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Sent via email/eFile

CREATIVE ENERGY – TES REGISTRATION OF EXTENSION TO SOUTH DOWNTOWN EXHIBIT A-3
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Mr. Rob Gorter
Director, Regulatory Affairs and Customer Relations
Creative Energy Vancouver Platforms Inc.
Suite 1 - 720 Beatty Street
Vancouver, BC V6B 2M1
rob@creative.energy; info@creative.energy

Re: Creative Energy Vancouver Platforms Inc. – Registration of Extension to South Downtown Heating Thermal Energy System – BCUC Staff Questions No. 1

Dear Mr. Gorter:

Further to your June 25, 2020 application for Registration of Extension to South Downtown Heating Thermal Energy System, enclosed please find British Columbia Utilities Commission Staff Questions No. 1. In accordance with the regulatory schedule established in Exhibit A-2, please file your responses on or before **Monday, September 28, 2020.**

Sincerely,

Original signed by Jessica O'Brien for:

Marija Tresoglavic
Acting Commission Secretary

/dg
Attachment



Creative Energy Vancouver Platforms Inc.
Stream B Extension to South Downtown Heating Thermal Energy System

BCUC STAFF QUESTIONS NO. 1 TO CREATIVE ENERGY VANCOUVER PLATFORMS INC.

- 1.0 Reference: EXTENSION FORM FOR STREAM B THERMAL ENERGY SYSTEMS (TES) Exhibit B-1, pp. 1–2; CEVP Application for a Certificate of Public Convenience and Necessity for a Neighbourhood Energy System in the South Downtown area of Vancouver, Exhibit B-1, pp. 23–24, Exhibit B-2, IR 28.3, IR 28.4.1 TES Specifics**

Creative Energy Vancouver Platforms Inc.'s (CEVP) Application for Registration of an Extension to its South Downtown Heating Thermal Energy System (TES) (Application) consists of a Stream B TES System Extension Form (pages 1-2) and associated drawings. CEVP states the following in the Stream B TES Extension Form under "TES Location address":

Energy Transfer Station at 889 Pacific Street, Vancouver, connecting to the South Downtown Heating TES approved by Order C-1-19 with distribution piping in the 700 and 800 blocks of Pacific Street.

- 1.1 Please provide the following additional details for the customer at 889 Pacific Street:
- i. use-type (i.e., residential, commercial, etc.);
 - ii. floor space (m²);
 - iii. customer information: specifically, please specify who will be CEVP's end customer (i.e., the developer, strata corporation, other, etc.);
 - iv. please confirm, or otherwise explain, whether the customer service agreement (CSA) for the new customer at 889 Pacific Street, Vancouver will be the same as the CSA's for the other customers connected to CEVP's South Downtown Heating TES (i.e., Vancouver House Buildings 1, 2, 3 and 4).

In the Stream B TES Extension Form, CEVP provides a description of the TES extension to 889 Pacific Street, Vancouver (TES Extension) as follows:

- Approximately 105 meters of underground distribution piping system from existing valves on Pacific street to servicing site
- Approximately 35 meters of aboveground distribution piping system from building entry to Energy Transfer Station
- Energy Transfer Station located in Level P2 of the building
- Please refer to the attached drawings

- 1.2 Please provide a high-level overview of any alternatives considered and why they were rejected.
- 1.3 Please discuss how CEVP determined the TES Extension described above to be the most cost-effective alternative.
- 1.3.1 Please compare the costs of the TES Extension to any alternatives considered. Please

discuss the benefits and associated risks for each.

In the Stream B TES Extension Form, CEVP states the planned in-service date of the extension is October 1, 2021.

1.4 Please identify the proposed construction start date of the TES Extension.

The Stream B TES System Extension Form requires the Applicant to include a “[d]escription of TES extension including energy centre and distribution system (drawing, diagram or description of equipment, connections etc., thermal energy supply and demand before and after the planned extension).”

Exhibit B-2 of CEVP’s Application for a Certificate of Public Convenience and Necessity for a Neighbourhood Energy System in the South Downtown area of Vancouver (2019 South Downtown Heating TES CPCN) proceeding consists of CEVP responses to BCUC Information Request (IR) No. 1. In response to BCUC IR 28.3, requesting annual peak (kW), annual demand (MWh) and system capacity (kW) for the South Downtown Heating TES, CEVP stated:

Please refer to the table below. Capacity (kW) is 2 boilers x 1,688kW output per boiler = 3,376kW total plant capacity.

Building	Annual Peak (kW)			Annual Demand (MWh)			Capacity (kW)
	Space Heating	DHW	Total (Note 1)	Space Heating	DHW	Total	
Building 1	841	497	841	397	95	492	3,376
Building 2	1230	966	1,230	1,426	340	1,766	
Building 3	246	0	246	403	0	403	
Building 4	231	0	231	449	0	449	

Note 1: Total annual peak figures are the forecast coincident peak demands for each building, taking into account the diversity of peak demand for space heating and domestic hot water in Buildings 1 and 2 (Creative Energy service to Buildings 3 and 4 will be space heating only). The assumed coincident peak for each of Buildings 1 and 2 reflects entirely space heating load based on timing. As suggested by the response to IR 28.4.1, when the diversity between buildings is not considered (unrealistic), there is capacity to supply 600kW of domestic hot water load if it were to also occur at such a peak (unexpected).

Further in Exhibit B-2 of the 2019 South Downtown Heating TES CPCN, CEVP stated the following in response to BCUC IR 28.4.1:

In the unlikely event that the indicated coincident peak loads of each building also coincide (that is, not accounting for the diversity between buildings), total peak demand would equal 2,548 kW. When thermal energy generation and transmission efficiencies are factored in (92%), the peak requirement from the boiler plant would be 2,770 kW, which is less than the total system generating capacity of 3,376 kW.

- 1.5 Please confirm that the above preamble from the 2019 South Downtown Heating TES CPCN proceeding accurately represents the annual peak demand (kW), annual demand (MWh) and system capacity (kW) for the South Downtown Heating TES before the proposed TES Extension.
- 1.5.1 If not confirmed, please confirm the annual peak demand (kW), annual demand (MWh) and system capacity (kW) for the South Downtown Heating TES before the proposed TES Extension and explain, with rationale, the differences from the 2019 South Downtown Heating TES CPCN.

On pages 23-24 of Exhibit B-1 of the 2019 South Downtown Heating TES CPCN application, CEVP stated:

There is an additional site adjacent to the Vancouver House Development, which is slated for redevelopment and which is owned by a different private owner. There may be capacity to serve this development based on the below breakdown. New development within the South Downtown area will be subject to an extension test and subsequent approval from the Commission, as necessary.

Building	Peak heat (kW)
Vancouver House B1	841
Vancouver House B2	1230
Vancouver House B3	246
Vancouver House B4	231
Total	2548
Available from Boilers	3336
Excess capacity	788

CEVP states the following in the Stream B TES Extension Form under “Description of TES extension”:

- Annual incremental capacity: 1,350 kW
- Annual incremental energy: 2,400 MWh

- 1.6 Please confirm the annual peak demand (kW), annual demand (MWh) and system capacity (kW) for the South Downtown Heating TES after the proposed TES Extension.
- 1.7 Please confirm whether “annual incremental capacity”, as noted in the Stream B TES Extension Form, refers to the annual incremental peak demand resulting from the TES Extension.
- 1.7.1 If confirmed, please explain why the incremental peak demand due to the TES Extension (1,350 kW, as stated above) is greater than the excess capacity available at the South Downtown Heating TES, as stated in the 2019 South Downtown Heating TES CPCN application (788 kW, as noted above).
- 1.7.1.1 Please explain in detail why CEVP has determined this design to be acceptable. Please also identify potential risks to current and future customers and how CEVP will mitigate these risks.
- 1.7.2 If “annual incremental capacity”, as noted in the Stream B TES Extension Form, does refer to new, additional capacity being added to the system, please provide detail on the additional capacity proposed as part of the TES Extension, including, but not limited to, boiler specifications, boiler plant drawings, etc.

1.8 Please confirm whether heat, hot water, or both will be provided to the new customer at 889 Pacific Street, Vancouver.

**2.0 Reference: EXTENSION FORM FOR STREAM B THERMAL ENERGY SYSTEMS (TES)
Exhibit B-1, pp. 1–2
Cost Estimate**

In the Stream B TES Extension Form, CEVP provides the following cost estimate information:

Cost Estimate		
Estimated Capital Cost of the TES extension (AACE Class 3 minimum)	Category	\$000s
(Applicant may add additional line items as appropriate)	Equipment	65
	Materials	105
	Engineering / Design	95
	Construction	505
	Legal	5
	Project Management	80
Contingency included.	Total	855

- 2.1 Please confirm what class of AACE Estimate Accuracy the above cost estimate is prepared to and the party that prepared the estimate.
- 2.2 Please explain where the contingencies are included and if they are consistent with other CEVP construction projects. Please explain, with reasons, where differences occur.
- 2.3 Please explain any assumptions, exclusions, inflation, and discount factors used in the design of the estimate, including any sources of benchmarks.
- 2.4 Please explain where interest during construction or allowance for funds used during construction and corporate overhead are included in the estimate above.

**3.0 Reference: EXTENSION FORM FOR STREAM B THERMAL ENERGY SYSTEMS (TES)
Exhibit B-1, p. 2; CEVP Application for a Certificate of Public Convenience and Necessity for a Neighbourhood Energy System in the South Downtown area of Vancouver, Exhibit B-5, Attachment 1, BCUC IR 27.1.2
Rate Impacts**

On page 2 of the Stream B TES Extension Form, CEVP provides the following rate impact information:

No Extension				
	2020	2021	2022	2023
Total Annual Fixed and Operating Costs (\$)	388,178	428,382	436,950	445,689
Total Capacity (kW)	2,548	2,548	2,548	2,548
Annual Fixed Rate (\$/kW)	\$152.35	\$168.12	\$171.49	\$174.92
With Extension				
	2020	2021	2022	2023
Total Annual Fixed and Operating Costs (\$)			528,547	539,118
Total Capacity (kW)			3,898	3,898
Annual Fixed Rate (\$/kW)			\$135.59	\$138.31

- 3.1 Please confirm, or explain otherwise, whether the rates presented above are based on a cost of service model or a levelized rate design.

The Stream B TES System Extension Form requires the Applicant to provide the impact to current rates including calculations and schedule showing current rates and forecast rates over time resulting from the proposed extension. The Stream B TES System Extension Form also specifies that the Applicant shall include a schedule of any deferral accounts that may be used as rate mitigation.

3.2 Please provide a financial schedule, in an excel spreadsheet format, breaking out all the fixed and operating expenses included for each year presented above in both scenarios of “No Extension” and “With Extension”. Please include any deferral accounts that may be used.

3.2.1 Please highlight the differences between expenses for each scenario and where the variances occur.

On page 2 of the Application, CEVP states, “Fixed rates under ‘No Extension’ are approved on an interim basis for 2020 (\$141.68/kW). The rates shown from 2020 through 2023 are indicative pending a final rates application to be filed later this year.” Further on page 2 of the Application, CEVP states, “An updated rates application for the extension will be filed in 2021.”

3.3 Please explain why the approved interim rate for 2020 of \$141.68 does not match the 2020 ‘No Extension’ rate above of \$152.35.

3.4 Please explain how the rates with the extension are evaluated as current rates are approved on an interim and refundable basis.

3.4.1 Please explain if and how possible amendments to the current rates would impact the ‘With Extension’ rates. Please discuss how this may impact the feasibility of the TES Extension.

3.5 Please explain how the proposed rates will be competitive with other service options that are available to the new customer(s) at 889 Pacific Street, Vancouver.

In the Stream B TES Extension Form, CEVP provides the following capital cost information for both the TES Extension and the initial TES:

Total capital cost of the extension: \$855,000
Initial TES capital cost (no extension): \$3.8 million
Ratio: 0.22

In attachment 1 of Exhibit B-5 of the 2019 South Downtown Heating TES CPCN proceeding, CEVP provided the following capital costs information in response to BCUC IR 27.1.2:

Table 12: NES Total Capital Costs (nominal \$000s)

	2017	2018	2019	Total
Development costs	627	319	15	961
Containerized boiler plant	687	43	-	730
Distribution pipe system	681	-	255	936
Energy transfer system	37	358	252.5	647.5
Contingency	-	25	50.5	75.5
PST	25	0	18	43
Total	2,057	745	591	3,393

3.6 Please explain the differences in initial TES capital cost of \$3,393 million in the 2019 South Downtown Heating TES CPCN and \$3.8 million provided in the Stream B TES Extension Form.

**4.0 Reference: APPLICATION
Exhibit B-1
TES Extension**

- 4.1 Please identify the risks, if any, associated with the proposed TES Extension and how CEVP will mitigate these risks.
- 4.2 Please discuss the reliability of CEVP’s South Downtown Heating TES, and the impacts, if any, the TES Extension will have on the overall reliability of the TES system.
- 4.3 Please describe the operator requirements for CEVP’s South Downtown Heating TES:
 - i. Before the proposed TES Extension;
 - ii. After the proposed TES Extension.
- 4.4 Please provide a high-level overview of all public or other key stakeholder consultation CEVP has completed, if any, or plans to complete in regard to the proposed TES Extension.
 - 4.4.1 Please identify any concerns or issues raised and how CEVP plans to address these concerns.
 - 4.4.2 Please provide, in CEVP’s view, an overall assessment of the sufficiency of the consultation CEVP has completed to date or plans to complete.
- 4.5 Please discuss how the proposed TES Extension is consistent with and will advance the B.C. government’s energy objectives as set out in the *Clean Energy Act*, Part 1 – BC Energy Objectives. If the nature of the TES Extension precludes a direct link to the energy objectives, please discuss how the TES Extension does not hamper other projects or initiatives undertaken by CEVP or others, from advancing these energy objectives.