

**CONTRACTING PLAN**

**TY1505 – Site C Transmission Interconnection**

**Supply of Overhead Conductors for Site C**

**RFP No. 8066**

**05 July 2017**

## 1. PURPOSE

The purpose of this Contracting Plan is to obtain early internal stakeholder support and approval (at a summary level) for Infrastructure Projects Supply Chain to commence formulation of the Supply of Overhead Conductors for Site C Request for Proposal (RFP) document prior to issue for public bidding on BC Bid. This Contracting Plan supplements, where applicable, the Site C Procurement Approach, approved June 11, 2012 and the Site C Procurement Options Report dated July 2012 by introducing key concepts to be included in the proposed RFP and eventual contract.

## 2. PROJECT DESCRIPTION

This requirement is part of the Site C project. The Site C Clean Energy Project will be a third dam on the Peace River that will optimize BC Hydro's two existing heritage assets upstream and develop the hydroelectric potential of the Peace River. Once built, the project will provide 1100 MW of capacity and 5100 GWh of energy per year – enough to power the equivalent of about 450,000 homes per year in B.C.

The transmission component of the Site C project involves the interconnection of the future Site C Generating Station to the BC Hydro 500 kV transmission system. Transmission lines 5L005 and 5L006 will connect the Site C Substation to the Peace Canyon Generating Station (PCN). Transmission lines 5L015, 5L016 and 5L017 will connect the Site C Generating Station (STC) to the new Site C Substation.

The RFP will include supply of ACSR (aluminum conductor, steel reinforced) and ASC (aluminum stranded conductor) for 500 kV transmission lines 5L005 and 5L006 (Site C Substation to PCN) and 5L15/16/17 (Site C Substation to the Site C powerhouse).

## 3. CONTRACT REQUIREMENTS

### 3.1 Scope of Work

The Scope of Work will include:

- Supply and delivery of 1900 km of SP-926.7 Aluminum Conductor Steel Reinforced (ACSR), 900 km for 5L005, 900 km for 5L006 and 100 km of construction spare.
- Supply and delivery of 15 km of SP-2303.5 Aluminum Stranded Conductors (ASC), 5 km for 5L005 and 10 km for 5L006.
- Supply and delivery of 32 km of Peace ACSR (for 5L15/5L16/5L17).

Specifications to include the following:

- Standard Technical Specification 382-0002 R1.
- BC Hydro Transmission Engineering is the Professional of Record for the Site C transmission lines. BC Hydro may choose to do a supplier evaluation and audit of the proposed manufacturing facility prior to award.
- Materials will be subject to quality inspections and witness of testing by BC Hydro representatives during manufacture.
- Supplier will be responsible for shipping the 5L005/5L006 materials directly to the transmission line contractor's storage yard near Chetwynd (location to be determined). Material for lines 5L15/16/17 will be shipped to MMBU Surrey Stores.
- BC Hydro will do the receiving inspection of the material when it arrives at the transmission line construction contractor's storage yard (5L005/5L006) and MMBU (5L15/16/17).

### 3.2 Financial

This procurement is part of the transmission component of the Site C Project, and is funded from the following three Work Packages:

Work Package	Work Package Budget	Approval Date
Constructed Transmission Line 5L005 YM-80004.4.T.02.001		2 February 2016
Constructed Transmission Line 5L006 YM-80004.4.T.02.002		2 February 2016
Constructed Trans Lines PH- Substation YM-80004.4.T.03.001		2 February 2016
Subtotal		

The table below shows the approved budget for the supply of transmission line conductors, along with the forecast cost of the conductor based on the current design.

	Approved Budget	Contract Estimate
5L005 Conductors		
5L006 Conductors		
5L015/16/17 Conductors		
Subtotal Direct Cost		
Contract Contingency (5%)		
Total CR Value		

The current approved transmission budget is based on the 2013 cost estimate and preliminary design. The 2013 cost estimate was based on 392 "flat" towers and Peace conductors.

The transmission line design has progressed since and based on the completed 65% design for 5L005 and 5L006 it has been determined that SP926.7 conductor will be required to reduce line losses and increase tower span lengths, which reduces the overall direct cost of the transmission lines.

The forecast cost of the conductors, which is based on the current design, exceeds the approved work package budget. A contingency reserve draw, requiring Board of Directors approval, must be processed prior to awarding this contract.

A Contract Requisition (CR) will be raised in PassPort for [REDACTED]. The forecast contract contingency is to address potential quantity changes due to changes to the tower layouts. Upon approval, this Contracting Plan will be attached to the CR in Passport and the CR will be routed for approval in accordance with BC Hydro's Financial Authority Approval Policy ("FAAP").

Conditions precedent will be added in the RFP indicating award of the Contract will be subject to BC Hydro receiving financial approval. The Contract will be awarded only after the project change notice is approved and the project team has confirmed that there is sufficient funding to cover the Contract.

#### 4. MARKET SOUNDING

Market research was conducted to identify ACSR and ASC conductor suppliers who have proven performance with BC Hydro over the years. The following companies were identified as potential suppliers:

- [REDACTED]
- [REDACTED]
- [REDACTED]

Both [REDACTED] and [REDACTED] have existing blanket POs with BC Hydro and have supplied various types of cables and conductors for many years. [REDACTED]  
[REDACTED] has also supplied cables and conductors to BC Hydro in the past.

It is anticipated that the three suppliers mentioned above will submit competitive bids for this requirement. This RFP may also attract international manufacturers and suppliers who may also prove capable of meeting this requirement. There are no market constraints anticipated at this time.

#### 5. CONTRACT PLAN

##### 5.1 Sourcing Mechanism

The RFP standard Supply template document will be used and will require firm, fixed unit pricing based on the pre-determined quantity and delivery periods. The intent is to award the Contract to one supplier only, but the RFP document will allow the flexibility to split the award to different vendors.

##### 5.2 Performance Security

Performance security holdback of 5% and a performance bond of 50% of contract value will be required.

##### 5.3 Pricing

The Schedule of Quantities and Prices will price out each shipment separately and will include unit costs for each shipment priced per kilometer and a total lump sum DDP Destination, Prepaid. Optional extended warranty and the performance bond will be priced separately.

A refundable steel reel deposit cost will be requested as follows:

Refundable Steel Reel deposit (not included in the Conductor prices) is:

\$\_\_\_\_\_/reel (CAD)

#### 5.4 Delivery Schedule

The RFP will require staged delivery of the conductors with the 5L005 conductors to be delivered in 2018 and the 5L006/5L15/5L16/5L17 conductors in 2019.

Conductor	Quantity	Delivery Period	Delivery Location
SP-926.7 (5L005)	1000 km (200 reels), including spare	Jun - Sep 2018	Line Contractor's Marshalling Yard
SP-2303.5 (5L005)	5 km (1 reel)	Jun - Sep 2018	Line Contractor's Marshalling Yard
SP-926.7 (5L006)	900 km (180 reels)	Jan – Apr 2019	Line Contractor's Marshalling Yard
Peace (5L15/16/17)	32 km (7 reels)	Jan – Apr 2019	BC Hydro Store 1, Surrey, BC
SP-2303.5 (5L006)	10 km (2 reels)	Jan – Apr 2019	BC Hydro Store 1, Surrey, BC

#### 5.5 Payment Schedule

Ninety five percent (95%) of the value of goods is payable within 30 days upon receipt of materials in good order and receipt of an invoice from the supplier.

5% of the value of goods will be retained as performance security and will be released upon Total Completion. Total Completion is defined as Hydro's Representative approval that supply and delivery of conductors are complete and in accordance with the Contract Documents.

Payment for returnable steel reel deposits will be negotiated with the lead proponent as suppliers are expected to have different terms regarding returnable steel reels. If the lead proponent requires payment of the steel reel deposits, BC Hydro will negotiate offsetting of the 5% security holdback against the reel deposits due to BC Hydro upon returning the reels at the supplier's designated warehouse.

#### 5.6 Supplementary General Conditions

The following Supplementary General Conditions are anticipated:

- Warranty: Length of the warranty will be extended to 3 years from the standard warranty of 12 months after completion of all the installation or 180 days after possession of all deliveries (whichever is earlier).
- Bonding: Indicate that if BC Hydro accepts a Letter of Credit, in lieu of a performance bond, a parent company guarantee is also required.

#### 5.7 Aboriginal Involvement

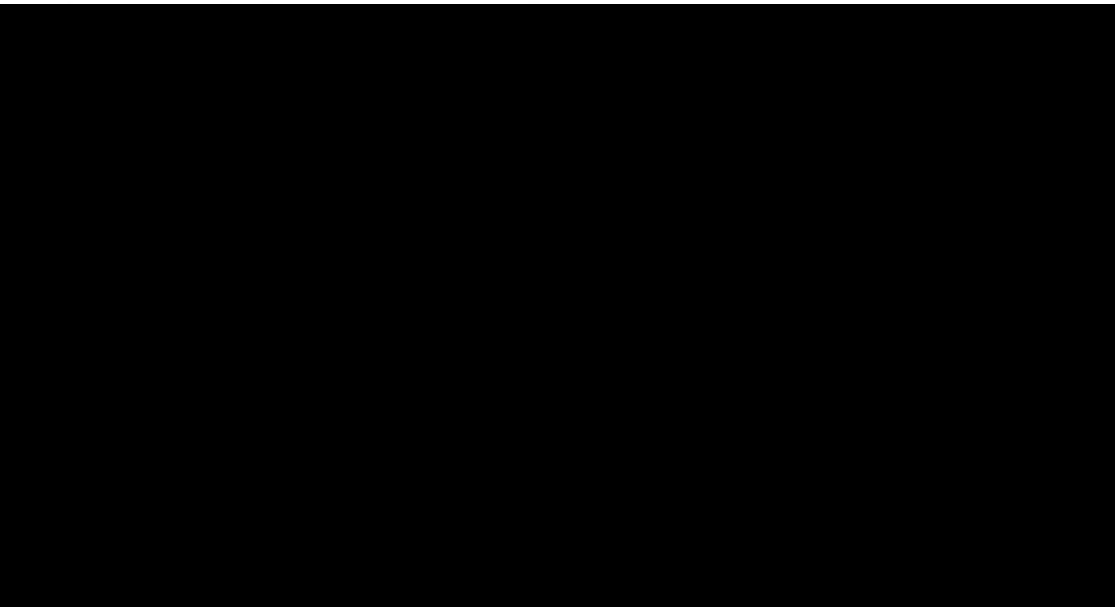
The Site C Transmission Project Team and the Site C First Nation Engagement Team have assessed the opportunities for First Nations. There are no known opportunities for the supply of overhead conductors.

## 5.8 Evaluation

The evaluation will proceed as per Section – Evaluation and Contract Award of the standard BC Hydro RFP document.

The "High-Level Evaluation Criteria," presented in the following table, will be included within the RFP document.

High-Level Evaluation Criteria	Weight (out of 100%)
Total	100%



## 5.9 Evaluation Committee (EC)

The EC is expected to be made up of the following individuals:

	Project Manager Transmission Engineering Quality Assurance
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The EC may be provided with advice from Subject Matter Experts from the following areas:

- Engineering;
- Project Scheduling;
- Finance;
- Procurement;
- Quality Assurance



- Construction and Contract Management;
- Site C Owner's Engineer.

#### 5.10 Procurement Schedule

The procurement schedule is anticipated to be as follows:

- |                                   |                   |
|-----------------------------------|-------------------|
| - Contracting Plan Finalized      | 07 July 2017      |
| - Approve CR                      | 21 July 2017      |
| - Release RFP                     | 31 July 2017      |
| - Close RFP                       | 30 August 2017    |
| - Complete Evaluation             | 29 September 2017 |
| - Pre-award Audit (if required)   | 27 October 2017   |
| - Approve Recommendation to Award | 24 November 2017  |
| - Award Contract                  | 29 November 2017  |

#### 5.11 Lessons Learned

In reviewing the Lessons Learned Report, pulled from the Business Warehouse, the following were identified as areas that could improve this particular RFP:

TY1305 – The contractors did not complete material receiving reports which resulted in materials not being properly tracked and distributed. The contractors should have completed materials receiving reports within 24 hours of acceptance. Processing of supplier invoices could potentially be delayed due to lack of receiving reports. The transmission line construction contract must include the proper procedure and notification to BC Hydro when materials are received on-site to allow BC Hydro to process a Goods Receiving Report.

### 6. KEY RISKS AND MITIGATION

#### 6.1 Procurement Risk

**Issue:** Due to insufficient time allotted for bid preparation and also lack of notification to prospective proponents, there is a risk of receiving inadequate numbers of competitive responses.

**Mitigation:** This risk will be mitigated through sending an invitation list of known suppliers in the Request to Post Competitive Bid Form. The RFP will be on BC Bid for a minimum duration of 4 weeks.

#### 6.2 Schedule Risk

**Issue:** Due to delayed delivery of the conductors, there is risk of construction delays that could potentially result in delay claims and missed ISD date.

**Mitigation:** Procurement of ACSR conductors will be initiated with enough lead time to allow for unforeseen delays. The Contract award date of 13 October 2017 will give the Supplier enough time for planning and manufacturing and meeting the delivery date of June 2018 (5L005) and January 2019 (5L006). The delivery date incorporates float to absorb potential delays during manufacturing and delivery. Lead time verification confirms that the current lead time for these conductors is around 4-6 months.

### 6.3 Financial (Cost) Risk

- Issue:** Due to unforeseen factors such as increases in costs and demand for raw materials, there is a risk that pricing will come in higher than budgeted.
- Mitigation:** The Site C project has project contingency for materials costs coming in higher than estimated due to unforeseen market conditions. A single contract is being awarded in order to gain economies of scale discounts.
- Issue:** Due to the long delivery period (more than 1 year) for the 5L6 conductors, firm pricing will be challenging. Price escalation due to increases in commodity pricing may result.
- Mitigation:** The adjustment formula will be neutral to both parties and may also result in de-escalation if the commodity prices dropped. To achieve cost certainty (not cost savings) the project team may consider hedging (i.e. fixing the price) during negotiation with lead proponent or at any time during the Contract implementation.

### 6.4 Quality Risk

- Issue:** Due to quality issues with the services of the Supplier, there is a risk that poor Supplier conformance to the contract requirements results in delayed delivery or issues during conductor installation.
- Mitigation:**
- (i) RFP submission requirements and quality requirements and will be defined in agreement with the Professional of Record and other stakeholders as required.
  - (ii) Plant evaluation will be conducted prior to award to any Supplier based on the risks identified by the Evaluation Committee.
  - (iii) To ensure correct interpretation of quality requirements by the Supplier(s), early stage and periodic meetings will be arranged with Supplier(s) to establish the expectations, review and accept the Quality Plan, Inspection and Test Plan prior to manufacturing.
  - (iv) Supplier surveillance plan will be developed and implemented in agreement with the Professional of Record and other stakeholders as required. Non-conformances if any will be documented and addressed by the Supplier per accepted corrective action by Professional of Record.
- Issue:** Due to the new supplier's not being familiar with BC Hydro's contracts, engineering design/acceptance, quality assurance, documentation and project reporting processes, there is a risk that significant effort is required to oversee, collaborate and work with new supplier that could result in delayed delivery of overhead conductors.
- Mitigation:** There is at least six month float allocated within the overall project schedule to accommodate such delay. The anticipated start of conductor stringing is by 2019 and the conductors are scheduled for delivery mid of 2018. The RFP will require supplier to allow 2-3 months in their schedule for engineering design/acceptance, quality assurance and project reporting processes.



#### 6.5 Performance Risk

**Issue:** Due to unforeseen events, there is a risk that the Supplier does not perform in delivering the goods.

**Mitigation:** Mitigation plan includes the requirement for the Supplier to provide a 50% performance bond. There will also be a 5% performance security holdback. BC Hydro has an existing long term supply agreement (blanket) for ACSR conductor that is intended for operation needs. BC Hydro may conduct negotiation with the incumbent supplier in the unlikely event of a supplier default.

#### 6.6 Warranty Risk

**Issue:** The installation of conductors will span for a longer period than the conductor supply contract, and is anticipated to occur from 2019 – 2022 based on BC Hydro's overall project schedule. The transmission line construction contractor may come up with a different schedule that requires the start of stringing earlier than 2019; i.e., summer or fall of 2018. The standard 12 month warranty period will not provide adequate coverage

**Mitigation:** BC Hydro will require material and workmanship warranty for a period of 36 months. Warranty period will commence after the installation, or 180 days after receipt of all conductors in good order, whichever is earlier. The most likely scenario is that the warranty will commence 180 days after receipt of all conductors (October 2019 if all conductors are received by April 2019). Thus, the 3 year warranty coverage will be up to October 2022. Optional pricing for extension of this 3 year warranty by an additional 1, 2 or 3 years will be required. BC Hydro will assess the need for further warranty extension based on the construction progress and may exercise the optional warranty within 18 months after possession of the supplied conductors.

### 7. NEGOTIATION AND EXIT STRATEGIES

**7.1** Negotiation with the identified lead proponent is allowed under this RFP. If negotiations are required, the Procurement Lead will conduct the negotiations with assistance from the Evaluation committee and the subject matter experts as required.

**7.2** Exit strategies at each stage of the procurement are:

1. During the RFP process, BC Hydro may cancel the RFP, choose not to negotiate, or, choose not to award any contract to any proponent.
2. During the negotiation process, BC Hydro may terminate negotiations with any one or more proponents at any time for any reason.
3. During the contract's implementation, the standard suspension or termination for convenience clauses are in effect.

8. **SUMMARY**

Based on the assessment of the project requirements, market conditions and risks pertinent to this contract package, it is recommended that the subject Contracting Plan be approved for preparation of the RFP.

9. **APPROVAL**

Prepared by:

July 5, 2017

Date

Reviewed by:

July 5, 2017

Date

Accepted by:

06 July 2017

Date

Reviewed by:

July 11, 2017

Date

Reviewed by:

July 11, 2017

Date

Approved by:

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July<sup>12</sup> 2017

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