CREATIVENERGY

15 August 2019

Via E-filing

Mr. Patrick Wruck
Commission Secretary
BC Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Mr. Wruck:

Re: British Columbia Utilities Commission (BCUC, Commission)
Creative Energy Vancouver Platforms Inc. (Creative Energy)
Application for a Certificate of Public Convenience and Necessity for Beatty-Expo Plants and Approval of Corporate Reorganization (Application)
Project No. 1598962

Please find attached Creative Energy's response to Commercial Energy Consumers Association of British Columbia (**CEC**) Information Request No. 2 on the Specified Scope, in accordance with the regulatory timetable established by Order G-159-19 in the above noted proceeding.

For further information, please contact the undersigned.

Yours sincerely,

Rob Gorter
Director, Regulatory Affairs and Customer Relations

Enclosure

Cc: Registered Intervenors

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Creative Energy Vancouver Platforms Inc.
Application for a Certificate of Public Convenience and Necessity for
the Expo and Beatty Plant Project and Approvals Related to Reorganization

CREATIVE ENERGY RESPONSE TO CEC INFORMATION REQUEST NO. 2 ON THE SPECIFIED SCOPE

35. Reference: Exhibit B-25, CEC 1.3.6 and 1.3.7

3.6 To what extent can contingencies can be reduced as a result of the risk reductions? Please explain and quantify.

RESPONSE:

Creative Energy takes the question to be directed to the budget contingencies specified in the Application. As this stage, Creative Energy does not recommend reducing any contingencies. While there has been some reduction in project risk as a result of refinement of the construction sequencing, the delays in project approvals have also exposed the project to potential costs escalations. Such risks are borne by the Developer and not Creative Energy such that reducing contingencies would not reduce Creative Energy's cost of the Proposed Project.

3.7 Please quantify all the benefits of the reduction in schedule risk to the extent possible.

RESPONSE:

Please see the response to CEC SS IR 3.6.1. The payment to the Developer by Creative Energy is unchanged, just as it would be if there are cost overruns on the project.

35.1 Please quantify, in percent and dollars, the potential increase in cost escalations as a result of project approval delays.

RESPONSE:

The potential increase in the total cost of the Proposed Project as a result of project approval delays has not been quantified at this time. The total capital cost estimate remains $53.1 million as stated in the Application. Please see the response to BCUC SS IR 1.3.3.2.

35.2 Recognizing that the payments to the developer are unchanged, please quantify the benefits of the reduction in risk accruable to the developer in percent and please assign a dollar value.

RESPONSE:

The potential benefit to the Developer as a result of the identified reduction in risk has not been quantified at this time. Creative Energy does not expect that the Developer will attempt to quantify such benefit because the Developer would have no reason to do so.

36. Reference: Exhibit B-25, CEC 1.4.2

4.2 At what point will the Commission be informed of (i) any change orders requested by Creative Energy?

RESPONSE:

A change order is a considered decision to change the project and potentially incur additional costs as a result. If Creative Energy decides to request a change order, this might be submitted to the BCUC in advance depending on the circumstances and cost impact of the change order. If the proposed change materially impacts Creative Energy's costs of the project, Creative Energy might choose to seek BCUC approval (such as a CPCN approval) before requesting the change. The impacts of change orders, if any, will be included in revenue requirement application(s) following completion of the Proposed Project.

It is not possible to report project delays caused by Creative Energy to the BCUC prior to the occurrence of the delay. The impacts of any project delays caused by Creative Energy, which are not expected, will be included in the applicable RRA following project completion.

Creative Energy notes that the words "subject to prudence review" were added to the Summary of Approvals Sought and draft Order provided in Exhibit B-23, Appendices 1-1 and 1-2 in recognition of the BCUC Panel determination on page 29 of the Order G-38-19 Decision.

36.1 Please provide a threshold in dollars as to the level of costs in a change order for which Creative Energy would seek specific Commission approval prior to proceeding with the change order.

RESPONSE:

Creative Energy has not identified a specific threshold dollar value of a change order at which Creative Energy would seek specific Commission approval prior to proceeding with the change order.

36.2 Would Creative Energy continue to pursue the current project if the risk associated with all change orders was to be borne by the shareholder? Please comment.

RESPONSE:

Creative Energy does not understand what is meant by the term "risk associated with all change orders" as it is used in this question. Generally, if a project (including a project change that is the subject of a change order) is beneficial for customers and cost-effective, the costs should be recovered in rates.

36.3 Please confirm that Creative Energy can become aware of increased risk of project delays before the project delay occurs.

RESPONSE:

In some cases, Creative Energy may become aware of increased risk of project delay before the delay occurs, but delays may also occur without a preceding change to the risk level of delay.

36.3.1 If confirmed, please confirm that the Commission will be advised at the earliest possible time of any project delays that are expected to arise.

RESPONSE:

Creative Energy does not believe it is necessary or a prudent use of resources to report to the BCUC every shift in project schedule risk. Creative Energy is, however, willing to report on substantial changes in the project schedule when the schedule is adjusted, if the BCUC wishes to receive such reports.

37. Reference: Exhibit B-25, CEC 1.24.3 and 1.25.1 and Exhibit B-24, BCUC 1.7.1

24.3 Please confirm that the contingency plan prepared by TES is not the 'fully executable and well-defined contingency plan' identified in the Execution Strategy.

RESPONSE:

Confirmed. Please see the responses to BCUC SS IRs 7.1 and 7.7.

7.1 Please confirm, or otherwise explain, whether the TES Group's report, as provided in Appendix 5-1, is a proposal for developing a Contingency Plan.

RESPONSE:

Creative Energy would not describe the TES Group report as a proposal. Contingency planning evolves over the life of the project. In advance of obtaining necessary approvals of the Proposed Project, designs are developed to a Class 3 level. Likewise, the Contingency Plan has been developed to a similar level. The Contingency Plan submitted does not address all the granular details of bringing in temporary boilers, as there are significant costs associated with developing the fine details. Incurring such costs prior to project approval is not justified.

The Contingency Plan submitted in Exhibit B-23 does prove the overall feasibility of the approach, and outlines the work and timelines to develop an actionable plan. Creative Energy believes this is an appropriate level of refinement at this stage of the project and aligns with our needs and requirements at this time.

37.1 Please provide quantification for the additional costs associated with developing the 'fine details'

RESPONSE:

This cost is estimated to be in a range of $60,000 to $100,000.

37.2 Are there specific degrees or classifications for the refinement of Contingency plans? Please explain.

RESPONSE:

Creative Energy is not aware of any formal degrees or classifications for the development of Contingency Plans. As with many types of project documents, Contingency Plans are developed in conjunction with the rest of the project, becoming more detailed and specific as the project details become crystallized.

37.2.1 If yes, please provide the classifications and please identify the degree of refinement to which the contingency plan is developed.

RESPONSE:

Please see the response to CEC SS IR 37.2.

38. Reference: Exhibit B-24, BCUC 1.7.1 and B-25, CEC 1.25.1 and Exhibit B-24, BCUC 1.7.8.1

7.1 Please confirm, or otherwise explain, whether the TES Group's report, as provided in Appendix 5-1, is a proposal for developing a Contingency Plan.

RESPONSE:

Creative Energy would not describe the TES Group report as a proposal. Contingency planning evolves over the life of the project. In advance of obtaining necessary approvals of the Proposed Project, designs are developed to a Class 3 level. Likewise, the Contingency Plan has been developed to a similar level. The Contingency Plan submitted does not address all the granular details of bringing in temporary boilers, as there are significant costs associated with developing the fine details. Incurring such costs prior to project approval is not justified.

The Contingency Plan submitted in Exhibit B-23 does prove the overall feasibility of the approach, and outlines the work and timelines to develop an actionable plan. Creative Energy believes this is an appropriate level of refinement at this stage of the project and aligns with our needs and requirements at this time.

25.1 Please identify when TES's final report will be prepared and provided to the Commission.

RESPONSE:

Please see the response to BCUC SS IR 7.8.1.

7.8 Please explain whether Creative Energy contemplates filing the final Contingency Plan with the BCUC.

RESPONSE:

Yes. Creative Energy anticipates that the BCUC will specify reporting requirements in its Order granting the CPCN. Creative Energy would propose to submit the final Contingency Plan in accordance with such reporting requirements.

38.1 Creative Energy states that 'Contingency planning evolves over the life of the project' in BCUC SS 1.7.1, but states in BCUC 1.7.8 SS that it will file a final Contingency Plan in accordance with reporting requirements. Please provide a description of the detail that will be included in the Final Contingency plan that is not included in the current plan and identify any aspects of the Final plan that Creative Energy expects will need to continue to 'evolve'.

RESPONSE:

Detail on the following will be included in the final Contingency Plan.

1. **Condition Assessment of existing system**
2. **Engineered boiler tie-ins and structural requirements (tender drawings)**
3. **Overall plant risk assessment and temporary boiler risk assessment**

Please see also the response to CEC SS IR 37.2.

38.2 Please provide an estimate of the time required to develop a final contingency plan assuming approval of the project and provide an estimated limit on the costs of any 'evolving' plan items, if any.

RESPONSE:

An estimate of the time required is 6 months following project approval. It should be noted that the Contingency Plan does not require 6 months of work, but rather the engineering of the project needs to be refined to a level where a full Contingency Plan can be generated. This engineering effort is estimated to be 6 months.

39. Reference: Exhibit B-25, CEC 1.26.1

26.1 Please explain why a full risk register was not completed at this time.

RESPONSE:

Please see the response to BCUC SS IR 7.7. The next version of the risk register will include input from the Design Engineering Firm. A final version will be generated once the General Contractor is retained, so that their expertise can be incorporated. The final contingency plan will contain a fulsome risk register, based on the input of Creative Energy engineering and operations personnel, TES Group and the Design Engineering Firm.

39.1 Has Creative Energy retained a General Contractor at this point?

RESPONSE:

No. Following CPCN approval, Creative Energy plans to employ the competitive processes set out in Appendix 6 of Exhibit B-23 to engage a qualified and experienced Design Engineering Company and General Contractor. CPCN approval has not yet been granted.

39.1.1 If yes, please identify the General contractor.

RESPONSE:

Please see the response to CEC SS IR 39.1.

39.1.2 If no, please explain why not.

RESPONSE:

Please see the response to CEC SS IR 39.1.

40. Reference: Exhibit B-27, CEC 1.11.9

Item	Value	Note
Cost of New Secondary Economizer	$2.055 million	Based on $1.37 million equipment cost + 50% installation cost
Annual Maintenance	1.5% of capital	
New Beatty Plant Gate Efficiency	83.1%	

In the Order G-38-19 Decision, the Commission requested further explanation of Creative Energy's efficiency assumptions for the baseline. In response, Creative Energy provided further discussion of the baseline as well as information on the 2023 rate impacts relative to an alternate baseline[3]. In the below table, Creative Energy has provided a 30-year NPV calculation for the Purchase New Economizer scenario relative to the baseline efficiency used in the Application as well as the alternate baseline efficiency shown in Exhibit B-23.

	Purchase New Economizer (2020 Completion)
30 Year NPV Relative to Baseline Efficiency Used in Application (80.4% at Plant Gate)	($4.0 million)
30 Year NPV Relative to Alternate Baseline Efficiency (81% at Plant Gate)	($2.6 million)

40.1 How did Creative Energy arrive at the 50% installation cost? Please provide details of estimating.

RESPONSE:

The engineering firm that obtained the equipment price quote for Creative Energy estimated that installation costs would be 40-60% of equipment costs. Creative Energy used the mid-point of that range, or 50%.

40.2 How did Creative Energy arrive at the estimated 'Annual Maintenance'? Please provide details of estimating.

RESPONSE:

Creative Energy arrived at the estimated annual maintenance based on Creative Energy's experience with operating and maintaining similar equipment within its plant, including the Clear Sky equipment.

41. Reference: Exhibit B-27, CEC 1.11.10

11.10 Please calculate the NPV of extending the term of the Clear Sky agreement independently of the proposed Project assuming no project is undertaken for the next five, ten, and twenty years, and provide the ratepayer impact.

RESPONSE:

In the below table, Creative Energy provides NPV calculations for the scenarios where the term of the Clear Sky agreement is extended for the requested time frames. The question above does not specify what assumptions Creative Energy is to use for the NPV calculations, and so Creative Energy has used the following assumptions:

- **that the Clear Sky unit will continue to operate for up to 20 years**
- **that no major capital replacement costs will be incurred**
- **that Creative Energy's maintenance costs for the Clear Sky unit do not change**
- **that the performance of the Clear Sky unit does not degrade further**
- **that Creative Energy and Clear Sky Energy Ltd. agree to extend the agreement on the same payment terms as currently apply.**

All values shown are the NPV of costs and benefits from the continued operation of the Clear Sky unit over the requested timeframes, relative to a baseline where the Clear Sky unit has been removed (this is the same baseline used in all previous analysis and in the response to CEC SS IR 11.9). Note that because these NPVs are for timeframes of 5, 10 and 20 years, they are not comparable to the NPVs generated by Creative Energy to compare the Proposed Project and the Alternative. Because the baseline efficiency used in the Application is the Beatty Plant efficiency with the Clear Sky equipment removed, the impact of extending the Clear Sky agreement (with the unrealistic assumptions that the Clear Sky equipment continues to operate without any deterioration in performance and with no increase in capital or maintenance costs) is to produce savings relative to the baseline.

The table also provides NPVs relative to the alternate baseline efficiency used in Exhibit B-23 and in the response to CEC SS IR 11.9. Because this alternate baseline efficiency is the same as the current efficiency with the Clear Sky unit installed, all NPVs are zero.

	Extend Clear Sky Agreement for 5 Years	**Extend Clear Sky Agreement for 10 Years**	**Extend Clear Sky Agreement for 20 Years**
NPVs Relative to Baseline Efficiency Used in Application (80.4% at Plant Gate)	($0.3 M)	($0.6 M)	($0.9 M)
NPVs Relative to Alternate Baseline Efficiency (81% at Plant Gate)	$0	$0	$0

41.1 Please provide the NPVs extending the agreement for 30 years.

RESPONSE:

Relative to the baseline efficiency used in the application, the NPV of extending the Clear Sky Agreement for 30 years (using the assumptions described in the response to CEC SS IR 11.10) would be -$1.4 million. Relative to the alternate baseline efficiency, the NPV would be $0.

42. Reference: Exhibit B-27, CEC 1.11.9 and Exhibit B-18, BCUC 1.95.1 and 1.95.2

Item	Value	Note
Cost of New Secondary Economizer	$2.055 million	Based on $1.37 million equipment cost + 50% installation cost
Annual Maintenance	1.5% of capital	
New Beatty Plant Gate Efficiency	83.1%	

In the Order G-38-19 Decision, the Commission requested further explanation of Creative Energy's efficiency assumptions for the baseline. In response, Creative Energy provided further discussion of the baseline as well as information on the 2023 rate impacts relative to an alternate baseline[3]. In the below table, Creative Energy has provided a 30-year NPV calculation for the Purchase New Economizer scenario relative to the baseline efficiency used in the Application as well as the alternate baseline efficiency shown in Exhibit B-23.

	Purchase New Economizer (2020 Completion)
30 Year NPV Relative to Baseline Efficiency Used in Application (80.4% at Plant Gate)	($4.0 million)
30 Year NPV Relative to Alternate Baseline Efficiency (81% at Plant Gate)	($2.6 million)

95.1 Please explain why the Plant efficiency was derived based on the total sales of steam over a period of one year and not, for example, over a period of 5 years.

Response:

Plant efficiency was derived based on total sales of steam over the most recent one year period because plant efficiency has been declining slightly over time due to the deteriorating performance of the Clear Sky unit. Creative Energy believes that efficiency from prior years is not representative of the efficiency of the current plant. For this reason, and as described in the response to BCUC IR 1.15.5, Creative Energy used 2017 system efficiency as opposed to earlier calculations of efficiency or an average of such earlier calculations.

95.2.1 Please explain why the system efficiency has decreased from 75.3 percent in 2016 to 74.4 percent in 2017.

Response:

Please see the response to BCUC IR 2.95.1.

42.1 Please provide the plant efficiency for the last five years or please identify where this has already been provided in the evidence on the record.

RESPONSE:

Please refer to the response to BCUC IR 1.15.5, at Exhibit B-5, p. 31.

43. Reference: Exhibit B-24, BCUC 1.5.3 and 1.5.4

5.3 Creative Energy states on pages 2 and 3 that the estimated efficiencies for the Baseline, Proposed Project and Alternative scenarios assume that the Clear Sky economizer is removed from the Beatty Plant. Please clarify the statement "[a] new economizer is included in the costs and benefits estimated for the Proposed Project and the Alternative."

RESPONSE:

The Proposed Project includes new primary and secondary economizers[2]. These economizers will be installed at the Expo Plant, which Creative Energy will use as the baseload plant, meeting the majority of Creative Energy's annual energy production needs[3].

The Beatty Plant will be used to meet steam generation needs during high load periods. There is an existing primary economizer installed on Boiler #6 in the existing plant, which will remain in place following the Proposed Project. The Proposed Project does not include installing a new secondary economizer at the renovated Beatty Plant. The plant gate efficiency for the Proposed Project reflects those assumptions.

Creative Energy's assumption is that the Alternative (as defined in the Application) would include primary and secondary economizers on some boilers as described in the response to BCUC CPCN IR 115.7. The plant gate efficiency for the Alternative reflects those assumptions.

The Clear Sky unit is a secondary economizer.

For more information please see the response to BCUC SS IR 5.5.

5.4 Please explain whether as a result of the Proposed Project there would be sufficient on-site space for an economizer at the Beatty Plant.

RESPONSE:

The existing primary economizer installed on Boiler #6 in the Beatty Plant will remain in place after the Proposed Project. Primary economizers are typically installed as an integral part of a boiler. The other two boilers in the renovated Beatty Plant (Boiler #3 and Boiler #5) do not have primary economizers and given the age of those boilers and their low usage it would be unusual to retrofit them with primary economizers (and may not even be feasible). There will not be any space constraint within the renovated Beatty Plant on including primary economizers on new boilers in the future when Boilers #3 and #5 need to be replaced.

A secondary economizer (similar to the Clear Sky unit) could potentially be installed at the Beatty Plant to capture flue gases from one or more boilers. As a result of the Proposed Project there would be sufficient space to install a secondary economizer within the renovated Beatty Plant.

43.1 What is the difference between a primary and secondary economizer? Please explain and provide quantification for any differences in capability, efficiency and estimated savings or other measurable characteristics.

RESPONSE:

Both primary and secondary economizers transfer heat from boiler flue gases to the boiler feedwater. Primary economizers are typically installed on or integral to a boiler. They cannot cool flue gas below the point where condensation of the water vapour in the flue gas would occur, as this could result in equipment damage. Secondary economizers, also often called condensing economizers, are installed at or near the location where flue gases are emitted to atmosphere, and can cool flue gas below the point where water vapor condensation occurs. This can extract additional energy from the flue gas. The efficiency improvement provided by economizers will vary depending on the plant's design and operating characteristics.

44. Reference: Exhibit B-24, BCUC 1.5.5 and 1.5.7

Regarding whether Creative Energy will pursue a scope change to add a secondary economizer to the Beatty Plant; Creative Energy has considered it as an option. As the Proposed Project has not been approved, Creative Energy has not invested significant resources in investigating the potential benefits of a new secondary economizer at the renovated Beatty Plant either as a scope change to the Proposed Project or as a future addition after the completion of the Proposed Project. The high-level analysis shown in the response to BCUC SS IR 5.10 shows that it may be marginally beneficial to install a secondary economizer in the Beatty Plant. However, further analysis is required and as noted in the response to BCUC CPCN IR 85.1.2, it may be more cost-effective to consider adding this equipment as part of a future boiler replacement project rather than as part of the Proposed Project.

44.1 Please provide quantification of the 'significant resources' that would be required to investigate the potential benefits of a new secondary economizer at the renovated Beatty Plant.

RESPONSE:

Creative Energy has not quantified the resources that would be required to more thoroughly investigate the option to install a new secondary economizer at the renovated Beatty Plant beyond the analysis provided in Exhibit B-24, response to BCUC SS IR 1.5.10.

45. Reference: Exhibit B-24, BCUC 1.6.2

6.2 For clarity, please discuss whether Creative Energy will seek to recover from ratepayers the cost of adding one or more economizers at the renovated Beatty Plant if Creative Energy decides during the detailed design process to add new economizers to the scope of the Proposed Project.

RESPONSE:

If Creative Energy decides to add one or more new economizers to the Beatty Plant by way of change order during the Proposed Project or subsequent to the Proposed Project, Creative Energy confirms that it would seek to recover its costs in rates.

6.2.1 If yes, please explain the expected timing and regulatory process contemplated by Creative Energy with respect to seeking approval from the BCUC to recover the cost of new economizers at the renovated Beatty Plant.

RESPONSE:

At this time Creative Energy is not planning to add new economizers to the renovated Beatty Plant, and so does not have any details on timing and regulatory process for seeking BCUC approval. If Creative Energy decides during the detailed design process to add one or more new economizers to the Beatty Plant, BCUC approval would likely be sought in 2021.

45.1 Please provide Creative Energy's rationale for not planning to add new economizers to the renovated Beatty Plant at this time.

RESPONSE:

Please refer to the response to BCUC SS IR 1.5.5 at Exhibit B-24.