



Hydro Hawkesbury

Detailed engineering proposal-115kV station retrofit

PROFESSIONAL SERVICES PROPOSAL

BPR Ref.: 14988

May 25th 2012
Revision : 0

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : i
		Rev. : 0	

TABLE OF CONTENTS

1	PROJECT DESCRIPTION	2
2	MANDATE	2
3	INFORMATION AND SCOPE OF WORK	4
4	SCHEDULE.....	4
5	PROFESSIONAL FEES	4
6	PROJECT TEAM	4
7	PROJECT MANAGERS.....	5
8	ADDITIONAL SERVICES	5
9	RESPONSIBILITY AND COMPENSATION INSURANCE	5
10	TERMS AND CONDITIONS.....	6

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : 2
		Rev. : 0	

1 PROJECT DESCRIPTION

The project consists in the addition of a new 110kV/12.48kV 25MVA power transformer at the Hawkesbury power station. Also, two new circuit switchers and transformer pad will be added to improve on the transformer protection that is currently by fuses.

The installation of the new transformer is required since the two (2) existing transformers are aging.

This proposal is for the professional services described in the mandate.

2 MANDATE

BPR's mandate will consist of the following:

- Coordination with Hydro One for the addition of the transformer. Station modifications such as capacity increase must be coordinated with Hydro One;
- Project management, coordination, meeting and scheduling with Hydro Hawkesbury;
- Short circuit current calculation taking into account the addition of the new equipment. The addition of the transformer will increase the available short circuit current at the 12.5kV bus. A verification is required in order to ensure that the existing equipments have the proper short circuit withstand capacities;
- Electrical engineering for the installation of the new transformer. The engineering will include:
 - Preparation of the technical specifications and list of potential bidders for the purchase of the new transformer and the 115 kV switches equipment
 - Technical tender analysis for the transformer & 115 kV switches purchase;
 - Transformer & 115 kV switches manufacturers drawings review and approval;
 - Transformer factory witness testing (Based on 2 days of testing). (Travelling time and expenses excluded);
 - Transformer factory witness test report;
 - Protection and control drawings for the transformer and 115kV Circuit switcher;
 - Layout drawing of the station with new equipment arrangements;

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : 3
		Rev. : 0	

- Resistivity Study and analysis;
- Ground grid study and drawings;
- Preparation of the construction technical specification;
- Technical assistance for bidders site visit (construction);
- Technical specification for the testing, commissioning and start-up of the new installation and modified equipments;
- Civil/structural engineering for the installation of a new transformer. The engineering will include:
 - Site surveys;
 - Geotechnical study and service coordination;
 - Geotechnical study interpretation of results;
 - Oil containment design for the new transformer (Sorweb system);
 - New transformer foundation design;
 - New 12.5kV bus steel structure & foundation design;
 - New 115kV equipment steel structure foundation design;
 - Fence modification design for station entrance relocation;
 - Site preparation and surfacing of portion of station that is touched by the construction.
 - Preparation of the civil construction technical specification;
 - On site technical assistance & supervision during commissioning and start-up of the new equipments
- 12 on site visits for technical assistance and supervision during preliminary site visits, construction, commissioning and start-up of the new equipments.

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : 4
		Rev. : 0	

3 INFORMATION AND SCOPE OF WORK

In order to perform this mandate, it's assumed that Hydro Hawkesbury will provide the following information to BPR:

- Existing station drawings;
- Hydro One contact person information;

All data and information contained herein are contractual. Any modification to one or the other may lead to a revision of this proposal.

4 SCHEDULE

The engineering activities will be scheduled with Hydro Hawkesbury, though most activities are scheduled for 2012.

5 PROFESSIONAL FEES

The engineering activities for the completion of this mandate, will be invoiced at a fix price as shown below. Prices shown do not include expenses. Expenses will be charged separately.

Coordination and project management:	5000\$
Civil engineering:	45 000\$
Electrical Engineering:	<u>50 000\$</u>
Total:	100 000\$

6 PROJECT TEAM

The proposed team of professionals for this project consists of :

<u>Name</u>	<u>Professional status</u>
Mr. Guillaume St-laurent, P.Eng.	Electrical Engineer
Mr. Denis Clément, P.Eng. PMP	Electrical engineer
Mr. Marcel Fortin, Eng.	Transformer specialist
Mr. François LaFontaine, P.Eng.	Civil engineer
Mrs. Vanessa Pace	Civil Engineer

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : 5
		Rev. : 0	

7 PROJECT MANAGERS

Hydro Hawkesbury:

Mr. Michel Poulin

BPR:

Mr. Denis Clément, P.Eng. PMP

8 ADDITIONAL SERVICES

The services listed below are available but not included in the present proposal:

- Station exterior lighting;
- Protection study and relay setting sheets;
- Laboratory and analysis fees.
- Full time field supervision.
- Drafting of commercial clauses and purchase orders.
- All different authorities permits.

9 RESPONSIBILITY AND COMPENSATION INSURANCE

During the undertaking of the project, BPR will maintain in force a civil responsibility insurance policy comprising a \$1,000,000 limit and a professional responsibility insurance policy (error or omission) comprising a \$5,000,000 limit.

BPR's professional responsibility for error or omission is limited to recoverable amounts in virtue of the professional responsibility insurance policy subscribed by BPR.

Furthermore, BPR's responsibility for all other fault, whatsoever cause arising, is limited recoverable amounts in virtue of the general civil responsibility insurance policy subscribed by BPR.

	Hydro Hawkesbury 115kV station retrofit Professional services proposal	Project no.:14988	
		Date : May. 25 th 2012	Page : 6
		Rev. : 0	

10 TERMS AND CONDITIONS

Monthly invoicing is based on progress.

The engineering activities will begin after the written acceptance of our proposal.

All traveling and transportation expenses, including meals and airline tickets will be charged at cost plus 10 %.

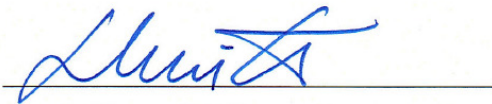
Car expenses will be charged at .45\$/km.

The prices submitted do not include goods and services tax nor the Quebec sales tax; they will be added to our professional fees invoice.

Payment: net 30 days. 1% per month for outstanding balance.

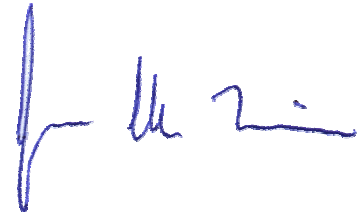
Hoping everything will be satisfactory, we remain,

Yours truly,



Denis Clément, P.Eng. , PMP

Project Director



Jean-Claude Maurice,
P.Eng.
V.P. T&D Energy