

FOR INTERNAL BC HYDRO USE ONLY

SITE C CLEAN ENERGY PROJECT

SUMMARY OF

SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS CONTRACT

January 27, 2016

SITE C CLEAN ENERGY PROJECT

SUPPLY AND INSTALLATION OF TURBINES AND GENERATORS January 2016

The following is a summary of the draft contract for the Supply and Installation of Turbines and Generators, or **TG**, for the Site C Clean Energy Project ("**Project**").

In general terms, the scope of Work covered by the contract includes: (i) design, supply and delivery of the Equipment (generally including the six Francis-type turbines, governor systems, generators and excitation systems); (ii) installation of such Equipment; and (iii) testing and commissioning of such Equipment.

The form of contract is based on the BC Hydro's standard form of supply and install contract, modified to reflect the requirements and circumstances of the Project.

A draft contract was included with the Requests for Proposals ("**RFP**") and formed the basis upon which the three proponents submitted their respective proposals.

Capitalized words and phrases in this summary have the meanings described in the TG contract.

IMPORTANT: THIS SUMMARY IS A HIGH LEVEL OVERVIEW OF KEY TERMS AND IS FOR INFORMATION PURPOSES ONLY. IT SHOULD NOT BE RELIED ON WITHOUT REFERENCE TO THE FINAL SIGNED CONTRACT.

sec. 29.6 of

Schedule 2)

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Parties BRITISH COLUMBIA HYDRO AND POWER AUTHORITY ("BC Hydro")

- (Agreement sec. 9; (the "Contractor")
 - As a general rule, neither party may assign the Contract, or any part of it, to anyone without the other party's consent, such consent not to be unreasonably withheld. BC Hydro may assign the Contract in certain circumstances, such as to an affiliate or someone amalgamating with BC Hydro.
- Representatives, Key Individuals and
 BC Hydro and the Contractor each appoint a representative for contract administration. The roles and authority of the representatives are set out in Schedule 3.

SubcontractorsBC Hydro has confirmed in Schedule 3 certain Key Individuals. The Contractor(Sec. 6.27 and 6.28must make reasonable commercial efforts to provide the Key Individuals and
may only replace them with BC Hydro's consent. BC Hydro must act reasonably
in deciding whether or not to consent. If a Key Individual is not available for
any reason other than a reason outside the Contractor's control, the Contractor
must provide a substitute with equivalent qualifications and must pay
liquidated damages for each day the Key Individual is unavailable, to a
maximum of \$25,000 per Key Individual.

If Contractor wants a **Subcontractor** to perform a material portion of the Work, or a portion that has a material effect on the other portions of the Work, the Contractor must first obtain BC Hydro's consent. In addition, BC Hydro may object to any Subcontractor. The Contractor is fully responsible for its Subcontractors.

Scope of Work, Scope of Work. The scope of Work is set out in the Agreement and in 3 **Specifications and** Schedule 2, and is further described in considerable detail in Schedule 6 which Schedule includes the drawings and technical specifications. There are prescriptive technical specifications for a limited number of requirements, including the (Agreement number and general type of turbines to be supplied under the Contract, and sec. 1.1, Sec. 3, 4 performance-based specifications were used to the extent possible to specify and 5 of Sch. 2, the design, supply and installation requirements. The Contractor must Sch. 4 and Sch. 6) undertake the Work in accordance with the specifications.

Work Plan and Schedule. The proponent's initial work plan and schedule is attached to Schedule 4. It reflects the key Project milestones which are also included in Schedule 4. The Contractor will provide monthly progress updates.

 4 Contract Price, Payment, and Adjustments
 (Agreement sec. 3; Sec. 9 of Sch. 2; Sch. 11)
 Contract Price. The Contract Price is ●, which may be adjusted in accordance with the Contract, made up of lump sum milestone payments payable upon completion of defined milestones. The prices are set out in Schedule 11 and represent the entire compensation to perform the Work and all obligations under the Contract. The price includes all of the costs of labour, supervision, material, equipment, transportation and delivery, overhead, financing, PST and all costs and expenses incurred in performing the Work.

Price Adjustments. There are some other possible adjustments to price such as: (i) worker guest night adjustments if the Contractor uses more guest nights than initially provided for based on their submissions and the contract does not otherwise allow the Contractor to adjust their guest nights; and (ii) labour cost escalation adjustments.

Taxes. The Contract Price includes all taxes except GST. Either party is entitled to a change if there is a change to the rate of, application of, or a new federal or B.C. sales tax, excise tax, or duty.

Payments. Within 30 days after date of invoice.

Advance Payment. BC Hydro may pay advance payments to the Contractor, secured by a letter of credit. The aggregate amount of all advance payments outstanding at any time will not exceed 7.5% of the Contract Price.

- 5 Changes (Sec. 10 of Sch. 2 and Sch. 12) There is a defined and comprehensive change process to deal with issues such as changes to Work, schedule and costs. Changes may be by mutual agreement; BC Hydro may direct a change; or the Contractor may claim a change. The methods for valuing changes are described in Schedule 12. There is a process by which BC Hydro may advise the Contractor of a contemplated change and the Contractor must, in turn, provide a change report setting out impacts on schedule and costs, following which BC Hydro may proceed with the change or not.
- Submittals
 (Sec. 6.32 of Sch. 2, Sch. 5 and Appendix 6-1 of Sch. 6)
 The Contract includes procedures and comprehensive requirements for submittals of drawings, designs, records, measurements and so forth. Schedule 5 sets out the processes for review, consent and endorsement of submittals, as well as the basis for objections. Additional requirements with respect to specific types of submittals and design submittals are set out in Appendix 6-1.

 Delays and Acceleration
 (Sec. 11 of Sch.2)
 BC Hydro-Caused Delay. If the Contractor is delayed because of anything BC Hydro does, or does not do, that is contrary to the Contract, the Contractor is entitled to an extension of time to perform the Work and any reasonable and substantiated costs incurred by the Contractor directly arising from the delay. A labour dispute by workers engaged by BC Hydro or another contractor is deemed to be a BC Hydro-caused delay.

Contractor-Caused Delay. If the Contractor causes the delay, the Contractor is not entitled to any costs or an extension of time for performance of the Work. A labour dispute by workers of the Contractor or its Subcontractors is deemed to be a Contractor-caused delay.

Government Authority Delay (referred to as a "**Project Delay**"). If the Contractor is delayed because a Governmental Authority, including a court, directs or orders a suspension of the Project, then such delay is deemed to be a suspension by BC Hydro and the Contractor may be entitled to costs and more time (see Note 19 below).

Force Majeure. The party claiming Force Majeure is excused from performance of the affected obligations, subject to the provision of notice and efforts to mitigate, and is entitled to an extension of time equal to the impact of the delay caused by the Force Majeure, but not costs.

Public Protests at Site. Not a Force Majeure; treated as a suspension and the Contractor may be entitled to costs and more time (see Note 19 below).

Acceleration. BC Hydro may require the Contractor to accelerate work, at the Contractor's cost, if the Contractor is behind schedule due to an act or error of the Contractor. In addition, BC Hydro may require the Contractor to accelerate work if BC Hydro wants to accelerate, and the Contractor must make commercially reasonable efforts to comply; in such cases, the Contractor is entitled to increased costs, if any, to accelerate the work in accordance with BC Hydro's request.

Liquidated Damages. The contract includes liquidated damages, or LDs, for certain circumstances where the Contractor fails to achieve interface milestone dates, completion milestones dates or specific technical performance requirements (section 9 of Schedule 11). Interface milestone and completion milestone LDs are capped in aggregate at 15% of the Contract Price. Technical performance LDs are capped in aggregate at 10% of the Contract Price.

9 Permits and Laws
 (Sec. 6.2 and 6.4, and Appendix 2-3 of Sch. 2)

 Permits. BC Hydro must obtain those Permits described in Schedule 2 as Project Related Permits by the dates set out in the contract. The Contractor is responsible for obtaining all other Permits required for the performance of the Work.

Contractor Assistance. The Contractor must provide assistance to BC Hydro in obtaining Project Related Permits.

Compliance. The Contractor must comply with all Permits and Laws, including the Environmental Assessment Certificate.

 Site Conditions and Access
 (Sec. 6.3 and Appendix 2-4 of Sch. 2; Sec. 13 Appendix 6-1 of Sch. 6)
 Site Conditions. The Contractor is deemed to be aware of the Site and local conditions (but not including geotechnical or subsurface conditions) and generally cannot make a claim against BC Hydro for site conditions. However, BC Hydro commits providing the Contractor access to certain Contractor's Work Areas, designated laydown areas, a storage area, and certain other conditions and if BC Hydro does not deliver up those conditions, the Contractor may be entitled to claim a Change.

Site Availability. The contract provides that the Site will be open and available for the performance of Work every day of the year, including statutory holidays.

11Coordination and
Interface with
Other ContractorsThe Contractor is required to coordinate the Work with work at the Site being
performed by Others and for interfacing with each Interface Contractor in
accordance with Appendix 4-8.

 (Sec. 4.2 and 6.6 of Sch. 2;
 Appendix 4-8 of Sch. 4)
 The Contractor is responsible to meet defined interface milestones as set out in Appendix 4-8. Failure of the Contractor to meet an interface milestone may result in liquidated damages payable by the Contractor to BC Hydro (see Note 8 above). Failure of the generating station and spillway contractor or the powerhouse completion contractor engaged by BC Hydro to meet an interface milestone may result in liquidated damages payable by BC Hydro to the Contractor (see Note 8 above).

Description

<u>Summary</u>

12 Quality, Warranty and Cavitation Warranty

(Sec. 6.24 and 24 of Sch. 2; Sec. 4.4 of Appendix 6-3 of Sch. 6; Sch. 8) **Quality**. The Contractor is responsible for quality assurance and control. Schedule 8 sets out requirements such as the development and implementation of a quality management system (ISO 9001 Standard), documentation submittals, design, supply and installation quality management plans, the appointment of a quality manager, inspection and testing and audits. [Also, there is a process for addressing non-conformities (i.e., does not conform to Contract).] Schedule 8 contains detailed minimum requirements for what must be included in the Contractor's quality plans.

Warranty. The Contractor generally warrants, among other things, design, materials and workmanship free of defects and compliant with Contract Documents. The design warranty period with respect to the Equipment in a single Unit expires on the earlier of seven years from the date the Unit commences Commercial Operation or the date of Single Unit Substantial Completion for that Unit, and with respect to all other Equipment expires seven years from the date of the certificate of Total Completion. The materials and workmanship warranty period with respect to the Equipment in a single Unit expires on the earlier of five years from the date the Unit commences Commercial Operation or the date of the Certificate of Single Unit Substantial Completion. The materials and workmanship warranty period with respect to the Equipment in a single Unit expires on the earlier of five years from the date the Unit commences Commercial Operation or the date of Single Unit Substantial Completion for that Unit, and with respect to all other Equipment expires five years from the date of the certificate of Total Completion. There is a process for addressing defects during the applicable warranty period and what BC Hydro may do if the Contractor does not address the defects, including remedying the defect at the Contractor's cost.

Cavitation Warranty. The Contractor will be responsible for providing a separate 10,000-operating hour cavitation warranty.

13 Contractor Defaults (Sec . 13 of Sch. 2)
Contractor Default. If the Contractor (i) fails or neglects to perform the Work properly and expeditiously or (ii) fails to comply with the requirements of the Contract to a substantial degree or (iii) the aggregate liability of the Contractor to BC Hydro exceeds the liability caps set out in section 23.1 of Schedule 2, then BC Hydro may deliver a notice to the Contractor and the Contractor has seven days to correct the default. The Contractor may have more time if the Contractor provides a reasonable schedule to fix the problem within seven days and completes the corrections in accordance with the schedule. If the Contractor does not, or is unable to, correct the default, then BC Hydro may terminate the Contract.

Bankruptcy. If the Contractor is bankrupt, insolvent or seeks creditor protection, BC Hydro may terminate the Contract.

14 BC Hydro defaults (Sec. 14 of Sch. 2)
The Contractor may terminate the contract if (i) BC Hydro fails to pay amounts when due, provide the Contractor with adequate directions or instructions so as to prevent the Contractor from performing the Work or resume the Contract within 730 days of the effective date of a suspension (see Note 19 below), and (ii) BC Hydro does not cure the default within 30 days of notice or provides a plan to cure the default and does not complete the correction in the plan.

If the Contractor terminates the contract because of a BC Hydro default, the Contractor is entitled to compensation for work to the date of termination, third party cancellation charges, reasonable and substantiated direct demobilization costs, other reasonable and substantiated direct costs, plus a mark-up of 15% on those cancellation charges and costs.

15Limitation of
LiabilityMaximum aggregate liability. Contractor's aggregate liability is limited to the
Contract Price plus described insurance proceeds, subject to some exceptions
such as fraud.15Limitation of
Liability(Sec. 12 of Sch. 2)Sch. 2)

Consequential Damages. Neither party is liable to the other party for Consequential Damages.

16 Performance Security (Sec. 14 of Sch. 2; Sec. 3 of Sch. 11) The Contractor is providing the following performance and payment security: Letter of Credit in an amount equal to 17.5% of the sum of the

- Letter of Credit in an amount equal to 17.5% of the sum of the Contractor's price for the Installation Work and the Non-Installation Work, as specified in Appendix 11-1; and
- Third Party Guarantee in an amount equal to 82.5% of the sum of the Contractor's price for the Installation Work and the Non-Installation Work, as specified in Appendix 11-1.
- 17 Indemnification
 In general, the Contractor must indemnify BC Hydro from any third party claims resulting from negligence, errors, omissions, wilful misconduct or fraudulent or criminal acts of the Contractor or any of the Contractor's Affiliates or Subcontractors. BC Hydro provides a similar reciprocal indemnity to the Contractor.

The Contractor also provides an indemnity in respect of third party claims for infringement of intellectual property rights resulting from the acts or omissions of the Contractor or any of the Contractor's Affiliates or Subcontractors.

18 Insurance (Sec. 21 of Sch. 2; Sch. 13)
Schedule 13 sets out the insurance requirements of BC Hydro and the Contractor. BC Hydro is responsible for providing wrap-up liability insurance of not less than (i) \$100 million per occurrence and (ii) \$100 million in aggregate during completed operations (<u>Note</u>: currently "per year" coverage but under discussion to change to aggregate). In addition, BC Hydro must provide course of construction insurance in the amount of (i) \$1.5 billion per occurrence and (ii) \$1.5 billion in aggregate with respect only to loss caused by earthquakes or floods.

The Contractor must pay any deductibles under each of BC Hydro's insurance policies except in certain circumstances including damage arising from the negligent acts or omissions of BC Hydro or any person for whom BC Hydro is in law responsible.

Suspension and Suspension for Convenience. BC Hydro may suspend the Contract, or part of it, 19 **Termination for** at any time at its sole discretion. During the suspension, the Contractor may Convenience not remove equipment from the Site. Provided the suspension was not due to a default by the Contractor, BC Hydro must pay the Contractor's reasonable and (Sec. 15 of Sch. 2) substantiated direct costs of standing by including stand-by equipment costs, plus a mark-up of 15 % on such costs on account of overhead and profit, all subject to the Contractor having a general duty to mitigate. The Contractor must resume the suspended work on notice from BC Hydro and the Work Program and Schedule will be extended to cover the suspension period. If BC Hydro does not resume work within 730 days of the effective date of the suspension, the Contractor may take steps to terminate the Contract (see Note 14 above).

Termination for Convenience. BC Hydro may terminate the Contract at any time at its sole discretion. The Contractor is entitled to compensation for Work performed to the date of termination, third party cancellation charges and the certain direct costs associated with wrapping up the work and demobilizing from Site, plus a 15% mark-up on those direct costs on account of overhead and profit. However, the Contractor is not entitled to claim lost future profits or revenues.

20 Labour Workforce The contract includes the usual labour workforce terms and conditions that are in all of the Site C construction contracts including:

(Sec. 7 of Sch. 2)

- Labour there are requirements if the Contractor is a party to a collective agreement (e.g. collective agreement must be for the term of the Contract; waiver of non-affiliation clauses; no raid provision). Contractor is obligated to take steps to prevent or terminate labour disruptions at the Work Site.
 - Limitations on the Contractor hiring other Project contractors' workers ("no poaching") for 30 to 60 days. Similar restrictions on BC Hydro hiring the Contractor's workers.
 - Requirements regarding worker conduct and BC Hydro's ability to remove workers from the Work Site.
 - Weekly work force reporting including information on temporary foreign workers, the total number of workers, the number of red seal apprentices and the total number of workers who have a primary residence in the Peace River Regional District and B.C.
 - Apprenticeship reporting and requirements in accordance with government policy.
- 21 Worker Accommodation (Sec. 8 of Sch. 2) The Contractor is provided with a number of Guest nights at the Worker Accommodation Facility at no additional cost. The Contractor may not pay living-out allowances or per diems for accommodation to any worker, except managers and supervisors, that elects to live somewhere other than the Worker Accommodation Facility. The Contractor will not employ any worker that lives in temporary accommodation that is in competition with the Worker Accommodation Facility without the approval of BC Hydro. The Contractor is responsible for the conduct of its workers at the Worker Accommodation Facility.

Safety and Security (Sec. 6.15 to 6.17, 17.1 and 25.2 of Sch. 2; Sch. 10) Safety. The Contractor will not be designated as the prime contractor for any safety area for the duration of the Contract. The Contractor will be required to comply with the most current form of BC Hydro's Safety Standards and Regulations, including the Safety Practice Regulations. Schedule 10 also sets out a detailed list of health and safety requirements and requires the Contractor to appoint various safety personnel. The Contractor must prepare and comply with a Site Safety Management Plan, as well as a Public Safety Management Plan. There are Contractor safety reporting and training requirements. BC Hydro has inspection and audit rights.

Security. The Contractor must develop and comply with a security plan that outlines measures the Contractor will implement to protect employees and subcontractors, materials and equipment, the Work and any area of ancillary use such as storage and laydown areas.

Environment. The Contractor must comply with environmental laws. Schedule 23 **Environment and** 7 of the Contract requires the Contractor to hire qualified environmental Heritage professionals who must prepare "environmental protection plans", or EPPs, in (Sec. 17.3, 17.4 to accordance with certain requirements. The Contractor must appoint 17.10, 17.17 and environmental monitors to conduct monitoring required in the EPPs. There are 25.1 of Sch. 2; requirements for the Contractor to report and provide information if there is an Sch. 7) environmental incident. There are also requirements in respect of hazardous substances.

> **Heritage**. Section 17.3 of Schedule 2 sets out various heritage requirements. Under the Contract, "chance finds" discovered at the site entitle the Contractor to claim a Change.

24 Intellectual Property (Sec. 28 of Sch. 2) The Contractor grants to BC Hydro an irrevocable, perpetual, fully paid up and royalty-free licence (i) to use Intellectual Property owned or licensed by the Contractor and incorporated into or exists in respect of the Work for BC Hydro's own use in the installation, operation, maintenance, repair, upgrade or replacement of any or all of the permanent Work; (ii) in limited circumstances, to reverse engineer any or all of the Work where the Contractor has supplied insufficient information to permit BC Hydro to install, operate, maintain, repair, upgrade or replace any or all of the permanent Work; and (iii) to allow third parties employed or engaged by BC Hydro to have access to such Intellectual Property for those purposes, subject to confidentiality requirements.

- 25 Confidentiality (Sec. 19 of Sch. 2) The Contract includes confidentiality provisions that are generally consistent with other BC Hydro contracts. BC Hydro may disclose confidential information to its advisors, to other contractors who need to know the information, as may be required by Laws and Permits, to regulators such as the BCUC, and to the provincial government.
- 26 Audits, Tests and Inspections (Sec. 6.31 of Sch. 2; BC Hydro has rights to audit, test and inspect for the purpose of determining that Work is being performed in accordance with the Contract, including the safety requirements under the Contract.

Sec. 7 of Sch. 10)

- 27 Communications (Sec. 19.4 and 19.5 of Sch. 2; Sch. 9)
 The Contract includes a detailed listing of the roles and responsibilities of the Contractor and BC Hydro in respect of communications with the communities, the public, media and traffic management. Generally, BC Hydro takes the lead role in communications and the Contractor is required to provide necessary support.
- 28 First Nations (Sec. 6.44 of Sch. 2; Sch. 16)
 The Contractor must make reasonable commercial efforts to provide (i) business opportunities for Aboriginal Businesses; (ii) employment opportunities for Aboriginal persons; and (iii) training opportunities for Aboriginal persons. The Contractor must develop an Aboriginal Inclusion Plan to describe how it will fulfill these commitments and must regularly report on progress.
- 29 Disputes (Sec. 16 of Sch. 2; Sch. 14)
 Any disputes between the Contractor and BC Hydro that are not settled within a relatively short time by negotiation at senior management level may be referred to a binding but not final "fast-track referee" resolution process. A roster of appropriately qualified referees will be established with the Contractor.

If a party disagrees with a referee's decision, that party may refer the matter to final and binding arbitration, all without interruption to the Project and schedule.

The Contractor is required to adopt the same dispute resolution model with all material subcontractors to ensure uniformity in approach to resolving disputes.

Schedules to the Supply and Installation of Turbines and Generators Contract

Schedule 1 – Definitions and Interpretation: This schedule contains a comprehensive list of definitions – many that are standard to these kinds of contracts and many that are technical in nature and specific to Site C. The schedule also includes standard contract interpretation principles.

Schedule 2 – General Conditions: This schedule contains the applicable general terms and conditions, or GCs. Schedule 2 also includes a listing of Project Related Permits (those permits that will be obtained by BC Hydro). There are also extracts from the Contractor's proposal submitted during the RFP process.

Schedule 3 – **Roles and Representatives:** Schedule 3 deals with the appointment, replacement and authority of BC Hydro's Representative and the Contractor's Representative under the Contract. Also, it imposes obligations on the Contractor in respect of designated "Key Individuals" including their availability and replacement.

Schedule 4 – Work Program and Schedule: This schedule includes the Contractor's initial work program and schedule, the process for updating that work program and schedule, and includes key Project Milestones and interface requirements.

Schedule 5 – Submittals Procedure: This schedule describes the review or consent process for Contractor submittals, such as designs and drawings.

Schedule 6 – Specifications and Drawings: This schedule is comprehensive and includes the scope of Work, and technical specifications and drawings.

Schedule 7 – **Environmental Obligations:** This schedule addresses issues such as environmental protection plans, the use of Qualified Environmental Professionals, environmental monitors, reporting, and training and tailboard meetings.

Schedule 8 – Quality Management: Under this schedule, the Contractor must prepare and implement design, supply and installation quality management plans. In addition, this schedule also requires the Contractor to implement quality management systems, employ a quality manager and carry out inspections, testing and audits. There is also a process for managing, correcting and tracking non-conformities.

Schedule 9 – **Communications Role**: This schedule requires the Contractor to appoint a communications manager and imposes on the Contractor various requirements in respect of communications with the public and media. The Contractor's general obligation is to support BC Hydro and provide information.

Schedule 10 – Safety: This schedule sets out a number of general duties and safety requirements for the Contractor. In addition, this schedule requires the Contractor to prepare and maintain Site Safety Management Plans.

Schedule 11 – Prices and Payment: Schedule 11 is a detailed schedule that addresses a range of issues such as price, adjustments to the price, payment terms, liquidated damages and performance security including BC Hydro's right to call on such performance security.

Schedule 12 – Changes: This schedule sets out the process by which changes to, among other things, the Work and schedule may be made, either by way of change orders or directives. It also sets out processes by which BC Hydro may identify preliminary changes or the Contractor may make claims for a Change. There are also methods for determining the value of a Change.

Schedule 13 – **Insurance:** This schedule sets out the insurance requirements, and key terms, for insurance to be obtained by the Contractor and BC Hydro, respectively.

Schedule 14 – Dispute Resolution Procedure: Schedule 14 describes the dispute resolution procedure for disputes between the Contractor and BC Hydro for all disputes and disagreements under the contract. The process includes settlement meetings, the use of referees and, ultimately, binding arbitration.

Schedule 15 – **Records**: This schedule defines records, the retention requirements in respect of those records and sets out BC Hydro's audit rights in respect of those records.

Schedule 16 – Aboriginal Inclusion and Reporting Requirements: Among other things, this schedule establishes the Contractor's obligations with respect to providing business opportunities to Aboriginal Businesses and employment and training opportunities to Aboriginal persons, and requires the Contractor to develop an Aboriginal Inclusion Plan.

Schedule 17 – Privacy Protection: Schedule 17 enables BC Hydro and Contractor to comply with statutory obligations under the *Freedom of Information and Privacy Protection Act* with respect to Personal Information.