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Procurement & Cost Management Branch, Alberta Infrastructure
Transmitted Electronically to: infras.procurement@gov.ab.ca

September 14, 2018

Dear Mr. Khan,

RE: CanSIA Responses on Draft RFP & SESA For New Alberta-Based Solar Power

CanSIA is the national trade association that represents the solar energy industry throughout Canada. Thank you for the opportunity to provide responses on the Draft Versions of Alberta Infrastructure's Request for Proposals (RFP) & the Solar Energy Supply Agreement (SESA) for New Alberta-Based Solar Power (135,000 MWh).

This competitive procurement is of critical importance to the establishment and development of the solar energy industry in Alberta. While there is less than 50 MW of solar electricity generation in Alberta today, the potential for solar energy to contribute to a future clean and affordable electricity-mix is significant. The price discovery will establish Alberta's first real-world benchmark for the cost of solar electricity which will be informative for future policy and regulatory decisions, power system planning and private-sector investments. The development, construction and operation of the successful Solar Project(s) will assist multiple private- and public-sector stakeholders to gain solar energy technology experience and lessons learned and will lead to approximately \$125 million in private-sector capital investment and create more than 750 jobs in the province.

Through consultation and engagement with our Membership, several specific cases affecting the eligibility (or lack thereof) of a Solar Project, Solar Project Proposal or Respondent (including: definition(s) of metering configuration, expansion projects, behind-the-meter and host facilities; project delivery experience; and Indigenous participation eligibility criteria) were identified. These specific cases will be brought forward by individual CanSIA Members in their RFI

responses. To the extent possible, CanSIA would encourage Alberta Infrastructure to strongly consider these specific cases to ensure that the final eligibility criteria do not render quality Solar Projects, Solar Project Proposals or Respondents ineligible to participate.

Responses herein are focused on process and technical considerations and risk mitigation strategies that would affect most or all Solar Project Proposals with potential for the greatest impact on the overall success of the procurement. CanSIA's responses are presented under the following headings:

1. Process & Timelines.
2. Compensation Structure & Settlement:
 - a. Excess Electricity & Renewable Attributes.
 - b. Capacity Products Payments.
 - c. DTS Credits.
3. Contract Terms:
 - a. Pre-Construction Liability Limit.
 - b. Interconnection Costs & Security Deposits.
4. Minor Clarifications & Amendments.

1. Process & Timelines

Since Alberta Infrastructure released the initial Request for Information (RFI) in October 2016 (“Plan #017614”) for the competitive procurement of 135,000 MWh of solar electricity, the number of Solar Projects in the Alberta Electric System Operator (AESO) Connection Queue has increased from less than 5 to 45 as of September 2018 (now representing almost 1,500 MW or 20 times the amount required to fulfill this procurement). These Solar Projects are ready to compete in this Request for Proposals (RFP) process with the timelines as presented in RFP Section 2.2 (page 4) and reach Commercial Operation within 24 months of the Effective Date (i.e. “Target COD” as per RFP Appendix A, page 60). As a result, of this number of shovel-ready Solar Projects, CanSIA expects a significant level of over-subscription and the highest possible level of competition. ***Given the period of time since the initial RFI, CanSIA strongly encourages Alberta Infrastructure to not extend the process any further and appreciates Alberta Infrastructure’s efforts to provide as much of the final documentation as early as possible in the process in support of this outcome.***

2. Compensation Structure & Settlement

a) Excess Electricity & Renewable Attributes

It could be expected that excess Electricity and Renewable Attributes will be generated by Solar Projects for any or all of the following reasons: i) to achieve economies-of-scale; ii) to optimize output relative to land availability and interconnection costs; iii) to avoid Liquidated Damages under the terms of the SESA; iv) to mitigate annual solar energy resource variability; and v) to mitigate long-term performance degradation of photovoltaic modules.

It is not clear from the RFP nor SESA whether a Solar Project may bid only a partial amount of the Renewable Attributes generated by said Solar Project into this procurement and/or whether (and if so, how) they may monetize Renewable Attributes that are in excess of the volume of Renewable Attributes under contract in the SESA. Furthermore, it also appears – or could be interpreted - that excess Electricity is precluded from being sold to any entity other than the Power Pool. For example:

- RFP Section 3.1 (c) (page 30) states that a Solar Project Proposal must “have a proposed Estimated Annual Energy that is no greater than the Procurement Target”;
- RFP Section 3.1 (h) (page 31) states that the Solar Project must “not be the subject of a physical power, financial power, or capacity contract or derivative, or a purchase, premium, support or other contract relating to Electricity generated by, or Renewable Attributes produced from, the Solar Project”;
- SESA (page 1) states that “(the Generator will) transfer and assign all Renewable Attributes from the Project to the Province”;
- SESA Article 5.1 (a) and (b) (pages 39, 40) “(the Province) shall thereafter retain, all rights, title, and interest in all Renewable Attributes generated by or associated with the Facility during the Term” and “all rights, title, and interest in all Renewable Attributes”; and
- In the RESA, a Generator may amend their Estimated Annual Energy between Contract Date and the Commercial Operation Date. This option is not offered to the Generator in the SESA which further complicates the relationship between system-sizing and the potential for excess generation.

Recommendation: CanSIA understands that it is not Alberta Infrastructure’s intent to restrict a Solar Project from participating in any market, with Electricity or Renewable

Attributes produced in excess of the amount that they are obligated to transfer to Alberta Infrastructure under the terms of the SESA. For this reason, CanSIA recommends that the RFP & SESA are amended to clarify that such a restriction will not be applied. In so doing, Solar Project Proposals will be enabled to bid lower Strike Prices as a result of facility optimization, commercial strategy and risk mitigation.

b) Capacity Products Payments

Calculations undertaken by CanSIA utilizing the methodology in the Comprehensive Market Design (CMD) result in an Unforced Capacity Factor (UCAP) of higher than a minimum of 36% for solar electricity generation. The AESO's "Resource Adequacy Modelling Update" from July 27, 2018 uses a Performance Factor of 50% (reference: slide 30 of 62). As such, solar energy can make a meaningful contribution to the province's capacity needs during Alberta's tightest supply-cushion hours.

However, as the final design of the Capacity Market is not yet known, if net-Capacity Product payments were to accrue to the Generator, the potential impact on Strike Prices in Solar Project Proposals could be expected to be negligible. Therefore, the proposed Settlement approach in the SESA, whereby net-Capacity Products payments accrue to Alberta Infrastructure, is the most appropriate allocation. CanSIA notes that the SESA is unlike the RESA in that Alberta Infrastructure has a cost obligation while the AESO does not.

Clarifications to the Draft RFP & SESA with relation to intent, ownership and settlement of Capacity Products payments are also required. For example:

- CanSIA requests that Alberta Infrastructure provide further clarity on the role and responsibilities of Generators as it relates to their participation in the Capacity Market.
- CanSIA requests that a clause be added to the SESA to assert that the intent of the Settlement approach is to make the Generator "whole" vis a vis net-Capacity Product payments. This clause would mitigate potential for unintended consequences resulting from currently un contemplated final Capacity Market design elements.
- SESA Section 5.2 (d) (page 40) states that "all Capacity Products generated at or by the Facility shall belong to the Generator".
- RFP Section 3.1 (h) (page 31) states that the Solar Project must "not be the subject of a physical power, financial power, or capacity contract or derivative, or a purchase,

premium, support or other contract relating to Electricity generated by, or Renewable Attributes produced from, the Solar Project". CanSIA requests that Alberta Infrastructure confirm that is not in contravention to a Generator's capacity obligation.

c) Ownership & Settlement of DTS Credits

Distribution-connected Solar Projects located downstream of a Point of Delivery (POD) may receive transmission tariff-based credits (i.e. "DTS Credits") in certain Distribution Facility Owner (DFO) service territories, subject to tariff design and coincidence of generation with system peak. DTS Credits have been in place and operating for many years in Alberta and virtually all siting decisions for distribution-connected Solar Projects have been made to optimize their contribution to a project's economics. The RFP (Appendix A, page 56) states that the definition of Renewable Attributes excludes "any transmission tariff-based credits which may be available to Solar Projects connected to a Distribution System". However, the SESA (Section, 5.2 page 40) does not define ownership of DTS Credits (as it does with Electricity, Ancillary Services and Capacity Products).

Developers are best positioned to make siting and operational decisions to maximize DTS Credit revenues and to manage the associated risk(s). Developers may also reduce their Strike Price bid in consideration of DTS Credits (as is not currently the case with Capacity Product payments). ***CanSIA recommends that the SESA is clarified to define ownership and settlement of DTS Credits.***

3. Contract Terms

a) Pre-Construction Liability Limit

Significant investments will have been made in the development of all Solar Projects and the preparation of Solar Project Proposals by the Contract Date. If the Province terminates the SESA between Contract Date and the Commercial Operation Date, the Generators would potentially have incurred significant additional development and construction costs including Generating Unit's Owner Contribution (GUOC) to the AESO and/or interconnection costs to a Distribution Facility Owner (DFO). CanSIA notes that the Pre-Construction Liability Limit is \$24,000/MW. This amount is significantly less than the RESA which has a limit of \$8 million. CanSIA requests that the Pre-Construction Liability Limit is revised upward so that Generators

would have the ability to recoup the expenses that they can reasonably be expected to have incurred. This would result in lower Strike Prices bid in Solar Project Proposals.

b) Interconnection Costs & Security Deposits

There are certain instances during which the interconnection costs for a Solar Project could increase significantly post-Contract Date. For example, in the event that a transmission-connected Solar Project's metering configuration is changed by the AESO as a result of the projects contracted in Renewable Electricity Program (REP) rounds 2 and 3 (see Stage 4 Price Evaluation and Stage 5 Transmission Assessment (RFP, Page 41)). ***CanSIA requests that the SESA consider the treatment of Security Deposits in event of unforeseen interconnection cost increases.***

4. Minor Clarifications & Amendments

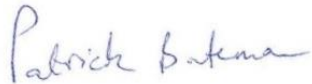
- Definition of a Megawatt: Unlike other generation technologies, the generation capacity of a Solar Project is commonly defined in either Alternating Current or Direct Current. CanSIA recommends that the definition of a “Megawatt” or “MW” is clarified in RFP Appendix A (page 53) to refer to Alternating Current to be consistent with the approach of the AESO and AUC.
- Wildfires & *Force Majeure*: The smog caused by wildfires can impact solar energy resource availability. Given the potential for future wildfire smog incidents, CanSIA recommends that wildfires are explicitly including as an act of god for the purpose of Force Majeure (SESA Section 11.3(a) (page 58).
- Copyright: RFP Section 6.6 (page 20) requires Respondents to transfer copyrights to Alberta Infrastructure. This is an uncommon provision for a renewable electricity RFP and is not present in the RESA. CanSIA requests that Alberta Infrastructure clarify what Intellectual Property would be transferred and notes that much of the Intellectual Property in a Solar Project is not the Respondent's to transfer.

CanSIA regularly engages and consults with our Members on a variety of issues related to policy, market development and regulatory affairs. For example, CanSIA is representing our Membership as an intervenor in the 2018 ISO Tariff Application (AUC proceeding 22534). As a result, CanSIA will have a need to discuss matters including tariff design and interconnection costs with potential Proponents in this procurement. Please confirm that such topics do not run

afoul of RFP Section 4 (c) (iii) “influencing or attempting to influence government officials or the management or staff of AI with respect to changes to laws, regulations, rules, policies, or guidelines (including the ISO Rules) directly or indirectly affecting the RFP, but excluding applications for permits, approvals or technical arrangements” or RFP Section 5.6 on Collusion.

Please do not hesitate to let me know if you require additional information and thank you for your consideration.

Best regards,



Patrick Bateman
Director of Policy & Market Development
Canadian Solar Industries Association (CanSIA)