP

The following Bidders declined to submit an RFP:

- Bechtel Power Corporation
- Siemens Canada Ltd.

Milestones

- RFP was issued on 16-Jul-2013
- RFP closing date was originally 10-Oct-2013 but extended to 22-Nov-2013
- Bids were opened on 25-Nov-2013
- Technical information was distributed to the technical evaluation team on 26-Nov-2013 and 27-Nov-2013
- Preliminary technical evaluation completed on 17-Dec-2013

Bid Evaluation Schedule

<u>Activity</u>	<u>Planned</u>
Complete Short List and present to Management Team	19-Dec-2013
Complete Evaluation Process	28-Feb-2014
Issue Recommendation for Award for Approval	14-Mar-2014
Receive Approval of Award Recommendation	28-Mar-2014
Issue Limited Notice to Proceed (Letter Agreement) to Successful Bidder (so that Engineering can start)	1-Apr-2014
Conform Agreement (Contract) and Route for Approval	16-Apr-2014
Receive Approval of Agreement (Contract) Document	30-Apr-2014
Execute Award Agreement with Successful Bidder	16-May-2014

Initial Results

	BUDGET	ALSTOM	VALARD	KIEWIT	ELECNOR	BURNS & MCD
1.0 As-Bid Price						
1.1 Total As-Bid Price (\$CDN)	N/A	\$274,172,000.00	\$362,360,638.65	\$473,750,098.27	\$475,418,485.43	\$528,505,905.73
2.0 Price Breakdown						
2.1 Churchill Falls AC Substation	\$97,482,109.99	\$120,518,422.15	\$151,688,038.78	\$194,099,915.95	\$189,710,461.41	\$202,790,225.13
2.2 Muskrat Falls AC Substation	\$64,259,275.33	\$86,293,688.37	\$120,662,514.94	\$143,546,128.61	\$161,898,892.25	\$170,632,472.17
2.3 Soldiers Pond AC Substation	\$71,328,630.00	\$59,297,094.00	\$84,536,364.95	\$131,115,590.04	\$116,439,698.72	\$149,776,558.42
2.4 SDRL - Submission of Early Deliverables	incl.	\$5,453,700.00	\$0.00	incl.	\$356,093.15	\$216,650.00
2.5 Performance Security	incl.	\$858,077.96	\$2,563,845.00	\$3,268,875.68	\$3,545,170.16	\$5,090,000.00
2.6 15% Letter of Credit	incl.	\$1,765,514.39	\$2,909,875.00	\$1,719,588.00	\$3,468,169.74	Not Provided
2.7 Total Evaluated Price (\$CDN)	\$233,070,015.32	\$274,186,496.87	\$362,360,638.67	\$473,750,098.28	\$475,418,485.43	\$528,505,905.72
		1. Alstom's price is not commercially compliant. 2. Alstom's price is based on its own alternative substation design which is not technically compliant (Alstom did not provide price for base design).	Valard's price is commercially compliant (with the exception of SDRL Submission price).	Kiewit's price is commercially compliant with the exception it did not separate pricing for SDRL Early Deliverables.	Elecnor's price is commercially compliant.	Burns & McDonnell's price is commercially compliant.

Proposed Subs and Suppliers

	Alstom Grid Canada Inc.	Valard Construction LP	Peter Kiewit Infrastructure	Elecnor S.A.	Burns & McDonnell Canada
Proposed Manufacturers					
Circuit Breakers	Alstom	Siemens	ABB	ABB / Siemens / Alstom	Alstom
Disconnectors	Alstom	Siemens	Hapam	Hapam / Coelme / Siemens / Alstom	Alstom
Transformers	Alstom	Trench	Trench	ABB / Trench / Pfiffner / Alstom	Cooper Power Systems
Surge Arrestors	Tridelta	Siemens	ABB	ABB / Siemens / Tridelta	(*)
Insulators	Lapp / Maclean	Seves	(*)	Seves / Lapp / NGK	(*)
MV Switchgear	General Switchgear	Siemens	ABB	ABB / Eaton	ABB
LV Switchgear	Schneider	ABB	(*)	ABB / Eaton	(*)
Protection and Control	(*)	(*)	(*)	ABB/ Siemens / SEL	EP2
UPS	(*)	(*)	(*)	Gentec	(*)
Fire Detection and Protection System	(*)	(*)	(*)	Notifier / Edwards	(*)
CVTs	Alstom	(*)	ABB	(*)	Alstom
Proposed Subcontractors					
Engineering	Alstom	Dashiell / Phasor (Quanta Companies)	ABB	Stantec	Burns & McDonnell
Civil Works	H.J. O'Connell / Opron / Pomerleau / CRT-Hamel / Pennecon / Marco	Valard / Northstar	Kiewit	Pennecon / Opron / CSA	H.J. O'Connell
Electromechanical	GJ Cahill / JSM Electrical / Emera Utility Services	Valard	Kiewit	GJ Cahill	Black & McDonald (LV) / Emera Utility Services (HV)
Commissioning	(*)	Valard	Kiewit	Point Comm	Pennecon
Geotechnical Services	(*)	Northstar	(*)	Bigland Geomatics / Amec	Stantec

Clarification Issued to Date

	Alstom	Valard	Kiewit	Elecnor	BMcD
Commercial – Issued	40	31	10	14	7
Commercial – Responses	40	24*	10	14	7
Technical - Issued	80	57	73	38	49
Technical - Response	27*	57	0*	38	0*
NOTES	*Response to remainder of technical clarifications expected on 10-Jan-2014	*Response to remaining commercial clarifications expected on 10-Jan-2014	*Response to technical clarifications expected on 10-Jan-2014		*Response to technical clarifications expected on 10-Jan-2014

Notes – Alstom

- Alstom's price is based on its own alternative substation design which is not technically compliant for the following reasons:
 - Reduced CTs
 - Combined Protection and Control Functions
 - Location of Control Buildings
- Alstom did not provide a price for the base design
- Based on Company's feedback, Alstom has promised to provide a technically compliant proposal by 10-Jan-2014
- Alstom's original commercial proposal was deficient because information was missing (personnel rate schedules, equipment rate schedules, etc.)
- Alstom's Schedule of Price Breakdown is non-compliant for the following reasons:
 - contains mathematical errors
 - missing key information (i.e., direct person hours)
 - Labour, Material and Equipment pricing not properly segregated, and
 - Unit prices not provided or contained "TBA"

Notes – Alstom (Cont.)

- Alstom’s price appears to be “indicative” (i.e., based on historical cost data rather than actual subcontractor quotes)
- Although no alternative prices were provided, Alstom proposed the following possible cost reductions for further consideration:
 - Point-on-wave Synchronization Relays at Churchill Falls 735 kV
 - Gas Insulated Switchgear (GIS) at MF and CF (versus Air Insulated Switchgear specified)
 - Combined award of CD0501 and CD0502
- Many of the proposed subcontractors are local NL companies (i.e., Pennecon, GJ Cahill, HJ O’Connell, etc.)
- Alstom prefers to use Parent Guarantee instead of Bonds (will need to check with Nalcor Treasury to determine if PCG is acceptable)
- A price was provided for a Letter of Credit

Notes – Valard

- Valard's price is commercially compliant.
- Overall, Valard's bid was complete and well presented.
- Valard will self-perform the majority of the engineering, procurement, and construction services
- Dashiell Corporation (a Quanta company) will complete the civil and electromechanical engineering (requires validation of qualifications and experience)
- Phasor Engineering (a Quanta company) will provide P&C engineering, P&C manufacturing , and commissioning (requires validation of qualifications and experience)
- Valard named only one subcontractor, Northstar (a company from Alberta), that would complete the foundation installation
- Valard's construction schedule for MF is aggressive and not realistic (award 01-Apr-2014 and start work 15-Jun-2014)
- Valard's manpower loading at each site needs further review and validation

Notes – Valard (cont.)

- Valard have proposed the following cost reduction options:
 - Alternative Foundation Design
 - P&C and SMC Systems Design Alternative

Notes - Kiewit

- Kiewit's price is commercially compliant with the exception of the following:
 - no separate pricing for SDRL Deliverables (minor)
 - Labour, Material and Equipment pricing not properly segregated (even after requested to do so)
- The person hours provided in Appendix A2.1 does not match the person hours provided in Appendix A2.7 (676,415 versus 783,118)
- Kiewit reduced the bid validity period from 180 days to 60 days (not realistic).
- Kiewit assumed the utility building at CF is not required based on feedback from CD0501 discussions
- Kiewit's alternative price is based on being awarded CD0502 AND CD0501 for a total price of \$1,007,716,940.00 CAD
- Kiewit will self perform civil, electrical, and mechanical work
- Kiewit took exception to the LD cap (15% of Contract Price); however, didn't specify an amount (they changed it to "TBD" in the exceptions)

Notes - Elecnor

- Elecnor's price is commercially compliant
- Elecnor's labour rates are extremely high (mark-up on top of mark-up)
- Elecnor did not have any exceptions to the Articles or Exhibits
- Some of the information provided with Elecnor's proposal was in Spanish
- Elecnor's execution plan was a collection of subcontractor information
- Elecnor's main subcontractors are: Pennecon, Opron, GJ Cahill, and Stantec (Engineering and PM)
- Elecnor proposed an "over the top" site facilities compound at each site. These facilities would include two (2) warehouses, a site office for Elecnor, a site office for Company, a security gate, lunch room, first aid building, laundry building, fencing, water and sewer, concrete walkways, a laydown area, and paved parking

Notes – Burns & McDonnell (BMcD)

- BMcD's price is commercially compliant
- BMcD proposed its own Milestone Payment Schedule which was easy to follow
- BMcD's Personnel Rate Schedules was not a consolidate rate schedule but rather a collection of each subcontractor's personnel rates
- BMcD Equipment Rate Schedules was not a consolidate rate schedule but rather a collection of each subcontractor's equipment rates
- BMcD's execution plan provided good detail
- BMcD took exception to the assignment of the transformer package (PD0537)
- BMcD price includes \$4.5M for concrete walls surrounding the transformers at CF and MF
- BMcD believes the physical layout, building layout, and physical design (as well as other areas) can be optimized and the resulting cost savings could be from 3-5% of the contract price (\$16M to \$26M)

Observations

- Although Alstom's bid price is non-compliant, its believed they will remain low price even after their commercial and technical proposal is brought into compliance
- Valard's proposal wasn't privy to the cost saving measures used for CD0501, which Alstom and Kiewit took advantage of when pricing its proposal for CD0502
- Valard can self perform a majority of the work, which removes the pricing risk of using the local civil contractors (and may allow for more productive negotiations).

Recommendation

- Complete the technical clarification process with Kiewit, Elecnor and Burns & McDonnell to ensure pricing is aligned with scope and specifications
- Attempt to bring Alstom's RFP into commercial and technical compliance (using the bid clarification process)
- Short list in January 2014
- Endeavor to work with the short listed Bidders to reduce pricing through further clarifications and negotiation