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Creative Energy Vancouver Platforms Inc.

Application for Heating Rates for the Heating Thermal Energy System and Cooling Rates for the District Cooling System at the Vancouver House Development

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Decision
and Order G-222-21

July 22, 2021

Before:
T. A. Loski, Panel Chair
E. B. Lockhart, Commissioner

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Executive Summary

On October 2, 2019, Creative Energy Vancouver Platforms Inc. (Creative Energy) applied to the British Columbia Utilities Commission (BCUC) for approval of rates for heating service and operation of the thermal energy system (Heating TES) at the Vancouver House Development (Development) in Vancouver. The BCUC approved rates for the provision of heating service at the Development on October 28, 2019, on an interim and refundable basis, effective November 1, 2019. Subsequently, the BCUC adjourned the proceeding so that Creative Energy could provide a final detailed accounting and verification of the costs of the Heating TES, which consisted of two phases (Final Cost Report). Phase 1 was for construction heating for a portion of the Development and Phase 2 was for the remainder of the infrastructure and equipment of the Heating TES to provide heating and hot water services to the Development. On August 27, 2020, Creative Energy filed an Evidentiary Update, which included the Final Cost Report and an application for permanent rates for the Heating TES for a four-year and two-month period.

On August 11, 2020, Creative Energy applied for approval of permanent rates for cooling service from the district cooling system (DCS) at the Development for a five-year period. Rates were approved on August 31, 2020, on an interim and refundable basis, effective the date Creative Energy completes the transaction to acquire the DCS and begins providing cooling service as per the terms of the Construction and Purchase Agreement between Creative Energy and Westbank Projects Corp., the owner and developer of the Development (Developer). The transaction completed November 23, 2020.

The Development consists of four buildings. The Developer will retain ownership of three buildings and transfer ownership of the fourth, a residential building, to a Strata Corporation following occupancy of the building. Creative Energy has also been granted a Certificate of Public Convenience and Necessity (CPCN) to construct and operate an extension to the Heating TES to serve a fifth building (TES Extension). Creative Energy expects the TES Extension to go into service in October 2021.

The Panel determined that it could review the two applications together. It established a written hearing process that consisted of public notification, intervener registration, BCUC and intervener information requests (IRs), and Creative Energy responses to BCUC and intervener IRs. The Commercial Energy Consumers Association of British Columbia and British Columbia Old Age Pensioner's Association et al. participated as interveners.

The Panel accepts the forecast revenue requirements of the Heating TES and DCS for setting rates for the test period of each energy system, subject to the directives and determinations in this decision.

The Panel finds that the proposed capital and development costs forecasts for each of the Heating TES and the DCS are reasonable, apart from a portion of the Heating TES capital and development costs that were not supported by evidence and for which the Panel denies recovery. In the Decision accompanying Order C-1-19 which granted the CPCN for the Heating TES, the BCUC recommended a prudency review on the basis that the actual capital costs for Phase 1 of the project exceeded the estimate by approximately 45 percent. The Panel reviewed the Final Cost Report and is satisfied that Creative Energy has explained the variance and that there is no issue of imprudence in regard to the final costs.

The Panel finds that the rate-setting mechanism that Creative Energy has proposed for the Heating TES and DCS is reasonable and approves both the rate-setting mechanism and the rates for each energy system, subject to the directives and determinations in this decision. The Variable Charge, expressed in $/megawatt hour, a direct flow-through of fuel costs, closely reflects the principle of cost causation. The Capacity Charge, expressed in $/kilowatt, will recover all forecast capital and fixed operating costs for each of the Heating TES and the DCS. The Capacity Charge is based on design peak demand as the billing determinant and more closely reflects the principle of cost causation than the floor space alternative. Any difference between the interim and permanent rates will be collected from or refunded to customers, the Developer and Strata Corporation, with interest at the average prime rate of Creative Energy's principal bank for its most recent year.

Creative Energy proposes that the Capacity Charge for each energy system be determined on a levelized annual basis, based on a 30-year term, which is also the duration of the Customer Service Agreements (CSAs) and the depreciation period for the capital assets. The Development is complete, and a 30-year levelization period could create intergenerational equity concerns if costs for end users in the early years are being recovered from end users decades later. However, Creative Energy's customers are the building owners and the Strata Corporation, not the end users, which minimizes issues of intergenerational equity. Therefore, the Panel is satisfied that the proposed 30-year levelization period for the Capacity Charge for both the Heating TES and the DCS is reasonable, although we direct Creative Energy to recalculate the levelized Capacity Charges, subject to the adjustments resulting from the directives and determinations contained within the decision.

Having approved a levelized Capacity Charge, the Panel also approves a revenue deficiency deferral account for each of the Heating TES and the DCS to record the annual deficiencies or surpluses resulting from the difference between the annual revenue at the approved Capacity Charge and the approved annual forecast cost of service, except for fuel costs. In addition, the Panel approves a regulatory cost variance deferral account for each energy system.

The Panel approves the TES Extension to commence service under the heating rates approved in this decision. However, we direct Creative Energy to create a new deferral account (the TES Extension Deferral Account), to record both the annual revenues at the approved rates and the forecast estimated annual cost of service for the TES Extension.

Finally, the Panel approves the terms and conditions of service as set out in the CSAs for the Heating TES and DCS, subject to the revisions described herein.

1.0 Introduction

On October 2, 2019, Creative Energy Vancouver Platforms Inc. (Creative Energy) applied to the British Columbia Utilities Commission (BCUC) for approval of rates, effective November 1, 2019 for its provision of heating service under its ownership and operation of the thermal energy system (TES) for heating (Heating TES) at the Vancouver House Development (VHD or Development) in South Downtown area of Vancouver (Heating Application). On August 11, 2020, Creative Energy applied to the BCUC for approval of rates for the provision of cooling service at the Development effective the date it completes the transaction to acquire the district cooling system (DCS) and begins providing cooling service as per the terms of the Construction and Purchase Agreement between Creative Energy and Westbank Projects Corp., the owner and developer of the VHD (Purchase Agreement) (Cooling Application). Creative Energy requests permanent approvals for both the Heating TES and DCS pursuant to sections 58 to 60 of the *Utilities Commission Act* (UCA),[1] and includes separate tariffs for each energy system. Considering the similar objectives in the two applications, and for the benefit of ensuring a harmonized approach, the BCUC established one proceeding to jointly review the applications.

1.1 Background

Creative Energy is a wholly owned subsidiary of Creative Energy Developments Limited Partnership (CEDLP), which is a partnership of Creative Energy Canada Platforms Corp. (CE Canada) (ultimately owned by Westbank Holdings) and Emanate Energy Solutions Inc. (ultimately owned by InstarAGF Essential Infrastructure Fund).[2] Creative Energy is an established utility in downtown Vancouver that owns and operates the Heating TES and DCS.[3] The Development, constructed by Westbank Projects Corp. (Developer), consists of four buildings, located on three parcels of land, which Creative Energy describes as follows:[4]

- Building 1 at 1480 Howe Street: a mixed-use building, which includes a significant rental residential component (i.e., 105 residential units), a small number of commercial units, as well as the pool facility. Building 1 is the podium to Building 2;
- Building 2 at 1480 Howe Street: the residential tower, which includes 492 units;
- Building 3 at 1461 Granville Street: 100% commercial use building; and
- Building 4 at 1462 Granville Street: 100% commercial use building

Buildings 1, 3, and 4 will be retained by the Developer. Building 2 is a residential tower that the Developer will transfer to a Strata Corporation following occupancy of the building.[5] Creative Energy notes the Strata Corporation for the Development was established in January 2020.[6]

[1] Creative Energy Final Argument, Section 1.2, p. 2

[2] Creative Energy 2021 RRA for the Core Steam System, Exhibit B-1, Section 2.1, p. 9

[3] Creative Energy CPCN Application for a Neighbourhood Energy System in the South Downtown area of Vancouver (Heating TES CPCN proceeding), Exhibit B-1, Section 1.3, p. 10

[4] Exhibit B-5, Appendix C, p. 1; Exhibit B-6, Appendix B-1, p. 1; Exhibit B-3, CEC IR 2.2, Exhibit B-13, BCUC IR 43.2, Exhibit B-14, CEC IR 12.1, Exhibit B-16, BCUC IR 83.3

[5] Heating TES CPCN proceeding, Exhibit B-1, Section 1.7, p. 16; Creative Energy Application for a CPCN to Acquire and Operate a Thermal Energy System for Cooling at the Vancouver House Development (DCS CPCN proceeding), Exhibit B-1, Section 3.4, p. 14

[6] Exhibit B-13, BCUC IR 50.1.1

Background on the Heating TES and DCS at the Development is separately discussed below.

Heating TES

The BCUC issued a Stream A exemption to Creative Energy on March 3, 2017 to build a Heating TES to serve 1480 Howe Street (Buildings 1 and 2) of the Development, for the duration of construction of the site (Stream A). The issuance of a Stream A exemption means that the Heating TES is exempt from sections 44.1, 45 and 59 to 61 of the UCA while Buildings 1 and 2 were being constructed.

By Order C-1-19 dated May 3, 2019, Creative Energy was granted a Certificate of Public Convenience and Necessity (CPCN) to operate and expand a Heating TES to provide heat to Buildings 1 to 4 and domestic hot water (DHW) to Buildings 1 and 2 in the Development (Heating TES CPCN).

Creative Energy constructed the Heating TES in two phases:[7]

- Phase 1 – Creative Energy constructed the Heating TES to provide construction heating only to Buildings 1 and 2 (Phase 1) which comprised the following:
    - a containerized boiler plant, temporarily located between the 600–700 blocks of Pacific Street underneath the Granville Street Bridge;
    - underground piping that crosses Pacific Street, connecting the containerized boiler plant and Buildings 1 and 2; and
    - an energy transfer station (ETS), common to Buildings 1 and 2.

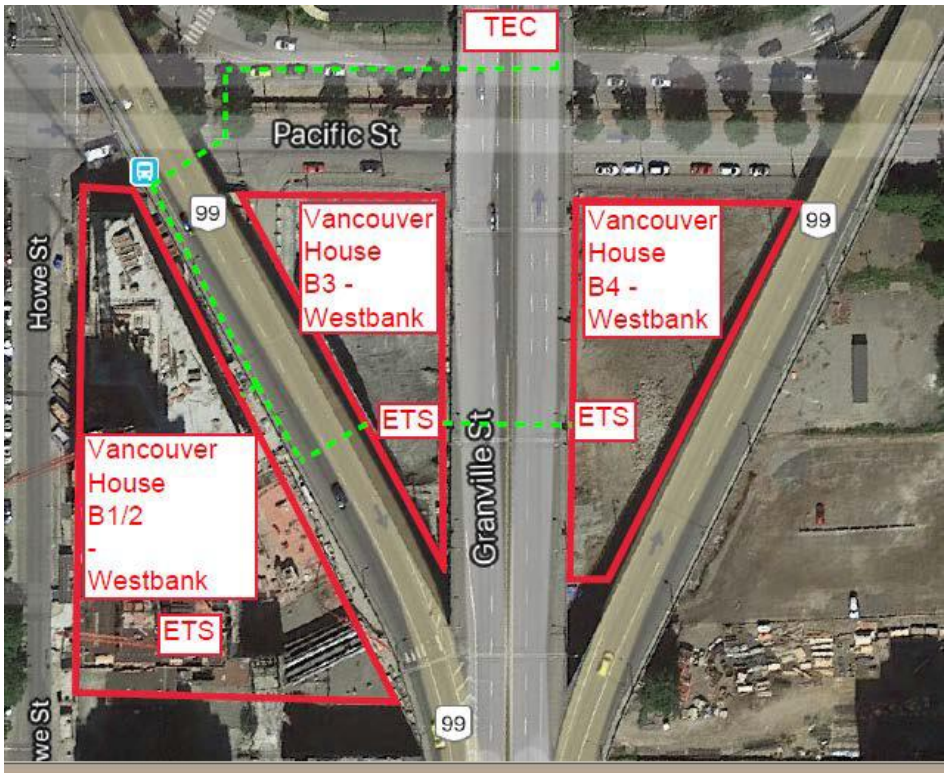
  Once the construction of the containerized boiler and underground piping was complete, Creative Energy commenced operation of the Heating TES to provide the Developer with construction heating only to Buildings 1 and 2.
- Phase 2 – Creative Energy installed additional infrastructure and equipment to provide DHW to Buildings 1 and 2 as well as the necessary infrastructure and equipment to provide heating services to Buildings 3 and 4 (together, Phase 2). Following the completion of the Phase 2, Creative Energy operated the Heating TES as one system, providing heating to the Development as a whole and DHW to Buildings 1 and 2.

Figure 1 identifies the locations of Buildings 1 to 4 of the Development, the containerized boiler plant (shown as TEC), the ETS and the underground distribution piping (shown as a dotted green line).[8]

[7] Heating TES CPCN Proceeding, Order C-1-19 and accompanying Decision, Section 1.1, pp. 1–2

[8] Exhibit B-3, CEC IR 2.1

Figure 1: Map of the Vancouver House Development



The containerized boiler plant is located on City of Vancouver (City) owned land under the Granville Bridge. The terms of the permit letter issued by the City on December 3, 2018 stipulate that Creative Energy must relocate the containerized boiler plant from its current location by December 31, 2023.[9] Accordingly, as part of Order C-1-19, the BCUC directed Creative Energy to file a CPCN application in respect of the anticipated move of the temporary containerized boiler plant of the Heating TES to a permanent location by the end of 2023.[10]

Creative Energy filed its Heating Application on October 2, 2019. By October 28, 2019, the Panel approved, among other things, Creative Energy's proposed rates for the provision of heating service at the Development on an interim and refundable basis, effective November 1, 2019.[11]

In anticipation of the relocation of the temporary containerized boiler plant of the Heating TES to a permanent location by the end of 2023, and the fact that this process will result in an incremental increase to the capital costs supporting the rates, the proposed rate setting period for the Heating Application is for the four-year and two-month period commencing November 1, 2019 and ending December 31, 2023.[12]

[9] Heating TES CPCN Proceeding, Order C-1-19 and accompanying Decision, Section 2.6, p. 13

[10] Exhibit B-1, Section 3, p. 4

[11] Creative Energy Application for Interim Heating Rates for the Thermal Energy System at the Vancouver House Development, Order G-260-19

[12] Exhibit B-1, Section 3, p. 4; Order G-260-19. In this decision, the four-year and two-month rate setting period for the Heating TES may be referred to as a 4-year period, or 2020-2023, for simplicity.

Creative Energy submits that any costs incurred during the proposed rate setting period of November 1, 2019 to December 31, 2023 (Test Period for the Heating TES), which are associated with the relocation of the temporary containerized boiler plant, will be capitalized and factored into rates when the related plant is placed in service. Accordingly, Creative Energy does not anticipate any potential customer rate increases related to the relocation of the temporary containerized boiler plant during the proposed Test Period for the Heating TES.[13]

District Cooling System

On April 1, 2020, the BCUC granted a CPCN[14] to Creative Energy to acquire and operate a district TES for cooling, known as the DCS (DCS CPCN), to provide cooling service to the Development.[15] The DCS purchase price was established in the Purchase Agreement between Creative Energy and the Developer and was reviewed as part of the DCS CPCN Application.[16]

On August 11, 2020, Creative Energy filed its Cooling Application requesting approval of interim and permanent rates for the five-year and four-month period from September 1, 2020 through December 31, 2025 (Test Period for the DCS) for its provision of cooling service to the Development. By Order G-225-20, dated August 31, 2020, the Panel approved Creative Energy's proposed rates for the provision of cooling service on an interim and refundable basis, effective on the date Creative Energy begins providing cooling service as per the terms of the Purchase Agreement. By letter dated November 25, 2020, Creative Energy notified the BCUC that it completed the transaction to acquire the DCS from the Developer and commenced providing service on November 23, 2020.[17]

1.2 Regulatory Process and Participants

The BCUC reviewed the Heating Application through a written hearing process,[18] which consisted of intervener registration and one round of information requests (IRs). In response to IRs, Creative Energy clarified that approval of permanent rates was dependent upon the determination of the actual capital expenditures for the Heating TES. The BCUC subsequently adjourned the proceeding[19] to allow Creative Energy to provide a final detailed accounting and verification of the costs of Phase 1 and Phase 2 of the Heating TES for the BCUC's review and approval of final rates. On August 27, 2020, Creative Energy filed an evidentiary update and application for permanent rates for the Heating TES at the Development (Evidentiary Update) which included a final cost report for the Heating TES (Final Cost Report).

On August 11, 2020, Creative Energy filed the Cooling Application requesting approval of permanent rates for approximately a five-year and four-month period of September 2020 through December 2025.

[13] Exhibit B-9, Panel IR 2.2; Creative Energy Application for Interim Heating Rates for the Thermal Energy System at the Vancouver House Development, Order G-260-19

[14] DCS CPCN proceeding, Order C-2-20

[15] DCS CPCN proceeding, Order C-2-20

[16] Exhibit B-6, Section 1, p. 1; Section 2.1, p. 7

[17] Exhibit B-13, BCUC IR 36.1, Order G-225-20. In this decision, the five-year and four-month period rate setting period for the DCS may be referred to as a 5-year period, or 2020-2025, for simplicity.

[18] Exhibit A-3, Order G-264-19

[19] Exhibit A-5, Order G-9-20

The BCUC subsequently determined that the Heating Application and Cooling Application (collectively, Applications) are to be heard at the same time and established a regulatory timetable which included intervener registration, and one round of IRs.[20]

By letter dated October 7, 2020, the Panel issued Panel IR No. 1 requesting additional information and further clarification on the proposed extension to the Heating TES and the impact of the City's Low-Carbon Energy System Policy. The regulatory timetable was amended to accommodate the Panel IRs.[21]

On January 8, 2021, the BCUC established the remainder of the regulatory process which included a final round of IRs and written final and reply arguments.[22] This was subsequently amended at the request of Creative Energy.[23]

Following intervener arguments, the Panel re-opened the evidentiary record on April 8, 2021 to issue Panel IR No. 2 to request additional information and further clarify the benchmark heating costs and alternative rate designs. The BCUC amended the regulatory timetable and requested written supplementary final and reply arguments from the parties on the matters arising from Panel IR No. 2.

Two parties registered and actively participated as interveners in the proceeding: the Commercial Energy Consumers Association of British Columbia (the CEC), and British Columbia Old Age Pensioner's Association et al. (BCOAPO).

1.3 Approvals Sought

Creative Energy requests the following approvals for the Heating TES and DCS, pursuant to sections 58 to 61 of the UCA.

Heating TES:

Creative Energy includes its approvals sought for the Heating TES in its Heating Application and applies for permanent rates in its Evidentiary Update. Creative Energy summarizes the final approvals sought in its Final Argument as follows:

1. Permanent approval of the levelized capacity charge rate design and charges per kilowatt (kW) of design peak heating demand established upon the following basis for the periods November 1, 2019, to December 31, 2019, 2020, 2021, 2022 and 2023:

Year	2019	2020	2021	2022	2023
$/kW/mo.	11.80	11.80	15.54	15.85	16.16

[20] Exhibit A-9, Order G-233-20
[21] Exhibit A-11, Order G-252-20
[22] Exhibit A-14, Order G-4-21
[23] Exhibit A-16, Order G-62-21

The applicable capacity charge billing determinants to the four buildings currently served by the TES are as follows:

Building Customer	Civic Address	Design Peak Heating Demand (kW)
Building 1	1480 Howe Street	841
Building 2 Tower	1480 Howe Street	1,230
Building 3	1461 Granville Street	246
Building 4	1462 Granville Street	231

2. Permanent approval of the variable charge rate design and the determination of the variable charge in per megawatt hour (MWh) for all megawatts hours supplied during a month and calculated each month equal to total monthly fuel costs of the Heating TES for natural gas and electricity (in $) divided by the total metered energy supplied by the Heating TES to the customers during the month (in MWh);
3. Permanent approval of the Revenue Deficiency Deferral Account (RDDA) to record annual revenue deficiencies or surpluses resulting from the difference between forecast annual revenue at the approved rates and the approved annual cost of service for the Heating TES and to remain in effect until the balance of the account is reduced to zero (Heating RDDA);
4. Permanent approval of the terms and conditions of service as set out in the Customer Service Agreement (CSA) filed in Appendix D to the Evidentiary Update (Heating CSA); and
5. Permanent approval of the Regulatory Cost Variance Deferral Account (RCVDA) to record the difference between the regulatory cost forecast and the final actual costs for the Heating TES when so determined (Heating RCVDA).

District Cooling System:

Creative Energy includes its approvals sought for the DCS in its Cooling Application and summarizes the final approvals sought in its Final Argument as follows:

1. Permanent approval of the levelized capacity charge rate design and charges per kW of design peak cooling demand established upon the following basis for the periods September 1, 2020, to December 31, 2020, 2021, 2022, 2023, 2024 and 2025:

Year	2020	2021	2022	2023	2024	2025
$/kW/mo.	11.45	11.68	11.91	12.15	12.39	12.64

The applicable capacity charge billing determinants to the four buildings in the VHD are as follows:

Building Customer	Civic Address	Design Peak Cooling Demand (kW)
Building 1	1480 Howe Street	322
Building 2 Tower	1480 Howe Street	1,457
Building 3	1461 Granville Street	370

Building 4	1462 Granville Street	340

2. Permanent approval of the variable charge rate design and the determination of the variable charge in per MWh for all megawatts hours supplied during a month and calculated each month equal to total monthly electricity and water costs (in $) divided by the total metered energy supplied by the DCS to the customers during the month (in MWh);
3. Permanent approval of the RDDA to record annual revenue deficiencies or surpluses resulting from the difference between forecast annual revenue at the approved rates and the approved annual cost of service for the DCS and to remain in effect until the balance of the account is reduced to zero (Cooling RDDA);
4. Permanent approval of the terms and conditions of service as set out in the CSA filed in Appendix C to the Cooling Application (Cooling CSA); and
5. Permanent approval of the RCVDA to record the difference between the regulatory cost forecast and the final actual costs for the DCS when so determined (Cooling RCVDA).

1.4 Legislative and Regulatory Framework

The BCUC's Thermal Energy System Regulatory Framework Guidelines (TES Guidelines)[24] provide a scaled approach to the regulation of thermal energy services, where the regulatory oversight increases with the size and scope of the TES. Creative Energy's Heating TES and DCS at the Vancouver House Development are classified as Stream B Thermal Energy Systems in which the approval of rates is governed by sections 59 to 61 of the UCA.[25]

The TES Guidelines state that applicants (Stream B TES utilities) are required to consider the following rate-setting principles:[26]

1. Provide an equitable balance of risk and cost (such as forecast load and cost risk) between the utility and the ratepayer or generation of ratepayers;
2. Use the fewest deferral mechanisms possible;
3. Restrict the ability of the utility to pass controllable costs onto ratepayers;
4. Use the least amount of regulatory oversight to protect the ratepayer (minimize the regulatory burden and costs on the utility, ratepayers and the Commission); and
5. Avoid rate shock (>10 percent change in rates per annum is generally considered "Rate Shock").

Sections 58 to 60 of the UCA provide the BCUC with its rate setting jurisdiction over public utilities. Specifically, section 59(1)(a) of the UCA states:

(1) a public utility must not make, demand or receive

(a) an unjust, unreasonable, unduly discriminatory or unduly preferential rate for a service provided by it in British Columbia…

[24] BCUC Thermal Energy Systems Regulatory Framework Guidelines (TES Guidelines), Appendix A to Order G-27-15, p. 17
[25] *Utilities Commission Act*, RSBC 1996, c. 473
[26] TES Guidelines, p. 17

Section 59(4) establishes that the determination of what is “unjust,” “unreasonable,” or “undue discrimination” is a question of fact of which the BCUC is the sole judge, while section 59(5) defines an “unjust’ and “unreasonable” rate:

(4) It is a question of fact, of which the commission is the sole judge,

  (a) whether a rate is unjust or unreasonable,

  (b) whether, in any case, there is undue discrimination, preference, prejudice or disadvantage in respect of a rate or service, or

  (c) whether a service is offered or provided under substantially similar circumstances and conditions.

(5) In this section, a rate is "unjust" or "unreasonable" if the rate is

  (a) more than a fair and reasonable charge for service of the nature and quality provided by the utility,

  (b) insufficient to yield a fair and reasonable compensation for the service provided by the utility, or a fair and reasonable return on the appraised value of its property, or

  (c) unjust and unreasonable for any other reason.

Section 60 provides the BCUC with its authority to establish rates and includes mandatory considerations, including the requirement that rates not be “unjust, unreasonable, unduly discriminatory or unduly preferential.”

Section 60(1)(b.1) of the UCA states that in setting a rate, the BCUC may use “any mechanism, formula or other method of setting the rate that it considers advisable, and it may order that the rate derived from such a mechanism, formula or other method is to remain in effect for a specified period.”

The Panel conducts its review of the proposed rates in these two Applications pursuant to sections 58 to 61 of the UCA. In addition, the Panel conducts the review of the proposed depreciation accounts in these Applications pursuant to section 56 of the UCA, which requires the BCUC to set "proper and adequate rates of depreciation”.

1.5 Decision Framework

To ensure a consistent approach and uniformity among the rate design and rates charged for provision of heating and cooling services at the Development, the BCUC established a single proceeding to review the Heating Application and Cooling Application and the Panel has written combined reasons for decision to address these two Applications.

As highlighted in the table below prepared by Creative Energy, and reproduced by the BCUC with minor edits, there are shared attributes, evidence and principles supporting the rate design and rates charged across the two Applications, supporting the concurrent review.[27]

[27] Exhibit B-5, Section 3.2, p. 7, Table 1; Exhibit B-6, Section 1.3, p. 6, Table 1

Table 1: Congruities of Evidence Between the Heating Application and Cooling Application

Component Evidence	Cooling	Heating	Comment
Revenue Requirements	Stand-alone	Stand-alone	Some operations and maintenance (O&M) input assumptions are similar and could be defended together, but the capital, development and overall cost of service of each TES are separate and should be reviewed on a stand-alone basis.
Rate Design	Common		The billing determinants of each system are different but the rate design, and the underlying evidence and support for such, is the same for each system and can be reviewed together.
Customer Service Agreement	Common		Except for system-related references to cooling versus heating, the CSA for the DCS and the CSA for the Heating TES are the same (and intended to be such upon permanent approval, including the proposed assignment provision).
Customers Impacted	Common		The DCS and the Heating TES serve the same customers.

In this decision, the Panel reviews the relevant evidence, considers the positions of the parties, discusses the issues arising in the course of the proceeding and outlines the reasons for its determination. The Decision is structured to specifically address the following items:

- Section 2.0 discusses the reasonableness of the proposed revenue requirements and the components of the forecast cost of service for the heating and cooling service;
    - The capital and development costs are separately discussed for the Heating TES and DCS because these are distinct energy systems in which the costs are separately defended by Creative Energy;
    - The evidence for the annual cost of service of the Heating TES and DCS is presented separately because not all inputs and assumptions are the same for each system; however, where similarities exist, these have been identified. Interveners provide submissions that apply to both energy systems and accordingly the positions of the parties and Panel determination discuss both energy systems together;
    - The cost of capital, which includes the capital structure, equity risk premium over the low-risk benchmark return on equity (ROE) and overall cost of debt is discussed together for the Heating TES and DCS because the proposed inputs, assumptions and evidence are virtually identical between the energy systems;
    - Also discussed in this section is the duration of future rate setting periods;

- Section 3.0 addresses the proposed rate design and billing determinants including the variable charge[28] (Variable Charge) and fixed capacity charge[29] (Capacity Charge), the levelization period and benchmark rate comparisons;
    - Where there are similarities in the evidence, the Heating TES and DCS are presented together; however, separate subsections for each energy system are included for the Variable Charge and Capacity Charge to address key differences with respect to the inputs and assumptions impacting the billing determinants. Given the similarities in the structure of the proposed rate design, the positions of the parties and Panel determination discuss the energy systems in combination.
    - The benchmark rate comparisons are presented separately for the Heating TES and DCS; however, like the proposed rate design, the positions of the parties and Panel determination discuss the energy systems together;
- Section 4.0 examines the proposed deferral accounts for each of the Heating TES and DCS and introduces a separate deferral account considered necessary by the Panel;
    - Given the differences in the forecast costs of the systems, the proposed RDDAs are discussed separately for the Heating TES and DCS;
    - The proposed RCVDAs for each of the Heating Application and Cooling Application are discussed together because the regulatory costs recorded into the deferral account will be allocated to the two Applications on a pro rata basis;
- Section 5.0 considers the issues related to the proposed terms and conditions in the Heating CSA and Cooling CSA;
    - In consideration of the similarities of the proposed language in each of the CSAs, they are reviewed together;
- Section 6.0 addresses other matters, including the extension of the Heating TES to provide heating and DHW services to 889 Pacific Street (Building 5) (TES Extension), the customers of the heating and cooling services, ownership structure, and annual reporting requirements;
    - Apart from the TES Extension, which is relevant only to the Heating TES, the other issues arising during the proceeding are applicable to both the Heating TES and DCS, and accordingly are discussed together; and
- Section 7.0 provides a summary of the directives for the convenience of readers;
    - The directives for the Heating TES and DCS are specifically identified in this section.

2.0 Revenue Requirements

As noted above, the proposed capital and development costs and annual cost of service for the Heating TES and DCS are presented separately in this section, although we identify where similarities exist. We discuss the

[28] The variable charge will recover on a flow-through basis the actual fuel costs for the natural gas and electricity used to operate the Heating TES and the actual electricity and water costs for the DCS.

[29] The fixed capacity charge will recover the capital and fixed operating costs of the given energy system.

proposed cost of capital for the energy systems together because the evidence and requested cost of debt and ROE are equivalent.

2.1 Capital and Development Costs

We discuss the proposed capital and development costs for the Heating TES and DCS in the following subsections.

2.1.1 Heating TES

As noted above, Creative Energy was granted a CPCN for the Heating TES by Order C-1-19. In that decision the BCUC raised two concerns with respect to Creative Energy's prudency in its development of the energy system. First, the BCUC noted that the actual capital expenditures for the Phase 1 of the Heating TES exceeded Creative Energy's estimated costs by approximately 45 percent. This is more than the accepted -20 to +30 percent accuracy range for an AACE Class 3 estimate, the standard that the original Stream A costs were stated to meet. Second, Creative Energy's chosen alternative created a risk where some of the Heating TES assets may not be needed once the containerized boiler plant is removed from its current temporary location in 2023. The BCUC stated that Creative Energy failed to explain or provide any clear plan for the future of the Heating TES beyond 2023, which increased the BCUC's concern regarding the possibility of stranded assets.[30]

Given the above concerns, the BCUC recommended a prudency review of the capital expenditures prior to approving final rates for the Development and directed the following reporting from Creative Energy:[31]

1. file a Final Cost Report within six months following the completion of the Phase 2 Heating TES. The Final Cost Report is to include a complete breakdown of the final costs of both the Phase 1 Heating TES and Phase 2 Heating TES, a comparison of these costs to the estimates provided in the 1480 Howe Street TES Stream A Application and the Heating TES CPCN Application, and provide an explanation of all material cost variances; and
2. determine the form and additional content of the Final Cost Report in consultation with BCUC staff.

In consideration of the above, this subsection on capital and development costs includes: (i) Creative Energy's response to the BCUC's noted concerns from the Heating TES CPCN Decision; and (ii) a summary of the Final Cost Report.

Creative Energy's Response to the BCUC Concerns in the Heating TES CPCN Decision

With respect to the BCUC's first noted concern where actual capital expenditures for the Phase 1 Heating TES exceeded the estimate by approximately 45 percent, Creative Energy states that the costs of Phase 1 of the project as reported in the Stream A Application ($1.828 million) for construction heat as compared to the costs of Phase 1 as reported in the Heating TES CPCN Application (approximately $2.6 million) result from the Stream A Application under-reporting actual and forecast project development costs in error.[32] Creative Energy explains

[30] Heating TES CPCN Proceeding, Order C-1-19 and accompanying Decision, Section 3.7, p. 29
[31] Heating TES CPCN Proceeding, Order C-1-19 and accompanying Decision, Section 3.7, p. 29
[32] Exhibit B-5, Appendix A, Section 1, p. 2: Exhibit B-13, BCUC IR 21.1

that the Stream A Application inadvertently incorporated only the expected costs to support the Stream A Application, and mistakenly omitted prior development costs. Creative Energy adds that the Stream A Application did not include any forecast of future development costs, which accounts for the remaining difference from the amount reported in the Heating TES CPCN Application.[33] It notes that the error was corrected in the Heating TES CPCN Application and was not determinative of the definition of Phase 1 in terms of overall cost and the criteria under which the provision of construction heat in Phase 1 was granted a Stream A exemption for construction heating.[34]

Creative Energy submits that a reporting error is not imprudence and contends that overall, in the comparison of actual final costs to the project budget as reported in the Heating TES CPCN Application, the costs incurred are indicative of prudent project management and delivery.[35]

With respect to the BCUC's second noted concern that the chosen alternative created a risk that some of the Heating TES assets may not be needed once the temporary containerized boiler plant is removed from its current location in 2023, Creative Energy explains that the costs reported above do not concern the future strategy to relocate the boiler plant.[36] Creative Energy adds that any costs incurred during the current rate setting period (i.e., 2020-2023) associated with the relocation of the temporary containerized boiler plant or a change to the source of thermal energy for the development will be capitalized and factored into rates when the related plant is placed in service.[37] Accordingly, Creative Energy submits that there is no risk of increased costs to customers during the proposed Test Period for the Heating TES.[38]

Creative Energy states that it is in discussions with the City and nearby developers about potential plant locations, as well as studying the potential to extend Creative Energy's Core Steam system and install steam-to-hot-water conversion. Creative Energy states no decisions have been made as to the preferred solution.[39]

Creative Energy acknowledges that BCUC Order C-1-19 directs it to file a CPCN application at least one year prior to any anticipated move of the temporary containerized boiler plant or other change to the source of thermal energy for the development. Creative Energy notes that given the terms of the existing agreement with the City and the direction under Order C-1-19, a CPCN application is contemplated no later than the end of 2022, which it believes will support the regulatory process and timing for relocation of the temporary boiler plant or connection to a different source of thermal energy by the end of 2023. Creative Energy expects to be able to submit such CPCN application in 2022 and contends it would only seek a variance for a later filing date if the project to relocate the boiler plant or connect to a different source of thermal energy project is delayed for some reason.[40]

Final Costs for the Heating TES

[33] Exhibit B-5, Appendix A, Section 3.1, p. 7
[34] Exhibit B-5, Appendix A, Section 1, p. 2
[35] Exhibit B-5, Appendix A, Section 1, p. 2; Exhibit B-13, BCUC IR 21.1
[36] Exhibit B-14, CEC IR 22.1
[37] Exhibit B-9, Panel IR 2.2
[38] Exhibit B-9, Panel IR 2.3
[39] Exhibit B-9, Panel IR 2.1
[40] Exhibit B-9, Panel IR 2.1.2

As part of the Evidentiary Update, Creative Energy filed the Final Cost Report for the development and construction of the Heating TES and prepared the following tabular summary of the final costs:[41]

Table 2: Final Costs for the Heating TES

Description	Current		
	To Date	To Complete	Total
Development and Soft Costs	671,168	21,000	692,168
Engineering/Design	279,222	2,000	281,222
Containerized Boiler Plant	792,509	nil	792,509
Distribution Piping System (DPS)	841,056	100,000	941,056
Energy Transfer Stations (ETS)	671,900	13,000	684,900
Legal	37,767	nil	37,767
CPCN & Regulatory	63,101	nil	63,101
AFUDC	266,158	nil	266,158
Total	**3,622,882**	**136,000**	**3,758,882**

The cost categories described above include the following activities:

- Development and Soft Costs – these costs include the feasibility analysis and study to determine the size and scope of the Heating TES, assessment of energy sources, external communications and advisory, modeling and internal management time.[42]
- Engineering/Design – relate to costs associated with the planning, design and engineering of the Heating TES including permitting and preparation of site plans.[43]
- Containerized Boiler Plant, Distribution Piping System and Energy Transfer Stations – include the construction costs associated with bringing the Heating TES into service. [44]
- Legal – these costs are related to external legal services to support the development and construction of the Heating TES.[45]
- CPCN & Regulatory – include third-party legal costs related to preparation and review of the CPCN Application.[46]
- Allowance for Funds Used During Construction (AFUDC) – calculated using Creative Energy's weighted average cost of capital (WACC) on the actual costs incurred for Phase 1 and Phase 2 costs starting in 2015 and ending in October 2019, as customers were billed under the interim rates approved by Order G-260-19, effective November 1, 2019. Creative Energy notes that it recovered part of its cost of capital

[41] Exhibit B-5, Appendix A, Section 1, p. 1
[42] Exhibit B-13, BCUC IR 24.3
[43] Exhibit B-5, Appendix A, Section 3.1, p. 7
[44] Exhibit B-5, Appendix A, Section 3.1, p. 8
[45] Exhibit B-13, BCUC IR 24.3
[46] Exhibit B-13, BCUC IR 24.3

through construction heat revenue under the rates in effect through the Stream A approval. The AFUDC amount was reduced by the construction heat revenue received during 2015 to 2018.[47]

In Table 2 above, Creative Energy forecast final costs of $136,000 to complete the Heating TES, for the following closeout activities:

- $100,000 to complete the DPS is an estimate of the road restoration costs that will be charged to the project by the City to re-pave Pacific Boulevard. Actual road restoration costs of $57,381 were invoiced by the City to Creative Energy in 2021.[48]
- $36,000 in project closeout costs are related to minor items outstanding in the mechanical and electrical work to connect Building 3 and Building 4 (e.g. final controls commissioning of the ETSs, and labelling of the pipes, valves and instruments on those same ETSs). The work is being held to coincide with the completion of the building systems and to prevent inadvertent damage, such as to the labeling by other contractors on-site.[49]

Included in the budget breakdown of the Development and Soft Costs were Phase 1 predevelopment costs "Legacy transfer from CE Canada" [Creative Energy Canada] of $59,290. Creative Energy states that these costs include the following items:[50]

1. Kerr Wood Leidel - Preliminary engineering of the South Downtown system;
2. Reshape Infrastructure – Commercial and Regulatory advisory;
3. Robert Hobbs – Regulatory advisory;
4. National Hydronics Group – waterproofing materials of $2,615 erroneously coded to the Development when it relates to Creative Energy's Northeast False Creek (NEFC) service area;
5. McNeill Nakamoto Recruitment – This is a temporary services agency which provided administrative support to the project.

Included in the budget breakdown of the Engineering Costs were Phase 1 engineering costs related to "PO706 Legacy transfer" of $27,296. Creative Energy notes that it has been unable to trace the details of this purchase order (PO). It notes that the PO was created and subsequently deleted by the user and was never matched to an invoice. Creative Energy's accounting team believes that the costs were likely related to costs which were incurred in CE Canada in 2015, but they have been unable to match the amount to any specific combination of costs incurred in CE Canada in 2015.[51]

Creative Energy submits that it managed the project prudently and completed it on time with respect to the Developer's schedule, and within an accepted estimated budget range.[52] It notes the total cost of the Heating

[47] Exhibit B-5, Appendix A, Section 3.2, p. 13. Total AFUDC for the period of 2015 to October 2019 ($422,495) was reduced by the construction heat revenue ($156,336), resulting in net AFUDC of $266,158 proposed to be recovered in rates.
[48] Exhibit B-5, Appendix A, Section 3.1, p. 12; Creative Energy Final Argument, Section 1.4.2, p. 4
[49] Exhibit B-5, Appendix A, Section 3.1, p. 12
[50] Exhibit B-13, BCUC IR 21.1, Attachment 21.0; Exhibit B-16, BCUC IR 69.1, Attachment 69.1, Attachment 69.1.1; BCUC IR 70.2
[51] Exhibit B-13, BCUC IR 21.1, Attachment 21.0; Exhibit B-16, BCUC IR 69.1, Attachment 69.1; BCUC IR 70.10
[52] Exhibit B-16, BCUC IR 69.1

TES is approximately seven percent higher than the total budget reported in the Heating TES CPCN Application, which was prepared and presented under an AACE Class 3 estimate accuracy of -15 percent/+30 percent. Creative Energy submits the difference between the final costs and the budget reported in the Heating TES CPCN Application is almost entirely due to AFUDC. The cost estimate in the Heating TES CPCN Application did not report the full extent of these costs.[53] When AFUDC is removed from the comparison, Creative Energy states actual costs are within one percent of the Heating TES CPCN Application cost estimate. The cost comparisons between budget and actual are presented in the table below:[54]

Table 3: Final Cost of the Heating TES as compared to the Costs Presented in the Heating TES CPCN Application[55]

	CPCN	Actual	Difference $	Difference %
Project Total	3,508,000	3,758,882	250,882	7.2%
AFUDC	28,000	266,158		
Project Total - Normalizing for AFUDC	3,480,000	3,492,724	12,724	0.4%

Creative Energy maintains that the development and construction of the Heating TES have been successfully executed within its overall budget and that the timing of project development and completion have been successfully managed and adjusted as required, contingent within the overall construction timelines of the VHD.[56] Creative Energy notes the construction schedule for the Heating TES was adjusted in accordance with the construction timelines of the VHD to ensure that heating service is supplied where and when required by the customer.[57]

Positions of the Parties

Neither the CEC nor BCOAPO comments on the capital and development cost of the Heating TES.

Panel Determination

In this section, we consider whether the proposed capital and development costs are reasonable and whether there are any costs that should not be recovered in rates. In our review, we have kept in mind that the total capital and development costs form a key component of the Capacity Charge for the heating rates, and that the BCUC recommended, in the Heating TES CPCN proceeding, a prudency review of the Phase 1 and Phase 2 capital expenditures for the Heating TES prior to approval of permanent rates.

The BCUC identified two concerns that gave rise to its recommendation for a prudency review. First, the final Phase 1 costs were 45 percent higher than the estimated Phase 1 costs. Second, the possibility of stranded assets, because Creative Energy may have to relocate the containerized boiler plant and did not provide a clear plan for the future of the Heating TES during the Heating TES CPCN proceeding.

[53] Exhibit B-5, Appendix A, Section 1, pp. 1–2
[54] Exhibit B-5, Appendix A, Section 1, pp. 1–2
[55] Exhibit B-5, Appendix A, Section 1, p. 2, Table 2
[56] Exhibit B-5, Appendix A, Section 1, p. 1
[57] Exhibit B-5, Appendix A, Section 1, p. 2

Before we can review the reasonableness of the proposed capital and development costs, we must consider whether a prudency review is warranted. We are satisfied with Creative Energy's explanation for the 45 percent variance: it accepts responsibility for this discrepancy, indicating that it did not include prior development costs or a forecast of future development costs in the Phase 1 forecast cost estimate. The fact that Creative Energy prepared the total budget reported in the Heating TES CPCN Application under an AACE Class 3 estimate accuracy of -15 percent/+30 percent lends more credibility to that budget than the estimate prepared for Phase 1 included in the Stream A Application.

As a result of its concerns, the BCUC directed Creative Energy to work with BCUC staff on the form of a final cost report, which report forms part of this proceeding, and generated numerous IRs in this proceeding. Creative Energy points out that the total cost of the Heating TES, from the final cost report, is seven percent higher than the costs included in the budget reported in the Heating TES CPCN. By all accounts, seven percent is much less alarming than 45 percent. Moreover, Creative Energy submits that the seven percent is almost entirely due to AFUDC, and once that is removed, the difference is further reduced to less than one percent.

The Panel agrees with Creative Energy that it should have included prior, as well as future development costs, in its initial estimates for the Heating TES, and that this oversight is what led to the BCUC's concerns about prudency. Therefore, we do not find evidence of imprudent decisions (except, perhaps, careless reporting).
As for the BCUCs second concern regarding possible prudency issues, namely the risk of stranded assets, Creative Energy argues that the costs reported in this proceeding do not concern the future strategy to relocate the containerized boiler plant. In other words, the prudency of the costs to relocate the containerized boiler plant is not yet a live issue, and on this issue we agree with Creative Energy. In particular, any costs that Creative Energy incurs during this rate setting period but which pertain to the relocation of the containerized boiler plant or a different source of thermal energy will be capitalized and factored into a subsequent rate application, when the relocated plant is built and placed in service. Our agreement with Creative Energy at this time does not preclude the BCUC from directing a future prudence review of these costs.

The additional information from Creative Energy explaining the 45 percent difference between estimated and actual costs, plus the reassurance that accompanies a budget prepared under an AACE Class 3 estimate, satisfy us that the capital and development costs for the Heating TES are reasonable.

During our review of the capital and development costs, however, we did note that two of the capital and development costs have no connection to the Heating TES, namely (i) the portion of Legacy Transfer costs from CE Canada ($2,615) that Creative Energy states was erroneously coded to the Development and relates to the NEFC service area; and (ii) the Legacy transfer PO ($27,296) that is unsupported by an invoice to verify the transaction occurred. Creative Energy should not recover these items in rates. In addition, the Panel recognizes that the final actual costs for the road restoration work to re-pave Pacific Boulevard are significantly ($42,619) less than forecast, and there is no evidence to support recovering in rates the variance between the actual and forecast. **Therefore, the Panel approves the proposed capital and development costs for the Heating TES to be recovered in rates, apart from the following that are not supported by evidence:**

1. **$2,615 Legacy Transfer costs from CE Canada which appear to be miscoded to the Development;**
2. **$27,296 PO706 Legacy Transfer costs for which Creative Energy is unable to provide documented support; and**

3. **$42,619 of the Road Restoration forecast costs, as the forecast costs are greater than actual.**

The Panel denies Creative Energy's request to recover the above-mentioned Heating TES capital and development costs, which total $72,530.

Lastly, the Panel acknowledges that Creative Energy has satisfied the direction pursuant to Order C-1-19, and accepts that the costs associated with the relocation of the containerized boiler plant will be the subject of a future rates application.

2.1.2 District Cooling System

Creative Energy proposes to recover through rates a total of $2,701,614 of capital and development costs for the DCS. The following BCUC prepared table provides a breakdown of the proposed costs:[58]

Table 4: DCS Capital and Development Costs

	Total
DCS Purchase Price	2,530,000
Peer Review	17,667
Civil Works	15,000
Internal Management	93,164
Legal	3,424
CPN & Regulatory	42,359
Total	**2,701,614**

Capital costs relate to the purchase price of the DCS as set out in the Purchase Agreement and reviewed as part of the DCS CPCN granted by Order C-2-20.[59] The Purchase Agreement capped the purchase price for the DCS at the Developer's actual cost of constructing the DCS but in any case no more than $2.2 million plus 15 percent contingency, for a total of $2.53 million. Creative Energy notes the Developer assumed the risk of any construction costs over and above the purchase price. The Developer's total actual costs to construct the DCS was $2,978,683.[60] The recovery of the plant-in service is based on Creative Energy's purchase price and accordingly the construction costs in excess of the purchase price are not recovered in customer rates.[61]

Development costs include the following:[62]

- Peer Review – these costs relate to the work performed by Kerr Wood Leidel Consulting Engineers (KWL), a third-party engineering consultant, to conduct a review of system design as well as follow-up inspection work to confirm the technical suitability of the constructed plant.
- Civil Works – these costs reflect the allocated share for the trenching work to support the installation of the distribution infrastructure for both the DCS and the Heating TES.

[58] Exhibit B-6, Section 2.1, p. 6; Exhibit B-13, BCUC IR 25.2

[59] Exhibit B-6, Section 2.1, p. 7

[60] Exhibit B-13, BCUC IR 26.2; Exhibit B-18, BCOAPO IR 11.1; DCS CPCN Application, Exhibit B-1, Section 1.1, p. 2

[61] Exhibit B-13, BCUC IR 26.2.3; Exhibit B-18, BCOAPO IR 11.2

[62] Exhibit B-6, Section 2.1, p. 7; Exhibit B-13; BCUC IR 24.5

- Internal Management – includes internal time spent by Creative Energy to review design drawings, prepare deficiency lists, perform inspections, coordinate with the Developer, perform general communication with the Developer and other staff, and prepare regulatory filing documents.
- Legal – includes the costs for external services to support the drafting, negotiation, and execution of the contracts, agreements and conveyance documents that support the construction and purchase of the DCS and the provision of cooling service.
- CPCN & Regulatory – includes costs for external regulatory and legal support for the preparation and regulatory filings to support the granting of the CPCN.

Positions of the Parties

Neither the CEC nor BCOAPO comment on the capital and development cost of the DCS.

Panel Determination

The Panel finds Creative Energy's proposed capital and development costs for the DCS to be reasonable for a project of this nature and accepts the purchase price of the DCS as being within reason. We note that the Developer assumed the risk of any construction costs over and above the purchase price and that the actual construction costs exceed Creative Energy's purchase price by more than $400,000.

2.2 Annual Cost of Service

In this section we discuss Creative Energy's proposed annual cost of service for the Heating TES and DCS. We present the evidence for each energy system separately, and identify those areas that are common to both. Interveners provided submissions that generally apply to both energy systems. Therefore, to avoid duplication, we summarize their submissions after the evidence and provide our Panel determination on the annual cost of service at the end of this section.

Heating TES

Creative Energy provides the following summary of annual requirements over the proposed Test Period for the Heating TES:[63]

[63] Exhibit B-5, Section 4.4, p. 11, Table 4

Table 5: Revenue Requirements of the Heating TES

Component	2020	2021	2022	2023
Electricity Cost (indicative)	10,653	11,663	11,896	12,134
Natural Gas Costs (indicative)	90,477	104,923	106,212	107,527
Total Variable Cost of Service	101,130	116,586	118,108	119,662
Maintenance	37,539	39,107	39,890	40,687
Operator Cost	25,506	26,010	26,530	27,061
Insurance	9,565	9,965	10,164	10,367
Municipal Access Fee	5,316	7,694	7,994	8,306
Financing Fees	6,101	6,145	5,929	5,713
Regulatory Costs	20,005	0	0	0
Administration	67,132	68,458	69,827	71,224
Depreciation	116,202	125,296	125,296	125,296
Income Tax	44,921	53,457	57,009	60,408
Interest	89,658	92,176	88,934	85,692
Return on equity	136,646	141,301	136,242	131,183
Total Fixed Cost of Service	558,590	569,610	567,815	565,938
Total Revenue Requirement	659,720	686,195	685,924	685,599

A brief discussion on each of the components of the revenue requirement is provided below. The cost of debt and ROE are discussed in Section 2.3.

Indicative Electricity and Natural Gas Costs

The variable costs of service for the Heating TES include the electricity and natural gas costs and are indicative only as the actual costs are recovered on a flow-through basis from each customer by separately metering each building.[64]

Maintenance

Creative Energy forecast annual maintenance costs based on one percent of actual construction costs. Creative Energy submits the one percent is predicated on its experience that this is sufficient and appropriate for both routine and sustained annual maintenance and it uses the same methodology for its other energy systems.[65]

Operator Cost

Creative Energy explains Technical Safety BC (TSBC) inspected the Heating TES and issued an operating permit confirming that the Heating TES is below the threshold that requires on-site supervision.[66] Creative Energy includes in the forecast a part time operator at 25 percent of a full-time equivalent position earning $100,000 in 2019 dollars. The operator costs are inflated annually by two percent, the assumed annual inflation rate.[67]

Insurance

[64] Exhibit B-5, Section 4.3, p. 10

[65] Exhibit B-5, Section 4.2, pp. 9–10; Exhibit B-14, CEC IR 23.1

[66] Exhibit B-13, BCUC IR 29.2

[67] Exihibit B-1, Section 4.1, Table 2, p. 5; Section 4.2, p. 10; Exhibit B-5, Section 4.2, p. 9

Creative Energy states the Heating TES is insured directly for property insurance and boiler and machinery insurance and is also covered under its general liability, umbrella, director and officers, and errors and omissions policies. Property insurance and boiler and machinery are directly charged to the Heating TES while general liability and the other policies are included in Administration costs and allocated by the Massachusetts formula.[68] Creative Energy forecast the direct cost of insurance based on the actual cost of the insurance policy.[69]

Creative Energy contends that under current market conditions, there is little opportunity to negotiate rates, but it uses a large and reputable insurance broker to help find the best rates for all types of insurance.[70]

Municipal Access Fee

Creative Energy states municipal access fees are forecast based on 1.25 percent of revenue in accordance with the Municipal Access Agreement with the City, dated September 1, 1999.[71]

Financing Fees

Creative Energy forecasts annual refinancing fees of 30 basis points on the credit facilities, which it has allocated pro rata to the Heating TES based on deemed debt. It states that the fees are consistent with the TD and HSBC term sheets.[72] Creative Energy submits that recovering financing fees based on a deemed debt allocation is appropriate because it does not have lending facilities that are specific to each energy system and this process ensures each system bears its proportionate share of the financing fees.[73] Creative Energy states financing fees are driven specifically by the level of debt required for each energy system which in turn is partially a function of capital costs.[74]

Regulatory Costs

Regulatory costs are forecast for 2020 only and include the expected regulatory expenditures to support the preparation, review and approval of the Heating Application. As discussed in Section 4.2 of this decision, Creative Energy proposes a Heating RCVDA to record the allocated difference between the regulatory cost forecast and actual costs when so determined.

Administration

General and administration expenses are allocated under the BCUC-approved Massachusetts Formula. Forecast amounts reflect an allocation ratio of 5.1 percent on total estimated allocable overhead of $1,316,000.[75] The following categories of General and Administration costs comprise the overhead allocated in accordance with the Massachusetts formula, and do not include any expenses that can be directly assigned:[76]

[68] Exhibit B-5, Section 4.2, p. 9; Exhibit B-16, BCUC IR 74.1
[69] Exhibit B-13, BCUC IR 27.2, 27.3
[70] Exhibit B-16, BCUC IR 74.2
[71] Exhibit B-5, Section 4.2, p. 9
[72] Exhibit B-5, Section 4.2, p. 9
[73] Exhibit B-13, BCUC IR 30.1
[74] Exhibit B-16, BCUC IR 77.5.1
[75] Exhibit B-5, Section 4.2, pp. 9–10
[76] Exhibit B-2, BCUC IR 7.5

- Directors fees;
- Residual salaries and benefits (costs are first directly assigned to utility projects using time sheets and only the residual costs are allocated using the Massachusetts formula);
- Office supplies & expenses;
- General legal and audit fees; and
- General liability and umbrella insurance.

Rates for the Heating TES approved on an interim basis by Order G-260-19 were established using a modified two-factor Massachusetts formula that Creative Energy proposed as part of its 2019-2020 Revenue Requirements Application (RRA) for the Core Steam System and NEFC Service Areas (2019-2020 RRA).[77] As part of the 2019-2020 RRA proceeding Creative Energy amended the request for the modified two-factor Massachusetts formula based on the evidence in that proceeding and assessed an alternative three-factor methodology. Based on the amendments in the 2019-2020 RRA proceeding and given the final decision for that proceeding was not available prior to Creative Energy submitting its Evidentiary Update, Creative Energy applied the three-factor Massachusetts formula that was currently in effect at that time, as approved by Order G-205-18.[78] Following Creative Energy's filing of the Evidentiary Update, the BCUC issued Order G-227-20 on the 2019-2020 RRA directing Creative Energy to use a three-factor Massachusetts Formula, beginning in 2020 based on: (i) the average gross book value of capital assets or property, land and equipment; (ii) salaries and direct labour expenses; and (iii) operating revenues.[79]

Creative Energy confirms that it will incorporate the BCUC's decision from the 2019-2020 RRA into the final rates determination for the Heating TES and other projects as applicable.[80]

Depreciation

Creative Energy calculates the weighted average useful life of the individual components of the Heating TES to be 30.3 years, and proposes to depreciate the capital and development costs on a straight-line basis over 30 years, which is equivalent to the contract term of the Heating CSA.[81]

Income Tax

Creative Energy calculates income tax based on 27 percent of the ROE plus depreciation less capital cost allowance (CCA).[82]

[77] Exhibit B-2, BCUC IR 7.1
[78] Exhibit B-5, Section 4.2, pp. 9–10, Footnote 4; 2019-2020 RRA proceeding, Creative Energy Final Argument, Section 3.2, pp. 17–18
[79] Creative Energy 2019-2002 RRA, Order G-227-20, and accompanying decision, Section 3.1, p. 25
[80] Exhibit B-2, BCUC IR 7.7.2
[81] Exhibit B-5, Section 4.4, p.11; Exhibit B-13, BCUC IR 24.7; ExhibitB-14, CEC IR 35.2
[82] Exhibit B-5, Section 4.4, p.11

District Cooling System

Creative Energy provides the following summary of annual revenue requirements for the DCS over the proposed Test Period:[83]

Table 6: Revenue Requirements of the DCS

Component	2020	2021	2022	2023	2024	2025
Electricity Cost (indicative)	16,802	70,400	71,808	73,244	74,709	76,203
Water Cost (indicative)	1,227	5,755	5,870	5,987	6,107	6,229
Total Variable Cost	*18,030*	*76,155*	*77,678*	*79,232*	*80,816*	*82,433*
Maintenance	10,711	32,776	33,431	34,100	34,782	35,477
Operator Cost	6,800	20,808	21,224	21,649	22,082	22,523
Insurance	3,755	11,492	11,722	11,956	12,195	12,439
Municipal Access Fee	1,683	5,526	5,749	5,981	6,223	6,475
Financing Fees	1,553	4,660	4,505	4,350	4,194	4,039
Lease Payments	10,880	33,293	33,959	34,638	35,331	36,037
Regulatory Costs	20,000	-	-	-	-	-
Administration	12,081	36,967	37,706	38,460	39,230	40,014
Depreciation	-	90,054	90,054	90,054	90,054	90,054
Income Tax	-	32,582	31,665	30,320	28,976	27,631
Interest	20,342	62,137	60,066	57,995	55,923	53,852
Return on equity	34,866	107,260	103,624	99,988	96,352	92,716
Total Fixed Costs	*122,672*	*437,555*	*433,705*	*429,491*	*425,341*	*421,257*
Total Revenue Requirement	*140,701*	*513,710*	*511,383*	*508,722*	*506,157*	*503,690*

A brief discussion on each of the components of the revenue requirement for the DCS is provided below. Similar to the Heating TES, we discuss the debt interest costs and ROE in Section 2.3 of this decision.

Indicative Electricity and Water Costs

The variable costs of service for the DCS include the electricity and water costs and are indicative only as the actual costs are recovered on a flow-through basis from each customer by separately metering each building.[84]

Maintenance

Similar to the Heating TES, Creative Energy forecasts annual maintenance costs based on one percent of actual construction costs.[85] Creative Energy notes that while recovery of the plant-in-service costs is based on the purchase price of the DCS ($2.53 million), maintenance is forecast based on the Developer's actual costs to construct and develop the DCS ($2,978,683).[86] Please refer to the Heating TES annual revenue requirements subsection of this decision for additional information to support the use of one percent of construction costs.

[83] Exhibit B-6, Section 2.4, p. 11, Table 4

[84] Exhibit B-6, Section 2.3, p. 10

[85] Exhibit B-6, Section 2.2, p. 9; Exhibit B-14, CEC IR 23.1

[86] Exhibit B-6, Section 2, p. 9

Operator Cost

Creative Energy submits that TSBC inspected the DCS and issued an operating permit confirming the DCS is below the threshold requiring on-site supervision.[87] Creative Energy forecast the need for a part time operator at 20 percent of a full-time equivalent position earning $100,000 in 2019 dollars, inflated annually by two percent for inflation.[88]

Insurance

Creative Energy states that similar to the Heating TES the DCS is insured directly for property insurance and boiler and machinery insurance and also covered under its general liability, umbrella, director and officers, and errors and omissions policies.[89] Please refer to the Heating TES annual revenue requirements subsection of this decision for further information on how the insurance costs are forecast and allocated.

Municipal Access Fee

Municipal access fees for the DCS are forecast based on the same assumptions and agreement with the City as the those forecast for the Heating TES[90] as discussed in the Heating TES annual revenue requirements subsection of this decision.

Financing Fees

Similar to the Heating TES, Creative Energy forecasts annual refinancing fees of 30 basis points on the credit facilities which are consistent with the HSBC term sheet and allocated pro rata to the DCS on the basis of deemed debt.[91] Please refer to the Heating TES annual revenue requirements subsection of this decision for Creative Energy's rationale for using this approach.

Lease Payments

Creative Energy explains lease payments only pertain to the DCS and the amounts are pursuant to the Contribution Agreement, dated February 12, 2016, between Howe Street Ventures Ltd. and Howe Street Property Inc. (subsidiaries of the Developer, and collectively the owner of the central plant room where the majority of the DCS equipment is located) and Creative Energy (Contribution Agreement).[92] Forecast amounts reflect the cost of renting the space (approximately 1,600 square feet) occupied by the DCS, at a rate of $20 per square foot. This forecast amount is inflated annually by 2 percent for inflation.[93]

Regulatory Costs

Similar to the Heating TES, regulatory costs are forecast for 2020 only and include the expected regulatory expenditures to support the preparation, review and approval of the Cooling Application. As discussed in the Heating TES annual revenue requirements subsection of this decision, Creative Energy proposes a Cooling

[87] Exhibit B-13, BCUC IR 29.2
[88] Exhibit B-6, Section 2.2, pp. 8–10; Table 3
[89] Exhibit B-5, Section 4.2, p. 9; Exhibit B-6, Section 2.2, p.9; Exhibit B-16, BCUC IR 74.1
[90] Exhibit B-6, Section 2.2, p. 9
[91] Exhibit B-6, Section 2.2, p. 10
[92] DCS CPCN proceeding, Exhibit B-1, Section 1.1, p. 1, footnote 1; Exhibit B-6, BCUC IR 4.5, 25.1, Attachment 25.1
[93] Exhibit B-6, Section 2.2, p. 9

RCVDA to record the allocated difference between the regulatory cost forecast and actual costs when so determined.

Administration

Similar to the Evidentiary Update, general and administration expenses are allocated under the three-factor Massachusetts formula approved by Order G-205-18. Forecast amounts for the DCS reflect an allocation ratio of 2.7 percent on total estimated allocable overhead of $1,316,000. The same categories of general and administration costs as noted for the Heating TES constitute the allocable overhead for the DCS.[94]

As noted above in the Heating TES annual revenue requirements subsection, and following Creative Energy's filing of the Cooling Application, the BCUC issued Order G-227-20 on the 2019-2020 RRA directing Creative Energy to use a revised three-factor Massachusetts Formula, beginning in 2020.[95]

Creative Energy confirms that it will incorporate the BCUC's decision from the 2019-2020 RRA into the final rates determination for the DCS as applicable.[96]

Depreciation

Creative Energy calculates the weighted average useful life of the individual components of the DCS to be 30.26 years and proposes to depreciate the capital and development costs on a straight-line basis over 30 years. The proposed depreciation period is equivalent to the contract term of the Cooling CSA.[97]

Income Tax

Similar to the Heating TES, Creative Energy calculates income taxes for the DCS based on 27 percent of the ROE plus depreciation less CCA.[98]

Positions of the Parties

Overall the CEC recommends the BCUC approve the annual revenue requirements for the Heating TES and DCS for the respective rate setting periods.[99] BCOAPO accepts Creative Energy's calculations of the Heating TES and DCS revenue requirements and related matters for rate setting purposes.[100]

The CEC states that it reviewed the evidence with respect to the operations and maintenance line items included in the annual revenue requirements for the Heating TES and did not find any area of significant concern. It recommends that the BCUC find the costs to be acceptable.[101]

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[94] Exhibit B-6, Section 2.2, pp. 9–10

[95] Creative Energy 2019-2020 RRA, Order G-227-20, and accompanying decision, Section 3.1, p. 25

[96] Exhibit B-2, BCUC IR 7.7.2

[97] Exhibit B-13, BCUC IR 24.7; Exhibit B-6, DCS Rates Model Attachment, Project Inputs Worksheet

[98] Exhibit B-6, Section 2.4, p. 12

[99] CEC Final Argument, paragraph 63, p. 12; paragraph 147, p. 24

[100] BCOAPO Final Argument, p. 8

[101] CEC Final Argument, Section II, Subsection C, p. 12

The CEC indicates that certain elements, such as insurance and interest, might be appropriately dealt with in flow-through accounts, so that a utility does not unnecessarily benefit from or be disadvantaged by costs that are not under its control.[102]

Creative Energy appears not to support the CEC's suggestion for such flow-through accounts, however, because it notes that "customers can reasonably be expected to benefit by the shareholder assuming the risk [for variances between actual and forecast cost of service], in part, because holding utility management accountable for variances around forecasts provides an incentive to control those costs that would otherwise be reduced with the creation of a deferral account."[103]

BCOAPO states that it accepts Creative Energy's calculations of the Heating TES and DCS revenue requirements and related matters for rate-setting purposes. BCOAPO considers that Creative Energy's evidence, assumptions and explanations with respect to maintenance, operator costs, insurance, municipal access fee, financing fees and lease payments are reasonable for rate-setting purposes and takes comfort in knowing these assumptions can be reviewed in subsequent RRAs.[104]

BCOAPO recommends the establishment of a specific deferral account, the Tax Rate Variance Account (TRVA), like the one that the BCUC established for Shannon Estates Utility Ltd. (SEUL), based on the rationale that income tax rates are uncertain and uncontrollable. BCOAPO submits that a TRVA for the Heating TES and DCS is appropriate to capture the variance between forecast and actual income taxes.[105]

In reply, Creative Energy states that it "is agreeable to a TRVA that captures the variance between forecast and actual income taxes over the rate-setting period under our understanding that the contemplated account as defined would only record variances that arise as a direct outcome of tax rate changes."[106]

BCOAPO states the proposed administration costs for the DCS have not been updated to reflect the BCUC's decision to reject Creative Energy's proposal to use a two-factor Massachusetts formula to allocate administration costs.[107]

In reply, Creative Energy confirms that the DCS and TES Rates Models attached to the response to BCUC IR No. 2, filed on December 18, 2020, were updated to reflect allocable amounts based on the Massachusetts formula approved under Order G-227-20.[108]

Panel Determination

In this section, we address the revenue requirements of the Heating TES and DCS annual cost of service.

Cost of Service Categories on which the Panel has no comment

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[102] CEC Final Argument, Section II, Subsection D, pp. 19, 20
[103] Exhibit B-13, BCUC IR 35.2
[104] BCOAPO Final Argument, p. 8
[105] BCOAPO Final Argument, p. 10
[106] Creative Energy Reply Argument, paragraph 18, p. 4
[107] BCOAPO Final Argument, pp. 8–9
[108] Creative Energy Reply Argument, Section 2.1, paragraph 12, p. 3

Of the specific annual cost of service categories listed above, we have reviewed the indicative electricity and natural gas fuel costs, maintenance and operator costs, the municipal access fee, financing fees and depreciation. Interveners agreed these estimates were reasonable. We are satisfied that the revenue requirements for the Heating TES and DCS are reasonable for these six categories.

Cost of Service Categories on which the Panel has comments

Discussion about two of these categories is more relevant elsewhere in this decision, and for this reason, we discuss:

- Interest costs under Cost of Capital, Section 2.3, where we address the CEC's suggestion that interest costs be recorded in a flow-through deferral account, and
- Regulatory costs in Section 4.2 below, where we conclude that establishing a regulatory cost variance deferral account is appropriate.

We have some comments regarding the remaining categories, although we do not necessarily disagree with Creative Energy's forecasts.

- Insurance costs – we do not agree with the CEC that insurance should be recorded in a flow-through deferral account. The evidence indicates that Creative Energy's insurance costs are based on actual policies and therefore we see minimal risk that Creative Energy will unnecessarily benefit from or be disadvantaged by variances in these costs. Moreover, knowing that Creative Energy uses a large and reputable insurance broker satisfies us, in the absence of evidence to the contrary, that its costs are reasonable.
- Administration costs – while this proceeding was underway, the Massachusetts Formula method for allocating general and administrative costs was under review in the 2019-2020 RRA proceeding. That review led to changes to the general and administration forecast costs for the Heating TES and DCS. **Given Order G-227-20, we direct Creative Energy to re-calculate the Heating TES and DCS revenue requirements using the three-factor Massachusetts Formula approved by Order G-227-20 and to file the revised rates models for both systems in a compliance filing within 30 days of this decision.**
- Income tax – we now address the TRVA that BCOAPO proposes. We acknowledge that the BCUC did establish such an account for Shannon Estates Utility Ltd. (SEUL), based on the rationale that income tax rates are uncertain and uncontrollable. In our view, however, the two applications are distinguishable. Unlike SEUL, Creative Energy has used a consistent tax rate (27 percent) for the Test Period for the Heating TES and DCS. Therefore, even though income tax rates may be uncertain and uncontrollable, and even though Creative Energy is amenable to a TRVA, we are satisfied that Creative Energy's use of a consistent tax rate does not warrant deferral account treatment in this case.
- Depreciation expense – this relates to both the capital and development costs of the energy system and the estimated weighted average useful lives of the assets. **The Panel approves Creative Energy's proposal to depreciate the capital and development costs for both the Heating TES and DCS on a straight-line basis over 30 years, which is equivalent to the contract term of the CSAs for both energy systems.**
- Lease payments – this is the only revenue requirement category that is unique to the DCS annual cost of service; Creative Energy explains these payments are derived from the Contribution Agreement that was

reviewed in the DCS CPCN proceeding. Interveners did not dispute the proposed lease payments. The Panel is satisfied that these are reasonable costs.

The Panel accepts the forecast revenue requirements of the Heating TES and DCS for setting rates for the respective test periods of the energy systems, subject to the directives and determinations in this decision.

2.3 Cost of Capital

Creative Energy projects its financing costs for the Heating TES and DCS to reflect the default deemed capital structure and ROE consistent with the BCUC's direction as set by Order G-47-14 in the Generic Cost of Capital (GCOC) Stage 2 Decision of a default equity thickness of 42.5 percent and an equity risk premium of 75 basis points above the low-risk benchmark ROE, for regulated TES. This corresponds to an ROE of 9.5 percent.[109]

Creative Energy provided a risk matrix for both systems in comparison to other small sized TES and FortisBC Energy Inc. (FEI). Creative Energy has not applied for a risk premium greater than the amounts already approved by the BCUC for other TES projects.[110] Creative Energy states the Heating TES and DCS have comparable risk to a typical or benchmark TES regulated by the BCUC, and accordingly they are not sufficiently different to justify an alternative proposal.[111]

Creative Energy forecasts an overall cost of debt for the Heating TES and DCS based on 4.0 percent, noting this is consistent with the current average debt rate in effect for Creative Energy's Core steam system.[112] Creative Energy recognizes that interest rates have decreased during 2020 and there is uncertainty surrounding when they will increase to pre-pandemic levels. Creative Energy submits all its debt is considered short term and its interest expense fluctuates based on Prime or Bankers' Acceptance (BA) rates.[113]

Under its debt agreement, Creative Energy states its interest rates can range between 3.07% to 3.7% depending on whether borrowing is done as Prime or BA loans.[114] Creative Energy asserts these short-term interest rates do not reflect its interest rate risk and should not be used for rate setting purposes, especially for a multi-year application. Creative Energy believes that the cost of debt for regulatory purposes should be based in part on a long-term risk factor. Based on this, Creative Energy believes that 4 percent is still a reasonable interest rate for setting these service rates.[115]

Positions of the Parties

BCOAPO accepts that the proposed deemed capital structure of 57.5 percent debt and 42.5 percent equity is consistent with the approved structures of other BCUC regulated district energy utilities. BCOAPO questions

[109] Exhibit B-5, Section 4.4, p. 12; Exhibit B-6, Section 2.4, p. 12
[110] Exhibit B-2, Attachment 15.2; Exhibit B-6, Appendix E
[111] Exhibit B-13, IR 34.2
[112] Exhibit B-5, Section 4.4, p. 12; Exhibit B-6, Section 2.4, p. 12
[113] Exhibit B-13, IR 34.3
[114] Exhibit B-13, IR 34.3
[115] Exhibit B-13, IR 34.3

whether the proposed RDDAs and Capacity Charge lower Creative Energy's risk profile such that 9.5 percent ROE is higher than required to compensate it for the risk it accepts. BCOAPO acknowledges, however, that Creative Energy's ROE is beyond the scope of this proceeding.[116]

BCOAPO questions whether a 4 percent cost of debt remains a reasonable assumption for interest rates for rate-setting purposes given current and expected interest rates. BCOAPO notes, for example, that Creative Energy's current debt facilities are between 3.07 percent and 3.7 percent. Thus, BCOAPO recommends the BCUC to direct Creative Energy to use a 3.7 percent cost of debt based on the evidentiary record.[117]

In reply, Creative Energy acknowledges that the cost of debt was not fully explored in this proceeding beyond the evidence referenced above. Creative Energy submits that if the BCUC were to consider the BCOAPO's argument for a reduction to the debt interest rate, in fairness the BCUC should also consider the corroborating evidence Creative Energy recently filed in Creative Energy's 2021 RRA for the Core steam system proceeding.[118] Further, Creative Energy states its actual cost of debt has increased with the new financing agreement with HSBC when compared to the rate under the previous financing agreement with RBC.[119] Creative Energy recognizes that the prime interest rate decreased 1.5 percent during 2020, offsetting the increase related to HSBC, but Creative Energy believes that a longer-term interest rate that factors in interest rate risk should be used.[120] Creative Energy submits that the 4 percent cost of debt takes into consideration the increase in interest rates from the refinancing, the decrease in the prime rate and Creative Energy's interest rate risk.[121]

Panel Determination

There are three issues for us to consider in this section: are the proposed capital structure, ROE and cost of debt reasonable for the purpose of setting rates?

We are satisfied with Creative Energy's proposed deemed capital structure of 57.5 percent debt and 42.5 percent equity and an equity risk premium of 75 bps over the benchmark ROE. This is consistent with other TES regulated by the BCUC, with similar risk profiles, and there is no evidence on which to do otherwise. In addition, the BCUC has established a new GCOC proceeding, which is a more appropriate forum to review the benchmark rate.

Finally, Creative Energy's 2021 RRA for the Core Steam System is currently before the BCUC, where the reasonableness of Creative Energy's four percent cost of debt is also under review. In our view, since Creative Energy's cost of debt was not fully explored in this proceeding, and because it is under review in another proceeding, **we approve a 4 percent cost of debt.**

In addition, as noted above when we reviewed the proposed annual cost of service for the Heating TES, the CEC suggested that interest costs be recorded in a flow-through deferral account, so that Creative Energy does not unnecessarily benefit from, or be disadvantaged by, costs that are not under its control. In our view, however,

[116] BCOAPO Final Argument, p. 9
[117] BCOAPO Final Argument, p. 9
[118] Creative Energy Reply Argument, Section 2.2, p.3
[119] Creative Energy 2021 RRA for the Core Steam System, Exhibit B-4-1, BCUC IR 20.4
[120] Creative Energy 2021 RRA for the Core Steam System, Exhibit B-4-1, BCUC IR 20.4
[121] Creative Energy 2021 RRA for the Core Steam System, Exhibit B-4-1, BCUC IR 20.4

this is unlikely to be a material amount and therefore we do not consider a deferral account for interest rates to be necessary.

2.4 Future Rate Setting Periods

As previously noted, the proposed annual cost of service reflects the forecast costs Creative Energy proposes to recover over the Test Period for the Heating TES and the Test Period for the DCS. In this section we consider the duration of the rate setting periods following the period currently under review for the Heating TES and DCS. Creative Energy's proposed rate design and application for approval of rates is for a four-year period for the Heating TES and a five-year period for the DCS.[122] Thereafter, Creative Energy indicates that it will make periodic rate-setting filings over the course of the proposed 30-year levelization period for the rates of each system as necessary based on economic or other material factors or change in circumstance.[123] Creative Energy states that these rate setting periods, as based on the 30-year levelized forecast, will allow for stability and predictability as well as periodic review of the rates under a consistent framework that supports customer understanding and acceptance.[124] Creative Energy notes that with the proposed RDDA mechanisms in place over the 30-year term, it expects to have fewer regulatory applications as compared to what would be required to support a cost-of-service rate design.[125]

Creative Energy also states that it is not able to propose Heating TES rates for the period beyond 2024 because those rates will be contingent upon relocation of the temporary boiler plant. It anticipates that a permanent solution will entail some changes to the underlying costs and required rates, thereby requiring a future rates application beginning in 2024.[126]

Positions of the Parties

The CEC challenges Creative Energy's assertion that more frequent rate applications (i.e., to support a cost-of-service approach) are out of scale for these small TES. The CEC submits that if more frequent rate applications were necessary, they could be undertaken in an appropriate way to control costs.[127]

The CEC agrees that the four-year rate setting period for the Heating TES is acceptable at this time, although it submits that a careful analysis of the actual costs versus forecast costs should be prepared prior to the next rate-setting period. In its view, a rate-setting period of four years creates the potential for Creative Energy to receive undue benefits from rates based on a forecast cost of service, because customers are already exposed to very high Heating TES rates over the course of the levelization period.[128]

[122] Exhibit B-5, Section 4.2, p. 8; Exhibit B-6, Section 1, p. 1
[123] Creative Energy Final Argument, paragraph 96, p. 5
[124] Exhibit B-13, BCUC IR 36.5.1
[125] Exhibit B-13, BCUC IR 36.8
[126] Exhibit B-5, p. 4
[127] CEC Energy Final Argument paragraphs 94–95, p. 16
[128] CEC Final Argument, paragraph 96, p. 16

The CEC submits that there could be regulatory cost savings if the rate setting periods for the Heating TES and DCS were the same, and future reviews "could be undertaken together periodically." The CEC considers that either a four- or five-year period for rate-setting, or a shorter period, would be acceptable.[129]

BCOAPO also recommends that the maximum length of time between RRAs for the Heating TES and DCS "be fixed at no longer than five years." It acknowledges the need for regulatory efficiency given the scale of the Heating TES and DCS; however, this must be balanced with the need for an appropriate degree of regulatory oversight on the financial and rate performance of the Heating TES and the DCS.[130] BCOAPO notes that while it is clear when Creative Energy intends to file the next RRA for the Heating TES, Creative Energy has "not provided any objective criteria" to trigger a "future RRA for the DCS."[131]

Panel Discussion

We agree with Creative Energy that it must wait until the temporary boiler plant is relocated to set Heating TES rates beyond 2024, and therefore we find Creative Energy's proposal to file a Heating TES rates application for the rate setting period starting January 1, 2024 to be reasonable. In addition, we find reasonable Creative Energy's proposal to file a DCS rates application for the rate setting period starting January 1, 2026. Interveners also support these proposals.

We consider rate setting periods that are no longer than five years to be an appropriate balance between regulatory efficiency and the efficacy of long-range forecasts. BCOAPO and the CEC recommend that the duration of future rate-setting periods be no longer than five years. Creative Energy has not committed to the length of future rate-setting periods, although it expects that the proposed rate design will reduce the number of regulatory filings over the 30-year term. As BCOAPO points out, Creative Energy does not identify a clear trigger for it to file an RRA for the DCS.

The last consideration on this subject is whether it is essential that future applications for these two energy systems continue to be heard together. We do not consider it essential: the two systems will cease serving the same customers once the TES Extension goes into service in October 2021, which will dampen any efficiencies that might accrue from a combined review process.

3.0 Rate Design and Billing Determinants

3.1 Proposed Rate Design

In this section we discuss Creative Energy's proposed rate design. We begin with a high-level summary and then consider the Variable Charge components proposed for the Heating TES and DCS and the Capacity Charge components proposed for the two systems. Creative Energy took a similar approach to the two Applications. It highlighted in the Cooling Application that the Variable Charge and Capacity Charge rate design proposed for the DCS is the same as proposed in the Heating Application.[132]

[129] CEC Final Argument, Section II, D, paragraphs 168–169, p. 27
[130] BCOAPO Final Argument, p. 11
[131] BCOAPO Final Argument, pp. 3–4, 11
[132] Exhibit B-5, p. 5

Interveners provided submissions that generally apply to both systems. Therefore, to avoid duplication, we summarize their submissions after the section regarding the Capacity Charge. We also provide our Panel Determination on the Variable and Capacity Charges at the end of the section regarding the Capacity Charge following the positions of the parties. Last, although the proposed levelization period is an integral component of the rate design, we deal with that in the section that follows the determination on the Variable and Capacity Charges.

Creative Energy is seeking approval to recover its forecast cost of service for the Heating TES and DCS through separate rates as follows:

1. a Variable Charge (flow-through of fuel costs,[133] expressed in $/MWh charge); and
2. a Capacity Charge ($/kW).

Creative Energy proposes to recover all capital and fixed operating costs through the Capacity Charge and the fuel costs (i.e., the only operating costs that vary with energy usage) through the Variable Charge. Creative Energy proposes that the Capacity Charge for both the Heating TES and the DCS be determined on a levelized annual basis where revenues recover less than the cost of service during the initial years of service, and more than the cost of service in later years.[134]

Creative Energy submits that its proposed rate design and rates, including the Capacity Charge, checks all five rate-setting principles outlined in Section 2.4.3 of the TES Guidelines: [135]

- **Equitable balance of cost and risk** because a portion of the Capacity Charge recovers operating costs that do not vary with consumption but that may still vary within a test period and for which the utility will share risk if actual operating costs differ from the forecast under which rates are approved.
- **Fewest deferral mechanisms possible** because Creative Energy has only proposed the RDDAs to smooth out rates and the RCVDAs to record the variance in regulatory costs.
- **Restrict the ability of the utility to pass controllable costs onto ratepayers** because Creative Energy has not proposed any variance deferral mechanisms to account for differences between forecast and actual operating costs that are within its control, meaning the shareholder would share the risk related to inputs such as inflation for which actual amounts differ from forecast during the period over which rates are set, and would earn a higher/lower ROE as a result.
- **Use the least amount of regulatory oversight to protect the ratepayer** because Creative Energy is proposing a rate design and rates for a five-year period, which provides predictable and stable rates and supports regulatory efficiency.
- **Avoid rate shock** because the levelized rates are set to fully recover the cost of service over the contract term assuming a 2 percent annual escalation factor over a 30-year period.

[133] Fuel costs include the natural gas and electricity used to operate the Heating TES and the electricity and water costs for the DCS.
[134] Exhibit B-5, Section 2.1, p. 2; Exhibit B-6, Section 1.1, p. 2
[135] Exhibit B-2, BCUC IR 1.1; Exhibit B-3, CEC IR 9.1.2, Exhibit B-6, p. 18, Exhibit B-13, BCUC IR 35.3

3.1.1 Variable Charge

Creative Energy proposes to determine the Variable Charge per MWh for all megawatt hours supplied during a month and calculated each month equal to the total monthly fuel costs for the Heating TES and total monthly electricity and water costs for the DCS, in both cases divided by the total metered energy supplied by the Heating TES or DCS to the customers during the month (in MWh). Creative Energy submits that the Variable Charge, based on a flow-through of actual fuel costs, sets a clear price signal on variable costs: as consumption increases the customer's bill increases proportionately.[136]

We summarize Creative Energy's submissions on the particulars of the Variable Charge for each of the Heating TES and the DCS below. One issue that is common to both, however, is how the Variable Charge will appear on the respective Permanent Rate Sheets, and therefore we address that first.

Although the Permanent Rate Sheets do not include a fixed Variable Charge, Creative Energy submits that the proposed flow-through Variable Charge will in fact be easier for the Strata Corporation and building customers to understand and accept, as compared to a fixed $/MWh Variable Charge, because Creative Energy will simply bill each customer its proportionate share of natural gas and electricity costs as documented by FEI and British Columbia Hydro and Power Authority (BC Hydro) bills. Such documentation can be readily provided to the Strata Corporation or other customer on request. According to Creative Energy, a "fixed $/MWh [Variable] [C]harge based on forecasts of utility energy consumption, FEI and BC Hydro rates, and TES/DCS energy conversion rates under various scenarios would not be easier for the customers to understand and accept."[137]

Heating TES

Creative Energy seeks approval of a Variable Charge that will recover on a flow-through basis the actual fuel costs for the natural gas and electricity used to operate the Heating TES. Actual fuel costs will be based on the metered usage for natural gas and electricity and the applicable rates for the associated service provided by FEI and BC Hydro, respectively. Creative Energy will determine the $/MWh Variable Charge each month as the sum of natural gas and electricity costs divided by the total metered energy consumption for heating and DHW (in MWh) at the Development. Creative Energy will invoice the building customers based on their individual building's metered energy use.

The alternative approach for the recovery of fuel costs would be for Creative Energy to seek approval of both 1) a Variable Charge set on a forecast basis and 2) a fuel cost stabilization account to record the difference between actual and forecast fuel costs to be reviewed periodically and amortized when necessary, over a one-year period, consistent with the BCUC's Guidelines for Setting Gas Cost Recovery Rates and Managing the Gas Cost Reconciliation Account.[138] As compared to that alternative, Creative Energy has proposed a monthly flow-through of actual fuel costs as an administratively simple approach that aligns with the scale of the Heating TES

[136] Exhibit B-13, BCUC IR 37.1.2

[137] Exhibit B-13, BCUC IR 49.2

[138] BCUC Guidelines for Setting Gas Recovery Rates and Managing the Gas Cost Reconciliation Account Balance, Letter No. L-5-01, Appendix I, dated February 5, 2001

and recognizes that the Variable Charge is composed entirely of FEI and BC Hydro charges regulated by the BCUC and updated from time to time.[139]

Creative Energy submits that the Variable Charge is a fair, readily understood and administratively simple rate given that it is a straight flow through of the costs of natural gas and electricity consumption, allocated to each building based on individual building metered energy consumption. Any BCUC-approved changes to the underlying FEI and BC Hydro rates would be flowed through to customer bills as necessary.[140]

Creative Energy presents the total fuel costs for the Heating TES in its Heating Application, broken down by natural gas and electricity. Creative Energy explains that natural gas requirements are driven by a central plant efficiency of 94 percent and a piping network efficiency of 98 percent (for a total efficiency of 92 percent).[141]

Table 7: Heating TES Energy Costs (2020)

	2020
Total customer energy demand (MWh)	4,028
System Efficiency	92.1%
Natural Gas production (MWh)	4,373
Electricity Demand (MWh)	81
Variable Natural Gas Costs ($/MWh)	$20.87
Demand Cost and Basic Charge ($)	$8,365
Variable Electricity Costs ($/MWh)	$98.74
Demand and Basic Charge ($)	$9,310
Natural Gas Costs ($)	$99,614
Electricity Costs ($)	$17,264
Total Energy Costs ($)	116,878

Creative Energy confirmed it has control over two out of three factors affecting system efficiency (i.e., insulation of equipment and combustion tuning of the boilers), which in turn affect fuel requirements.[142] It confirmed that the natural gas requirement for the Heating TES system is a function of system efficiency, network losses and customer's demand.[143]

Creative Energy notes that larger utilities flow actual fuel costs through to customers using deferral mechanisms and periodic adjustments to a rate rider. Such utilities may have a large portfolio of energy supply resources and thousands of customers. Creative Energy submits that its proposal accomplishes the same thing, by flowing actual fuel costs to customers, without requiring a deferral mechanism or other regulatory process.[144]

Creative Energy confirmed that the heating and cooling variable rates charged to customers may differ from Creative Energy's indicative variable rates. When asked if it expects minimal variability around the indicative monthly rates, Creative Energy stated that it expects there could be significant month-to-month variability in the Variable Charge if BC Hydro and FEI's rates or rate design changed significantly and/or if the weather is

[139] Exhibit B-1, Section 5.2, p. 11
[140] Exhibit B-1, Section 5.2, p. 11
[141] Exhibit B-1, Section 4.2, p. 7
[142] Exhibit B-13, BCUC IR 45.2.1, 45.2.1.1
[143] Exhibit B-13, BCUC IR 45.5
[144] Exhibit B-16, BCUC IR 87.4

exceptionally cold or warm such that the demand is exceptionally high or low.[145] Despite the potential for month-to-month variability, Creative Energy states that having a deferral account and rate rider to smooth out any month-to-month variability in the variable rate would be administratively burdensome.[146]

District Cooling System

Creative Energy seeks approval of a Variable Charge that will recover on a flow-through basis the actual electricity and water costs of the DCS, which are driven directly by cooling energy consumption. For electricity costs, Creative Energy will determine the $/MWh Variable Charge each month as the BC Hydro costs divided by the total metered energy consumption at the cooling plant for cooling all buildings in that month. Creative Energy will bill each building customer in accordance with such calculated rate ($/MWh) multiplied by each building's metered energy cooling use (MWh). The City invoices water costs every four months. The cooling plant is separately sub-metered for water consumption and will be assigned its share of total water costs by the Strata Corporation. Creative Energy will determine for each building customer their allocated water cost for the four-month period based on their pro rata share of total cooling energy consumption over the corresponding four-month period.[147]

The overall Variable Charge therefore will be expressed in $/MWh, calculated monthly and equal to total monthly electricity costs plus total monthly allocated water costs divided by total monthly cooling energy consumption.[148]

The underlying electricity and water rates are externally set, and total electricity and water costs vary directly with cooling energy consumption outside of Creative Energy's management and control. Therefore, Creative Energy submits, the flow-through of such costs is fair, readily understood and verifiable, and the mechanism to allocate these charges in the same applicable billing period is administratively simple and does not require a deferral account.[149] As described in the above section, Creative Energy notes that larger utilities also flow-through actual fuel costs to their customers.[150]

Creative Energy estimates the total variable costs for the DCS over the requested approval period (2020 - 2025) to be as follows:

Table 8: Total Variable Cooling Costs (2020-2025)[151]

Component	2020	2021	2022	2023	2024	2025
Electricity Cost (indicative)	16,802	70,400	71,808	73,244	74,709	76,203
Water Cost (indicative)	1,227	5,755	5,870	5,987	6,107	6,229
Total Variable Cost	*18,030*	*76,155*	*77,678*	*79,232*	*80,816*	*82,433*

[145] Exhibit B-16, BCUC IR 87.2.2
[146] Exhibit B-16, BCUC IR 87.4
[147] Exhibit B-6, Section 2.3, pp. 10–11; Section 3.2, pp. 15–16; Exhibit B-13, BCUC IR 47.1
[148] Exhibit B-16, BCUC IR 87.4
[149] Exhibit B-6, Section 3.2, pp. 15–16
[150] Exhibit B-16, BCUC IR 87.4
[151] Exhibit B-6, Table 4, p. 11

Through IRs, Creative Energy clarified that it intends to bill for water costs three times per year to flow-through the costs as incurred and invoiced for the prior four-month period. Creative Energy notes that indicative water costs are relatively small overall, as shown in the above table, and it does not expect it to be an issue with customers if it invoices water costs in a single month, three times per year. If any concerns are raised, Creative Energy indicates that it can simply pro-rate the charges over a four-month period.[152]

3.1.2 Capacity Charge

Creative Energy is seeking approval to recover its forecast capital and fixed operating costs through a Capacity Charge levied in $/kW, based on the design peak demand of each building. Creative Energy states that the level of the Capacity Charge is set based on total design peak demand, which is the overall driver of the fixed costs of the Heating TES and Cooling DCS. Correspondingly, the billing determinant for the allocation of capital and fixed operating costs to each building is the individual total design peak demand in kW of each building. Creative Energy also states that the Capacity Charge will recover all costs that do not vary with energy consumption; that is, the cost of service except variable fuel costs. In that regard, these costs are considered "fixed" and therefore should not be recovered on a $/MWh basis.[153] Creative Energy submits that the Capacity Charge does not create a perverse incentive for Creative Energy to operate the system in anything other than an efficient, cost-effective manner to meet its performance obligations.[154]

Creative Energy confirms that it is not aware of any peer companies that use $/kW, determined on the basis of the design peak demand to recover the total capital and fixed operating costs. In other words, Creative Energy's proposed billing determinant is unique compared to its peers.[155]

Creative Energy submits that a Capacity Charge based on $/kW fairly allocates the capital and fixed operating costs of the Heating TES and the DCS because the capacity of the heating and cooling systems was sized to meet the peak demands of the individual buildings of the Development. The fixed structure of the Capacity Charge therefore fairly and reasonably aligns with a cost causation rate setting principle under which rates ought to recover costs in a manner consistent with the factors that cause those costs; that is, in this case, with respect to costs that are not expected to vary with energy consumption.[156]

Creative Energy clarifies that "fixed" operating costs are labelled as such, not because they are "invariant" *per se*, but because they do not vary with energy consumption nor with any other variables on the part of the customers. It submits it is efficient and fair to recover such costs through a fixed charge that aligns with cost causation; that is, on a $/kW basis, in accordance with the peak demand of each building.[157] Creative Energy indicates that approximately 25 percent of the Capacity Charge recovers operating costs that may vary year to year but that do not vary directly with energy consumption.[158] For this reason, Creative Energy dismisses

[152] Exhibit B-6, BCUC IR 47.1
[153] Exhibit B-1, pp. 8–9; Exhibit B-6, p. 13
[154] Exhibit B-13, BCUC IR 39.3
[155] Exhibit B-2, BCUC IR 10.3
[156] Exhibit B-6, p. 13
[157] Exhibit B-16, BCUC IR 88.4
[158] Exhibit B-2-2, BCUC IR 10.4

recovering fixed costs through a $/MWh Variable Charge because that approach would not align cost recovery with cost causation.[159]

Flowing from its proposed rate design, Creative Energy states that it accepts a degree of risk by recovering these "fixed" operating costs within a fixed charge because of the benefits in the rate design overall and a recognition that an alternative billing determinant for these costs is not readily available nor cost effective to produce, measure and administer.[160] As a case in point, Creative Energy explains that if income taxes were added to the amount to be recovered in the Variable Charge, the Variable Charge would over-recover costs when actual energy consumption is higher than forecast and vice-versa when actual energy consumption is lower than forecast. The addition of income taxes recovery to the Variable Charge would not align with cost causation and would unnecessarily increase the administrative burden of the rate (for example, resulting in a requirement for an annual load forecast and more frequent rate filings, and potentially the establishment of a deferral account given the potential for Variable Charge revenue to vary significantly from forecast, where none would otherwise be required).[161]

Creative Energy states that the proposed Capacity Charge supports stable and predictable rates and recovery of the revenue requirement because the recovery of fixed costs is not tied to energy use. Creative Energy also notes that the Capacity Charge is readily understood and already accepted by the customer. This is summarized in the following table, where Creative Energy assesses its proposed Capacity Charge against each of the Bonbright principles.[162]

Table 9: Evaluation of the Capacity Charge against Bonbright Principles[163]

Bonbright Criteria	Fixed Charge		Comment
	$/kW Capacity	$/m2 Floor	
1. Recovery of the Revenue Requirement	Good	Good	Any revenue shortfall allocated to a future period under a rate smoothing account (RDDA) is independent of the billing determinant but a function of putting in place competitive levelized rates over time.
2. Fair apportionment of costs	Good	Not as good	A $/m2 charge can create a subsidy between the building customers. Total building floor area is a simple but relatively poor proxy for the cost of the system as compared to system size, and its use would then lead to a less fair allocation of costs among the building customers. That would arise due to the relative difference between the proportion of total floor area of each building as compared to the relative heating design capacity of each building.

[159] Exhibit B-3, CEC IR 7.1

[160] Exhibit B-16, BCUC IR 88.4

[161] Exhibit B-16, BCUC IR 89.3.1

[162] Exhibit B-6, p. 14

[163] Exhibit B-6, Table 6, p. 14

Bonbright Criteria	Fixed Charge		Comment
	$/kW Capacity	$/m2 Floor	
3. Efficient prices	Good	Not as good	The fixed charge is aligned with the causation of costs that do not vary directly by consumption. The rate design with separate fixed and variable charge components provides efficient pricing.
4. Customer understanding and acceptance	Good	Not as good	Either charge is simple and easy to understand as a means to recover a fixed monthly cost of service; no customer education or additional administration is required. However, the $/kW charge better serves customer understanding and acceptance in the particular case where the customers are the buildings.
5. Practical and cost-effective	Good	Good	Either charge can be readily implemented within Creative Energy's billing system.
6. Rate stability	Good	Not as good	Either rate will support and facilitate continuity and predictability over time; however a $/m2 charge introduces cost allocation and stability risk as related to the addition of new customers or future changes in the building design of existing customers that do not correlate with changes in the demand for cooling services.
7. Revenue stability	Good	Good	All else equal, revenues are predictable and stable over time (given changes in load etc.).
8. Avoid undue discrimination	Good	Good	The Commission has approved fixed charges based on demand capacity and m2 as just and reasonable, and not unduly discriminatory.

Heating TES

In the Heating Application, Creative Energy compares the two approaches it considered for the Capacity Charge billing determinant.

Table 10: Comparison of Capacity Charge Billing Determinants Approaches[164]

	Capacity Charge Design Peak Approach		Fixed Charge Floor Space Approach		Implied Peak Demand Intensity
	kW	% Recovery of Capital and Fixed Operating	m2	% Recovery of Capital and Fixed Operating	Peak W/m2/year
Total	2,548	100%	64,598	100%	
Building 1	841	33%	11,875	18%	71
Building 2	1,230	48%	42,860	66%	29
Building 3	246	10%	4,726	7%	52
Building 4	231	9%	5,137	8%	45

Based on Table 10 above, Creative Energy states that the proposed $/kW Capacity Charge more fairly assigns total capital and fixed operating cost recovery to each building in closer alignment to the relative demand

[164] Exhibit B-1, Table 8, p. 10

intensity and efficiency of each building than an alternative using m2 as billing determinant. The $/kW Capacity Charge better aligns with Creative Energy's costs, which are driven by the amount of capacity and distribution needed. Creative Energy states that a fixed charge levied on a $/m2 basis would unfairly increase the cost recovery burden to the Residential Strata at Building 2 despite its relative peak design efficiency as compared to the other buildings in the Development, which are more uniquely designed and less efficient.[165]

Creative Energy explains that "Implied Peak Demand Intensity" is a normalized measure of how much capacity is required to meet the maximum thermal requirements of the building. From the perspective of the thermal energy provider, a building that has a lower peak demand on the TES (e.g., due to higher building design efficiency) drives fewer capital and fixed operating costs and thus makes more efficient use of the thermal infrastructure. Such a building would therefore pay a relatively lower cost than a building of equal size with a higher demand (due to lower design efficiency, for example).[166]

Creative Energy believes that it is well accepted that fair rates follow cost causation. It states that the design efficiency of each building, by itself, does not cause the costs of the Heating TES; rather it is the peak demand of the building that causes the costs of the Heating TES. Creative Energy states that it is not fair, nor just and reasonable, to provide a preferentially lower rate to Building 2 because it has a higher design efficiency or because a particular type of space heating end user resides in the building. That is a customer characteristic, not itself a driver of cost causation. In Creative Energy's view, the question should consider which billing determinant ties more closely to cost causation in relation to the utility equipment when considering how to fairly allocate costs between buildings. In Creative Energy's view, the design peak capacity of each building, not floor area, is the more direct and better indicator of the cost causation of the TES and is the reasonable and preferred billing determinant for a capacity charge.[167]

Creative Energy states that it will recover approximately 80 percent of its total costs through the Capacity Charge and 20 percent of its total costs through the Variable Charge for the Heating TES.[168] Creative Energy provides the following table showing the actual percentage split between fixed/variable for the period 2021 to 2027.[169]

Table 11: Share of Total Heating Cost of Service Recovered from the Capacity Charge and the Variable Charge

Heating	2021	2022	2023	2024	2025	2026	2027
Fixed Charge	445,093	453,995	463,074	472,336	481,783	491,418	501,247
Variable Charge	116,586	118,108	119,662	121,246	122,862	124,510	126,192
Total Charges	561,678	572,103	582,736	593,582	604,645	615,929	627,438
Fixed Charge as % of Total	79.2%	79.4%	79.5%	79.6%	79.7%	79.8%	79.9%
Variable Charge as % of Total	20.8%	20.6%	20.5%	20.4%	20.3%	20.2%	20.1%

[165] Exhibit B-1, pp. 9–10
[166] Exhibit B-2, BCUC IR 10.5, Exhibit B-13, BCUC IR 41.3
[167] Exhibit B-13, BCUC IR 41.4
[168] Exhibit B-16, BCUC IR 88.1
[169] Exhibit B-16, BCUC IR 88.3

District Cooling System

As noted above, the level of the Capacity Charge is set based on total design peak cooling demand, which is the overall driver of the fixed costs of the DCS. Correspondingly, the billing determinant for the allocation of capital and fixed operating costs to each building is the total design peak cooling demand in kW of each building in the Development.[170]

Table 12: Capacity Charge Billing Determinants[171]

Building Customer	Total Design Peak Cooling Demand (kW)
Building 1	322
Building 2	1,457
Building 3	370
Building 4	340
Total	2,489

Creative Energy states that, by definition, a capacity charge or floor space charge would each recover the same amount of fixed costs. However, a floor space charge is a relatively arbitrary billing determinant on which to allocate costs and cannot be justified as a preferred alternative on the merits of a Bonbright Principles assessment (see Table 9 above). Given that the buildings served by the DCS are expected to have significantly different cooling energy consumption (associated with residential spaces versus commercial office spaces), a floor space charge may not be the fairest approach to apportionment of fixed costs.[172]

Creative Energy states that it will recover approximately 80 percent of its total costs through the Capacity Charge and 20 percent of its total costs through the Variable Charge for the DCS.[173] Creative Energy provides the following table showing the actual percentage split between fixed/variable for the period 2021 to 2027.[174]

Table 13: Share of Total Cooling Cost of Service Recovered from the Capacity Charge and the Variable Charge

Cooling	2021	2022	2023	2024	2025	2026	2027
Fixed Charge	349,546	356,537	363,668	370,941	378,360	385,927	393,646
Variable Charge	76,155	77,678	79,232	80,816	82,433	84,081	85,763
Total Charges	425,701	434,215	442,899	451,758	460,793	470,008	479,409
Fixed Charge as % of Total	82.1%	82.1%	82.1%	82.1%	82.1%	82.1%	82.1%
Variable Charge as % of Total	17.9%	17.9%	17.9%	17.9%	17.9%	17.9%	17.9%

[170] Exhibit B-6, p. 13
[171] Exhibit B-6, Table 5, p. 13
[172] Exhibit B-6, p. 14
[173] Exhibit B-16, BCUC IR 88.1
[174] Exhibit B-16, BCUC IR 88.3

Positions of the Parties

The CEC is satisfied with the proposed calculation of the Variable Charge for the Heating TES.[175] In addition, the CEC agrees that the flow-through of the variable costs such as electricity and water is appropriate for the DCS.[176]

The CEC agrees that the proposed billing determinant for the Capacity Charge - total design peak demand - for heating and cooling in kW for each building is a reasonable methodology because it generally allocates costs according to cost causation principles.[177] The CEC recommends approval of the proposed Capacity Charge for the DCS,[178] although the CEC is silent regarding support for the proposed Capacity Charge for the Heating TES.

The CEC expresses concern about one aspect of the proposed Heating TES and DCS Capacity Charge: because the Capacity Charge is based on recovering capital and fixed operating costs on a forecast basis instead of based on actuals, this could create an incentive to over-forecast (or underspend). Over-forecasting (or underspending) would lead to increased returns to shareholders.[179]

The CEC submits that it is unreasonable to consider that Creative Energy has no incentive to over-forecast when it will receive a lower ROE if actual costs are higher than forecast, and a higher ROE if actual costs are lower than forecast.[180] It makes this submission about costs recovered through the Variable Charge as well as the Capacity Charge.[181] The CEC submits that it is appropriate for the BCUC to recognize these incentives and provide appropriate oversight for the ratepayers' protection. The CEC acknowledges that Creative Energy has committed to providing actual costs in the future for comparison and recommends that the BCUC be prepared to reduce the rates based on its weighting of this issue.[182]

In response to the CEC's comments that recovery based on forecasts rather than actual costs creates an incentive to over-forecast, Creative Energy submits that such concerns are unfounded. Creative Energy states that it has the incentive to manage controllable operating costs within the reasonable forecast of costs as accepted by the BCUC for the purpose of setting the rate. Further, the RDDA (for each of the Heating TES and DCS) does not guarantee recovery of actual costs and is not intended to protect the shareholder from the risk of variances in controllable costs or to absolve utility management from being accountable for variances around reasonable forecasts.[183]

BCOAPO submits that the proposed TES and DCS Capacity Charges and Variable Charges are less than ideal for rate-setting purposes, although it acknowledges these charges are a practical approach.[184] It states that while it is not opposed to the proposed methodology, "Creative Energy's recommendation to classify its costs as fixed

[175] CEC Final Argument, p. 13
[176] CEC Final Argument, paragraph 153, p. 25
[177] CEC Final Argument, paragraph 77, p. 14
[178] CEC Final Argument paragraph 162, p. 26
[179] CEC Final Argument, paragraph 82, p. 15; paragraph 160, 26
[180] CEC Final Argument, Section II, Subsection D, p. 15
[181] see also CEC Final Argument paragraph 25, p. 5
[182] CEC Final Argument, Section II, Subsection D, p. 15
[183] Creative Energy Reply Argument, Section 3.2, paragraph 29, p. 6
[184] BCOAPO Final Argument, p. 3

(that is, not varying according to metered throughput) and variable is likely overly simplistic."[185] BCOAPO also submits that the 80 percent/20 percent fixed/variable split is unduly high, could result in cross-subsidization between higher and lower volume users, and even lower customers' incentive to reduce energy consumption.[186] Finally, BCOAPO submits that Creative Energy's proposed cost allocation and rate design that classify and allocate all fixed costs based on design peak demand of its customers would lessen customers' incentive to reduce energy consumption.[187]

Therefore, BCOAPO states that it cannot support Creative Energy's applied for fixed/variable split of costs and instead favours a fixed/variable split that shifts a larger portion of costs to the variable energy rate. It acknowledges, however, that the lack of evidence in this case means that any alternative proposal is arbitrary. BCOAPO concedes that Creative Energy's proposed methodology allows for some conservation opportunities for the portion of a customer's bill that relates to the fuel-related variable costs (20 percent).[188]

Finally, and in any event, BCOAPO acknowledges "the practical reality is that Creative Energy's customer is an owner of the building, not the tenants themselves so any rate design improvements made by shifting more costs recoverable through the variable energy charge may be a theoretical exercise only – as the owners may ultimately choose their own rate design that bears no resemblance to how they are billed through Creative Energy's rate design. On this basis, BCOAPO will somewhat reluctantly accept Creative Energy's rate design methodology proposal."[189]

In response to BCOAPO's suggestion regarding cross-subsidization, Creative Energy submits that there is no evidence that the "allocation of costs to the fixed and variable charge component of the rate design leads to any cross-subsidization between the two customers (both of which are new buildings) or perverse consumption incentives for any individual building customer."[190]

Panel Determination

In this section we consider the reasonableness of:

(1) the Variable Charge as proposed, namely the flow-through of fuel costs (natural gas and electricity for the Heating TES; and water and electricity for the DCS) to customers;

(2) the Capacity Charge as proposed, namely the use of design peak demand as billing determinant, based on per kilowatt (kW) of design peak heating demand, and

(3) the split between the Variable Charge and the Capacity Charge, resulting from Creative Energy's proposed rate design, which recovers approximately 80 percent of total costs through the Capacity Charge and 20 percent through the Variable Charge.

There is another component to the proposed rate design – the length of the levelization period for the Capacity Charge, and we address this in a separate section below, Section 3.1.3.

[185] BCOAPO Final Argument, p. 11
[186] BCOAPO Final Argument, p. 12
[187] BCOAPO Final Argument, p. 13
[188] BCOAPO Final Argument, p. 13
[189] BCOAPO Final Argument, p. 13
[190] Creative Energy Reply Argument, paragraph 22, p. 4

Is the proposed Variable Charge reasonable?

In the Panel's view, the correlation between the billing determinant for the Variable Charge – energy consumption in MWh – and the fact that the Variable Charge will recover only those costs that vary with energy consumption provides a compelling argument in support of the Variable Charge component of the proposed rate design.

Creative Energy also notes that the ratepayers are the building owners (i.e., the Developer and the Strata Corporation), not the end users such as individual strata unit owners and business tenants or apartment occupants. As Creative Energy points out, it has confirmed that the Developer had no issues regarding the understandability of the Variable Charge. Further, in the event there are significant month-to-month fluctuations in the Variable Charges for the Heating TES and DCS, a deferral mechanism may become an option to address the volatility. For this reason, we consider that it will be helpful to monitor the Variable Charge for each energy system, and the actual costs that Creative Energy flows through to customers.

Finally, to ensure that customers receive full information regarding the Variable Charge, we consider that this can be addressed through an information component on their monthly bills.

Is the proposed Capacity Charge reasonable?

Whereas the logic of the proposed Variable Charge is easily stated – it is a flow through of those costs that vary with energy consumption – the logic of the proposed Capacity Charge is not as immediately apparent. Even Creative Energy acknowledged that its proposal is unique among its peers. Our review focused on the reasonableness of using the design peak demand instead of floor space as the billing determinant.

In general, we accept Creative Energy's submission that a building that is designed more efficiently and therefore has a lower design peak demand should pay a relatively lower capacity charge bill than a less efficiently designed building of equal size with a higher design peak demand. The CEC calls this a reasonable methodology because it allocates costs according to cost causation principles. BCOAPO notes it is a practical methodology.

Similarly, we accept Creative Energy's submission that although floor space would be a simple billing determinant, it could create a subsidy between building customers because of the relative difference between the proportion of total floor area of each building as compared to the relative heating design capacity of each building. Floor space is, therefore, relatively arbitrary because it is less connected to cost causation in relation to the utility equipment than the design peak demand. In other words, a capacity charge based on floor space would result in a less fair allocation of costs among the building customers than a capacity charge based on design peak demand.

Interveners' support for the proposed Capacity Charge, however, is qualified. The CEC questions whether the charge will create an incentive for Creative Energy to either over-forecast (or underspend) in order to increase its ROE. In our view, however, Creative Energy has incentive to forecast reasonably because of the scrutiny that attaches to the public hearing process, which is designed to test and examine the inputs and assumptions supporting the proposed rates and rate design. And apart from the capital and development costs the Panel has

denied recovery (Section 2.1.1 of this decision; $72,530 denied), Creative Energy has provided a reasonable basis for the forecast revenue requirements for both energy systems.

Is the 80/20 split between the Capacity Charge and the Variable Charge reasonable?

Another issue that we considered was whether there are other costs, presently considered fixed, which should be allocated to the variable cost component, either because such costs are more appropriately considered variable, or else to adjust the 80/20 split between the Capacity Charge and Variable Charge.

To be clear, Creative Energy has not proposed the 80/20 split, and nor is Creative Energy seeking approval of it. The 80/20 split is simply the result of its proposed rate design, pursuant to which Creative Energy seeks to recover all capital and fixed operating costs through the Capacity Charge and all energy costs through the Variable Charge.

We are not persuaded, however, that any of the costs that are presently considered fixed should be reclassified as variable. Indeed, no specific costs have been singled out for such reclassification.

BCOAPO perceives a risk that a charge that allocates all fixed costs based on design peak demand would lower the incentive to reduce energy consumption. There is no evidence to support BCOAPO's suggestion that the 80/20 split could result in cross-subsidization between high and low volume users or reduce customers' incentive to reduce energy consumption. Further, even BCOAPO acknowledges that adjusting the 80/20 split is, at least at this time, arbitrary.

The Panel is persuaded that the rate design proposed by Creative Energy is reasonable. The Variable Charge, as a direct flow-through of fuel costs, closely reflects the principle of cost causation. The Capacity Charge, based on design peak demand as the billing determinant, more closely reflects the principle of cost causation than the floor space alternative.

Therefore, the Panel approves the Variable Charge, as proposed for each of the Heating TES and the DCS, and directs that Creative Energy include a calculation of the variable costs on the customers' bill for transparency. In addition, to assist with monitoring the volatility of the Variable Charge the Panel directs Creative Energy to include in its annual reporting to the BCUC: (i) the Variable Charge per MWh for each of the Heating TES and DCS for each of the previous 12 months; and (ii) the actual variable costs charged to each customer for each of the Heating TES and DCS for each of the previous 12 months.

The Panel also approves the Capacity Charge, as proposed for each of the Heating TES and the DCS, subject to the directives and determinations in this decision, in particular in the next section, which deals with the Levelization of the Capacity Charge.

We were initially concerned about the lack of transparency of the Variable Charge as it appears on the respective Permanent Rate Sheets of the Heating TES and DCS because the proposed Variable Charge will vary month-to-month, and therefore must remain blank in the Permanent Rate Sheet. Transparency is important; indeed it is one of the Bonbright principles: "customer understanding and acceptance," is based on the expectation that when customers understand the rate, they will have more knowledge about the cost of energy, which may lead to customer acceptance. Although a blank spot on the Permanent Rate Sheet is arguably not

transparent to customers and end users, knowing that this item is strictly a flow-through cost is easily understood. Furthermore, the amount of the Variable Charge will appear on the actual bill. Therefore, we are satisfied that it is acceptable to leave this blank in the Permanent Rate Sheet.

We find support for our decision to accept the Permanent Rate Sheets as Creative Energy proposes in section 60(1)(b.1) of the UCA, which gives the Panel flexibility to "use any mechanism, formula or other method of setting the rate that it considers advisable."

3.1.3 Levelization of the Capacity Charge

Creative Energy proposes that the Capacity Charge for both the Heating TES and the DCS be determined on a levelized annual basis as compared to the alternative of setting rates annually based strictly on full recovery each year of the capital and fixed operating cost of service. Creative Energy states that a levelized approach is advantageous to customers and thermal energy utilities because it promotes stable rates and predictable revenues in any given year and reduces overall regulatory process and burden over time for all parties, as compared to rates that would otherwise need to be reset each year to target forecast costs under a strict cost of service approach.[191]

Creative Energy states that levelized rates are generally more competitive than cost of service rates when service commences, as the latter tend to be initially higher due to the advanced recovery of higher capital costs under a cost-of-service model, while levelized rates tend to smooth such customer rate impacts.[192] Since levelized rates result in forecast revenues recovering less than the cost of service during the initial years of service, Creative Energy requests approval of an RDDA (one for each of the heating and cooling energy systems) as a necessary component to support implementation of its levelized Capacity Charge to record annual revenue deficiencies or surpluses resulting from the difference between annual revenue at the approved rates and the forecast annual cost of service.[193] Section 4.1 addresses the RDDAs in further details.

Creative Energy notes that levelized rates for thermal energy services have been generally accepted by the BCUC as preferable to cost of service rates, which are rather regarded as a method of last resort per the BCUC's TES Guidelines.[194]

Creative Energy has considered two options for a levelized Capacity Charge, both of which equate the ROE in the underlying cost recovery to the allowed ROE under a full cost of service approach over the 30-year term:

1. $/kW with annual 2 percent escalation for 30 years (Levelized Annual Rate)
2. $/kW with no escalation – flat rate for 30 years (Levelized Flat Rate).

Creative Energy notes that, in addition to the advantages noted above, a rate that is shown and generally expected to escalate gradually over time will be better understood by customers as opposed to a flat rate shown

[191] Exhibit B-1, p. 12; Exhibit B-6, p. 16

[192] Exhibit B-1, p. 12

[193] Exhibit B-1, p. 2, Exhibit B-6, p. 17. Exhibit B-13, BCUC IR 35.1

[194] Exhibit B-1, p. 12

to persist for 30 years. Creative Energy states that the Levelized Annual Rate is also a more competitive, lower rate in the initial years of service.[195]

The following table sets out Creative Energy's proposed Levelized Annual Rate (i.e., levelized Capacity Charge; shaded) for the Heating TES in comparison to both a Levelized Flat Rate and an annual cost of service approach for recovery of capital and fixed operating costs.

Table 14: Proposed Capacity Charge and Comparison to Alternatives[196]

	Unit	2020	2021	2022	2023
Levelized Annual	$/kW/year	141.68	144.52	147.41	150.36
	$/kW/mo.	11.80	12.04	12.28	12.53
Levelized Flat	$/kW/year	165.93	165.93	165.93	165.93
	$/kW/mo.	13.83	13.83	13.83	13.83
Annual Cost of Service	$/kW/year	179.51	177.28	175.04	172.82
	$/kW/mo.	14.96	14.77	14.59	14.40
Billing Determinants	kW	2,548	2,548	2,548	2,548
Levelized Annual recovery	$	361,011	368,231	375,596	383,108
Levelized Flat recovery	$	422,794	422,794	422,794	422,794
Cost of Service recovery	$	457,403	451,719	446,013	440,347

In the Evidentiary Update for the Heating TES, Creative Energy updated its requested levelized Capacity Charge and forecast Heating RDDA additions for approval.

Table 15: Proposed Levelized Capacity Charge versus Cost of Service Rates (2020-2023)[197]

Capacity Charge	Unit	2020	2021	2022	2023
Levelized – Proposed	$/kW/year	141.63	186.44	190.17	193.97
	$/kW/mo.	11.80	15.54	15.85	16.16
Cost of Service	$/kW/year	250.49	223.55	222.85	222.11
	$/kW/mo.	20.87	18.63	18.57	18.51
Billing Determinants	kW	2,230	2,548	2,548	2,548
Levelized recovery	$	315,836	475,048	484,549	494,240
Cost of Service recovery	$	558,590	569,610	567,815	565,938
Forecast RDDA additions	$	242,754	94,561	83,266	71,698

The following table sets out Creative Energy's proposed levelized Capacity Charge for the DCS in comparison to an annual cost of service rate, and the forecast additions to the Cooling RDDA determined on this basis.

[195] Exhibit B-1, p. 12

[196] Exhibit B-1, Table 9, p. 13

[197] Exhibit B-5, Table 5, p. 12

Table 16: Proposed Levelized Capacity Charge versus Cost of Service Rates (2020-2025)[198]

Proposed Capacity Charge	Unit	2020	2021	2022	2023	2024	2025
Levelized	$/kW/year	137.37	140.12	142.92	145.78	148.70	151.67
	$/kW/mo.	11.45	11.68	11.91	12.15	12.39	12.64
Cost of Service	$/kW/year	147.86	175.80	174.25	172.56	170.89	169.25
	$/kW/mo.	12.32	14.65	14.52	14.38	14.24	14.10
Billing Determinants	kW	2,489	2,489	2,489	2,489	2,489	2,489
Levelized recovery	$	113,972	348,756	355,731	362,845	370,102	377,504
Cost of Service recovery	$	122,672	437,555	433,705	429,491	425,341	421,257
Forecast RDDA additions	$	8,699	88,799	77,974	66,645	55,239	43,753

Creative Energy was asked to discuss how the 30-year levelization period satisfies the intergenerational equity requirement embedded in the TES Guidelines (Section 2.4.3, principle 1). Creative Energy believes that its rate proposal reasonably balances all rate-setting principles and does not agree that intergenerational equity is to be given higher priority than other rate-setting principles.[199] Creative Energy also states that its customers are the owners of the buildings, and therefore any intergenerational equity issues are minor and inherent in the levelized rate design.[200]

Creative Energy confirms that all buildings connected to the Heating TES, including the TES Extension, discussed below at Section 6.1 and DCS are complete, and that the customer base is not expanding.[201] On the appropriateness of using a 30-year levelization period to smooth out rates for a development, like the Development, for which the customer base does not build over time, Creative Energy states that:

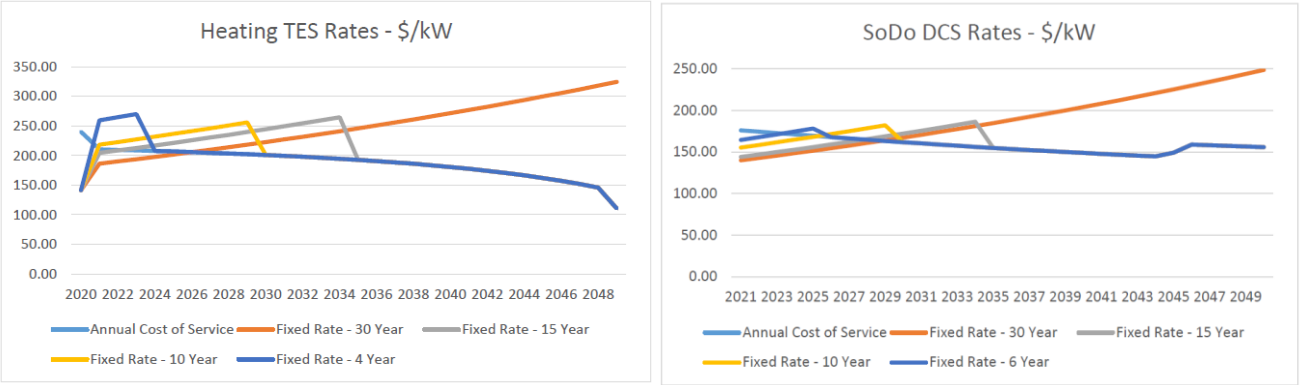
> The proposed levelized rates are stable, will increase in a predictable and consistent manner, reasonably match cost recovery with cost causation and will recover the cost of service over 30 years. The rate setting period of 4 years for the TES and 5 years for the DCS in these applications, as based on the 30-year levelized forecast, allow for stability and predictability and will allow periodic review of the cost of service and rates under a consistent framework that supports customer understanding and acceptance. A cost of service rate would be less stable and predictable and would be very high initially and decrease over time. A shorter-levelization period may have some have some benefit to advancing cost recovery, but rates would ultimately be less stable and require more frequent rate applications to address future rate stability and cost of service recovery concerns.[202]
>
> We agree that rates can be approved for a multi-year period under a levelized or cost of service approach, but absent an RDDA mechanism we consider that all else equal the need would arise necessarily for more frequent regulatory applications to support cost of service rates on an ongoing basis. A more important consideration is that for the TES and DCS systems, with load forecast to be relatively flat over time, a cost of service rate will be relatively less stable and decline over time. This is

[198] Exhibit B-6, Table 7, p. 17
[199] Exhibit B-13, BCUC IR 36.6
[200] Exhibit B-13, BCUC IR 36.4
[201] Exhibit B-13, BCUC IR 36.5
[202] Exhibit B-13, BCUC IR 36.5.1

sub-optimal in respect the Bonbright principles of facilitate customer understanding and acceptance, and rate stability.[203]

Creative Energy provides the following graphs to show how various levelization periods followed by cost-of-service rates would look:[204]

Figure 2: Alternative Levelization Periods for the Heating TES and DCS



Creative Energy notes that all three levelized rate designs for less than 30 years are unpredictable, as all experience material rate shocks during the transition from levelized rate designs to cost of service.[205] In the following table, Creative Energy offers its assessment of the various levelization periods against the Bonbright principles.

[203] Exhibit B-13, BCUC IR 36.8

[204] Exhibit B-16, BCUC IR 81.4 (Heating TES); Exhibit B-13, BCUC IR 36.13

[205] Exhibit B-13, BCUC IR 36.11

Table 17: Evaluation of the Various Levelization Periods against Bonbright Principles[206]

Bonbright Criteria	Fixed Charge			
	Proposed – 30 year levelized forecast and assuming 5 year interval rate setting periods.	BCUC IR 36.12 4 year levelized rates, then COS rates	BCUC IR 82.1 10-year levelized rates, then COS rates	BCUC IR 82.1 15-year levelized rates, then COS rates
1. Recovery of the Revenue Requirement	Good			
2. Fair apportionment of costs	Good			
3. Efficient prices	Good			
4. Customer understanding and acceptance	Good	Poor - Very high relative rates following by declining rates do not align with Bonbright principle	Not as good – relatively high rates following by declining rates do not align with Bonbright principle	
5. Practical and cost-effective	Good	Not as good - COS service rates will likely require more frequent regulatory rate applications without an RDDA in place		
6. Rate stability	Good	Poor - Very high relative rates following by declining COS rates are inherently less stable by comparison	Not as good – relatively high rates following by declining COS rates are inherently less stable by comparison	
7. Revenue stability	Good	Not as good - Within period revenues are stable based on kW billing determinants, but less stable year over year		
8. Avoid undue discrimination	Good	Good	Good	Good

In response to IRs, Creative Energy provided details on the Annual Levelized Rate, levelized recovery and change in the respective RDDA balances with respect to various levelization periods for each of the Heating TES and DCS. This is discussed below.

Heating TES

The table below compares the Heating TES levelized Capacity Charge under the three additional levelization scenarios (i.e., 4, 10 and 15 years) discussed above.

Table 18: Alternative Levelization Periods (Heating TES)[207]

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
15-Year																
Levelized Rate - $/kW		141.63	204.67	208.76	212.94	217.20	221.54	225.97	230.49	235.10	239.80	244.60	249.49	254.48	259.57	264.76
Levelized Recovery		315,836	521,494	531,924	542,563	553,414	564,482	575,772	587,287	599,033	611,014	623,234	635,699	648,413	661,381	674,609
RDDA Change (ex. Return on Deferral)		242,754	48,719	35,220	21,267	6,832	-8,119	-23,623	-39,719	-56,452	-73,874	-92,039	-111,009	-130,852	-151,643	-173,465
10-Year																
Levelized Rate - $/kW		141.63	218.59	222.96	227.42	231.97	236.60	241.34	246.16	251.09	256.11	208.48	205.92	203.12	200.05	196.68
Levelized Recovery		315,836	556,957	568,096	579,458	591,047	602,868	614,926	627,224	639,769	652,564	531,195	524,689	517,561	509,738	501,144
RDDA Change (ex. Return on Deferral)		242,754	13,257	-952	-15,628	-30,802	-46,505	-62,776	-79,655	-97,188	-115,424	0	0	0	0	0
4-Year																
Levelized Rate - $/kW		141.63	259.68	264.87	270.17	219.88	218.35	216.70	214.90	212.94	210.81	208.48	205.92	203.12	200.05	196.68
Levelized Recovery		315,836	661,661	674,894	688,392	560,246	556,363	552,149	547,569	542,581	537,139	531,195	524,689	517,561	509,738	501,144
RDDA Change (ex. Return on Deferral)		242,754	-91,447	-107,750	-124,563	0	0	0	0	0	0	0	0	0	0	0

[206] Exhibit B-16, BCUC IR 82.1

[207] Exhibit B-13, BCUC IR 31.10

District Cooling System

The following table compares the DCS levelized Capacity Charge under the three additional levelization scenarios (i.e., 6, 10 and 15 years) previously discussed above.[208]

Table 19: Alternative Levelization Periods (DCS)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
15-Year															
Levelized Rate - $/kW	47.11	144.15	147.04	149.98	152.98	156.04	159.16	162.34	165.59	168.90	172.28	175.72	179.24	182.82	186.48
Levelized Recovery	117,254	358,797	365,973	373,293	380,758	388,374	396,141	404,064	412,145	420,388	428,796	437,372	446,119	455,042	464,142
RDDA Change (ex. Return	5,673	79,554	68,560	57,060	45,479	33,817	22,071	10,241	-1,676	-13,680	-25,773	-37,957	-50,233	-62,602	-75,066
10-Year															
Levelized Rate - $/kW	50.82	155.51	158.62	161.79	165.02	168.32	171.69	175.12	178.63	182.20	161.92	160.47	159.05	157.67	156.32
Levelized Recovery	126,488	387,052	394,793	402,689	410,743	418,958	427,337	435,884	444,601	453,493	403,023	399,415	395,887	392,440	389,076
RDDA Change (ex. Return	-3,561	51,299	39,740	27,663	15,495	3,233	-9,125	-21,579	-34,132	-46,785	0	0	0	0	0
6-Year															
Levelized Rate - $/kW	53.83	164.71	168.00	171.36	174.79	178.29	168.02	166.45	164.91	163.40	161.92	160.47	159.05	157.67	156.32
Levelized Recovery	133,975	409,965	418,164	426,527	435,058	443,759	418,212	414,304	410,469	406,708	403,023	399,415	395,887	392,440	389,076
RDDA Change (ex. Return	-11,049	28,386	16,369	3,825	-8,820	-21,569	0	0	0	0	0	0	0	0	0

Positions of the Parties

The CEC has no objection to the 30-year levelization period and supports the levelization approach.[209] It notes that Creative Energy expects only limited additional capital expenditures.[210] The CEC submits that the levelization period avoids excessive ratepayer costs at the beginning of the term, which tends to obscure the actual costs of the thermal energy systems from customer understanding.[211]

BCOAPO acknowledges that the proposed 30-year levelization period better matches with the life cycle and depreciation of the underlying assets, although its preference would be for a levelization period significantly shorter than 30-years for two reasons. First, it is concerned that such a long period could lead to RDDA balances that may get too large. Second, it is also concerned about possible inter-generational equity among ratepayers: today's ratepayers benefit from lower rates, which defers the responsibility for current revenue requirements to future periods and future ratepayers.[212]

Panel Determination

The key issue for the Panel in this section is whether to accept Creative Energy's proposal to levelize the Capacity Charges over 30 years. It is only the Capacity Charges that Creative Energy proposes to levelize because the Variable Charges apply to fuel costs, which are flow-through costs to the customer. Levelized rates are typically used where the customer base is established over time, such as when there are only a few buildings at first, yet the capital costs in the initial phase are significant. In a case such as this Development, when a TES is already complete (or close to completion), intergenerational equity concerns may arise if costs for end users in the early years are being recovered from end users decades later.

[208] Exhibit B-13, BCUC IR 36.14

[209] CEC Final Argument, paragraphs 88, 89

[210] CEC Final Argument, paragraph 87, referring to Exhibit B-16, BCUC IR 3.81.2

[211] CEC Final Argument, paragraph 88, p. 15

[212] BCOAPO Final Argument, p. 14

On the other hand, Creative Energy's customers are the building owners (i.e., the Developer and the Strata Corporation), which mitigates issues of intergenerational equity. We accept that the end users towards the end of the levelization period may end up paying costs that might otherwise be recovered from current end users in a cost-of-service rate design. However, we accept Creative Energy's observation that it has no line of sight into how the rates that it charges its customers are passed on to end users. Therefore, we are unable to identify, much less resolve, any tangible intergenerational equity concerns in regard to the end user.

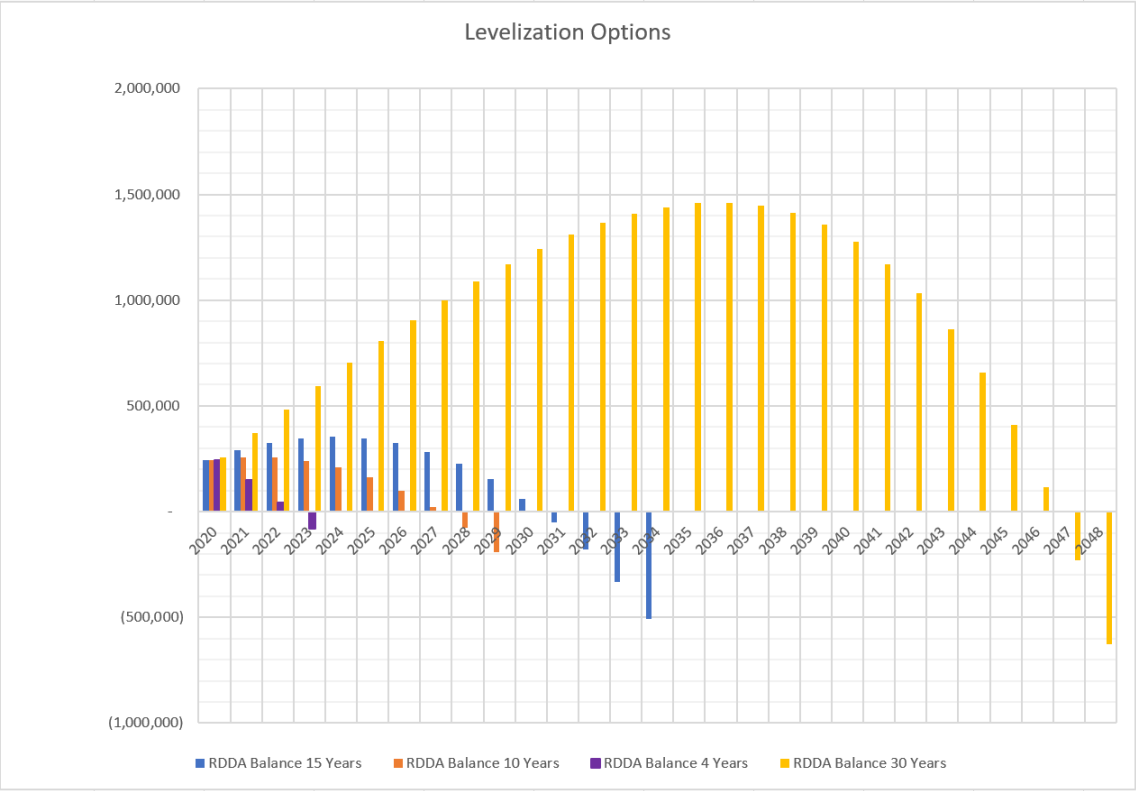
In our view, there is an alignment between the proposed 30-year levelization period, the term of the CSAs, and the depreciation period. Furthermore, the proposed 30-year levelization period produces rates that are not unjust or unreasonable. We do not share BCOAPO's concern that the RDDAs might grow unchecked largely because, as we discuss below in Section 6.4, Creative Energy will be reporting annually on the RDDA balances. We also expect that Creative Energy will return to the BCUC every five or so years to apply for rates for the Heating TES and DCS. If necessary, the RDDA balances and levelization periods can be revisited and modified, either at the time of the next RRA for each of the energy systems, or earlier if the BCUC so directs. Moreover, we find that the forecast RDDA additions and the RDDA balances for the proposed test period for each energy system are reasonable. **Therefore, the Panel approves Creative Energy's proposed 30-year levelization period for the Capacity Charge for both the Heating TES and the DCS.**

However, as we describe in the next paragraph, we do have some concerns regarding Creative Energy's modelling of the levelized Capacity Charge. These concerns can be addressed through compliance filings.

Creative Energy's levelization modelling needs adjustment. As demonstrated by the analysis prepared by the Panel, Creative Energy's proposals result in RDDA balances drawn down to zero well before the end of the levelization period. For example, under the 30-year levelization period that Creative Energy proposes, the Heating RDDA balance reaches zero in Year 27 (Figure 3), while the Cooling RDDA balance reaches zero in about Year 17 (Figure 4).

The following comparative chart has been compiled by the Panel to show the annual Heating RDDA balance under the four options for illustration purposes.

Figure 3: Heating RDDA Balances under Four Levelization Periods[213]



Through IRs, Creative Energy was asked to levelize rates using a 4, 10, and 15-year period to bring the Heating RDDA balance to zero, followed by cost-of-service rates. The above chart shows that, under each levelization option, the Heating RDDA balance becomes negative a few years before the end of the respective period, meaning that the rates calculated by Creative Energy for each option are too high as evidenced in the over-recoveries being built up in the Heating RDDA.

Under the 30-year levelization period, the Heating RDDA balance reaches its maximum in year 2036 at $1.461M[214] and totals about $605 thousand in 2023 (i.e., about 16 percent of the total Heating TES capital cost of $3,758,882). Under the 15-year levelization period, the Heating RDDA balance peaks in 2024 at $354,792 and totals about $348 thousand in 2023 (9.25 percent of total capital costs). Under the 10-year levelization period, the Heating RDDA balance peaks in 2021 at $256,011 and amounts to $239 thousand in 2023 (6.3 percent of total capital costs).

The following comparative chart has been compiled by the Panel to show the annual Cooling RDDA balance under the four options for illustration purposes.

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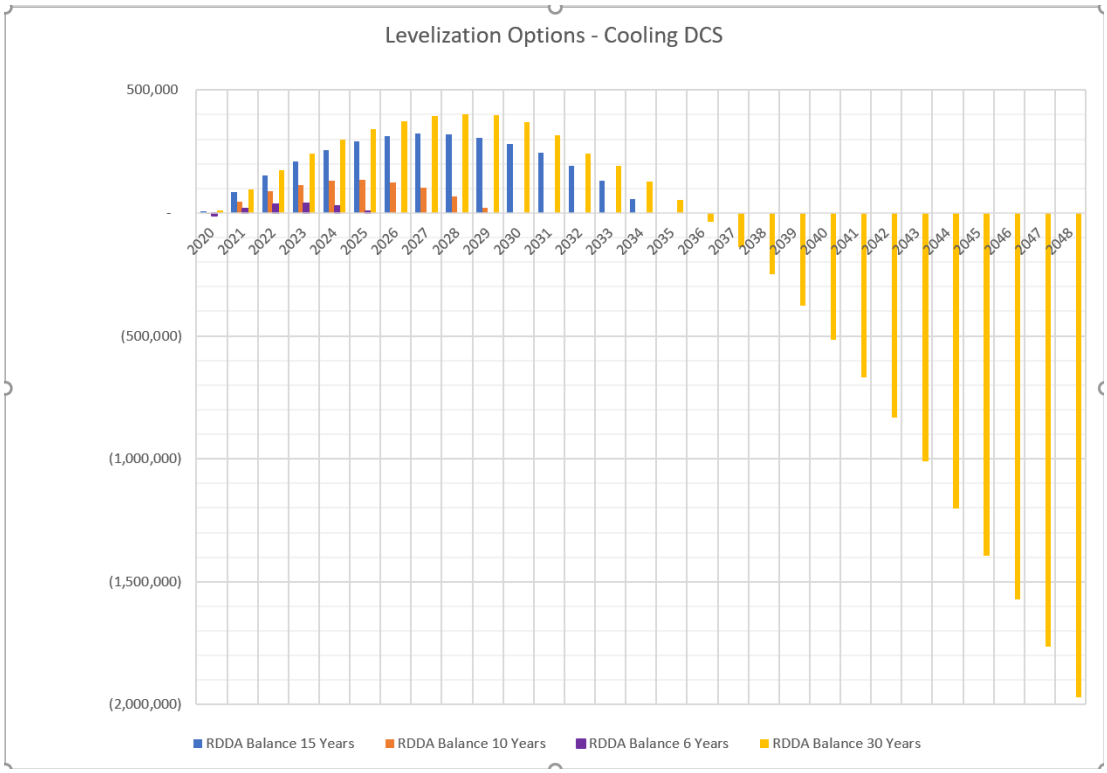
[213] The "RDDA Balance 30 Years" is derived from the cost of service contained in the Heating TES Rates model included in the Evidentiary Update (Exhibit B-5, Heating TES Rates Model, Tab Regulatory Model, Line 88). That cost of service is slightly different than the cost of service implied in Table 18 above in respect of the other three options due to inconsistencies between Creative Energy's Information Requests' responses and model.
Exhibit B-5, Heating TES Rates Model Attachment, Regulatory Model, line 88, 94; Appendix C, Capacity Charges for Test Period for the Heating TES, inflated by 2 percent following in years subsequent; Exhibit B-13, BCUC IR 31.10

[214] This amount does not include the return on the deferral account.

Figure 4: Cooling RDDA Balances under Four Levelization Periods[215]



Under the 15-year levelization period, the Cooling RDDA balance peaks in 2027 at $322,455 and totals about $290 thousand in 2025, the end of the proposed Test Period for the DCS (10.7 percent of total DCS capital costs at $2,701,614). Under the 10-year levelization period, the Cooling RDDA balance peaks in 2025 at $134 thousand, representing 5 percent of total capital costs. Due to the modelling issue explained below, this calculation cannot be performed for the 30-year levelization period.

In contrast to the levelization options modelled above for the Heating TES, the three alternative levelization options (6, 10 and 15 years) for the DCS appear to have been modeled correctly by Creative Energy, because the Cooling RDDA balance is shown to be drawn down to zero at the end of the period. However, the 30-year levelized Capacity Charge, as proposed by Creative Energy in the Cooling Application, is too high, because the Cooling RDDA balance is completely paid off in 17 years (in 2037), and for the remaining 13 years of the 30-year period, the levelized rates are shown to generate revenues that are too high as evidenced by the build-up of large over-recoveries in the Cooling RDDA, up to $1.9 M in 2048. For these over-recoveries not to build up in the Cooling RDDA, Creative Energy would have to charge cost-of-services rates starting in 2037 in order to avoid this over-recovery. And if it did that, it would *de facto* no longer be charging levelized rates but would have switched to Cost of Service rates. Thus, what Creative Energy modeled as "30-year levelized rates" is most like the 15-year option that it was asked to model through IRs.

[215] Exhibit B-6, DCS Rates Model Attachment, Regulatory Model, line 89; Appendix B-1, B-2, Capacity Charges for Test Period for the DCS, inflated by 2 percent following in years subsequent; Exhibit B-13, BCUC IR 36.14

We direct Creative Energy to re-calculate the levelized Capacity Charge for the Heating TES and DCS so that the RDDAs are forecast to be drawn down to zero at year 30, and not earlier, and to file the revised rate models and Permanent Rate Sheets for both systems in a compliance filing within 30 days of this decision.

3.2 Benchmark Rates

Heating TES

Creative Energy states that its review of benchmark rate comparisons for the Heating TES demonstrates the overall competitive level of the proposed Capacity Charge.[216] It also states that it was unaware of any peer companies that recover 100 percent of capital and fixed operating costs entirely through fixed charges, instead of a portion through both fixed and variable charges.[217]

Table 20: Indicative All-In Benchmark Rates Comparison (Table 10 from the Heating Application)[218]

	Benchmark All-in Rate $/MWh/year	Energy Intensity kWh/m2	Equivalent All-in Rate $/m2/year	Estimated Annual Cost (75 m2 suite)
Vancouver House Heating - Levelized Annual	119	62	7.39	$554
Vancouver House Heating - Levelized Flat	135	62	8.34	$626
Vancouver House Heating - Cost of Service	143	62	8.88	$666
South East False Creek	113	110	12.37	$928
River District Energy	96	92	8.83	$662
Surrey City Energy	115	105	12.03	$902
Richmond Oval Village	94	100	9.40	$705

Notes to Table 10

- Calculation of benchmark all-in rate $/MWh/year for Vancouver House equals the total capital and fixed cost recovery in 2020 reported in Table 9 divided by 4,028 MWh plus the $29/MWh indicative variable charge
- Source of benchmark all-in rates for selected utilities: City of Vancouver – Administrative Report; https://council.vancouver.ca/20181211/documents/spec1e.pdf
- Building energy intensity based on internal engineering estimates

Creative Energy states that:

> Over the last 15 or so years, there have been a significant number of DES [district energy systems] established in BC, largely within the Lower Mainland. Until the recent policy shift (characterized by more stringent building performance and energy efficiency requirements), it was entirely appropriate to benchmark the utilities using a unit energy basis ($/MWh) as a metric of affordability, as the systems did not differ greatly in terms of the energy intensity of the buildings.

[216] Exhibit B-1, Section 6, p. 12 and pp. 13–14

[217] Exhibit B-2, BCUC IR 10.4

[218] Exhibit B-1, Table 10, p. 14

However, affordability can only be measured in terms of the costs to the tenants that live in the units within the customer buildings. Those costs are a combination of the energy intensity of the building and the unit cost of the energy.

For clarity, a customer condominium built in 2019 will need less energy than one built in 2010, but the unit cost of energy may be higher as there are fewer units of energy to absorb the fixed costs. To compare the DES based on unit energy cost is misleading as it does not capture both drivers of customer cost.

This is captured clearly in Table 10 [Table 20 above], where on a unit-energy basis the TES is more expensive than SEFC, but the annual utility costs to live in a 75m2 suite in Vancouver House ($554) will be about 40 percent lower than the same suite in SEFC ($928 under the recommended Levelized Annual rate structure).[219]

Creative Energy provides the following comparison of its proposed rates to BC Hydro and FEI natural gas rates for the equivalent heating requirements:

Table 21: Updated Indicative All-In Benchmark Rates Comparison (Update to Table 10 from the Heating Application)[220]

	Benchmark All-in Rate $/MWh/yr	Energy Intensity kWh/m2	Equivalent Benchmark All-in Rate $/m2/yr	Comparative Annual Cost (75 m2 suite)
Vancouver House Heating - Levelized Annual	119	62	7.39	554
Vancouver House Heating - Levelized Flat	135	62	8.34	626
Vancouver House Heating - Cost of Service	143	62	8.88	666
BC Hydro	126	62	7.81	586
FortisBC Energy Inc.	87	62	5.39	405
South East False Creek	117	110	12.81	961
River District Energy	106	92	9.75	731
Surrey City Energy	117	105	12.24	918
Richmond Oval Village	100	100	10.00	750

Creative Energy notes the following caveat regarding the above table:

Using the energy intensity assumptions for Vancouver House, Creative Energy has simply converted those benchmark rates into equivalent $/m2/year benchmarks and calculated the annual cost results based on that. These results are illustrative under a very simplifying assumption that there are no incremental capital costs nor fixed operating costs factored into providing the applicable service under the BC Hydro or FortisBC comparators.[221]

Creative Energy emphasizes that "neither BC Hydro nor FortisBC Energy Inc. provide thermal energy. Obviously, BC Hydro supplies electricity and FortisBC Energy Inc. supplies gas (conventional natural gas and renewable natural gas), and neither supplies thermal energy (neither heat nor cold). Electricity powers the chillers that

[219] Exhibit B-2, BCUC IR 16.2

[220] Exhibit B-3, CEC IR 10.2

[221] Exhibit B-3, CEC IR 10.2, Exhibit B-20, Panel IR 6.1

generate cold, and natural gas may be used as fuel to produce heat in a furnace/water heater/boiler. Electricity and natural gas are not thermal energy and, for greater certainty, are not alternatives to the service provided by thermal energy systems."[222]

Creative Energy also points out that "[i]t may be useful to consider benchmark rates and all-in costs to the consumer in the context of reviewing a CPCN application, for example, but not at the rate setting stage after a CPCN has been granted (on the basis that it is in the public interest for the utility system to be constructed and provide service) or otherwise in respect of an established utility that is providing service."[223]

District Cooling System

Creative Energy states that there are no benchmark rates applicable to the DCS. The TES Guidelines contemplate that an assessment of whether the proposed rates will be competitive with other service options may be appropriate subject to the choice customers may have in a new service area. In contrast, Creative Energy's purchase of the DCS has been granted a CPCN and the DCS is fully commissioned. Thus, Creative Energy's proposed rates and rate design are set only in relation to the DCS cost of service, established on the merits and based on accepted rate design principles. A comparison of the proposed Capacity Charges to other options would thus have no relevance nor consequence to the requested approvals in this Cooling Application.[224]

Positions of the Parties

The CEC notes that Creative Energy's proposed heating rates are significantly higher than those available to ratepayers through either FEI or BC Hydro.[225] It goes on to submit that it would be appropriate for the BCUC to take note of the rate impacts occurring to ratepayers because of small-scale TES and to consider the impact of having multiple costly TES relative to more cost-effective options such as BC Hydro and FEI.[226] The CEC therefore recommends that the BCUC continue to keep the issue of benchmark rates alive in each application for TES rates and provide ongoing scrutiny of the issue. BCOAPO agrees with the CEC's concerns with the lack of suitable benchmarks available for Creative Energy filings.[227]

Panel Discussion

The origin of the discussion about benchmark rates comes from the TES Guidelines, which state that a Stream B rate application and calculations must include "Information confirming the proposed rates will be competitive with other service options that are available to customers in the new service area (if appropriate)."[228]

Creative Energy's proposed rate design is somewhat unusual in that it will recover 100 percent of capital and fixed operating costs entirely through fixed charges, instead of a portion through both fixed and variable charges. The IR process canvassed whether any comparable peer companies recover 100 percent of capital and

[222] Creative Energy Reply Argument, paragraph 44, PDF p. 12
[223] Creative Energy Supplementary Reply Argument, PDF p. 1
[224] Exhibit B-6, p. 18; Exhibit B-13, BCUC IR 36.1; Exhibit B-16, BCUC IR 72.2
[225] CEC Final Argument, paragraph 35
[226] CEC Final Argument, paragraph 39
[227] BCOAPO Supplementary Final Argument, p. 1
[228] TES Guidelines, Section 2.4.4

fixed operating costs entirely through fixed charges. Essentially, whether there are benchmarks against which to measure Creative Energy's proposed rate design.

Creative Energy referenced several district energy systems as comparators for heating rates, but those systems – in Surrey or south Vancouver, for example – are outside the service area and therefore not helpful as benchmarks. Creative Energy then provided benchmark data for other energy services available in the service area, namely its own Core Steam system, BC Hydro and FEI.

The Panel agrees with Creative Energy that electricity from BC Hydro and natural gas from FEI are cost inputs for Creative Energy, and whatever rates they charge are therefore not the most appropriate benchmarks against which to compare Creative Energy's proposed rates. Further, in our view, the appropriate opportunity to compare the costs for alternatives to a proposed thermal energy system is during the CPCN application. Having received a CPCN, the utility is entitled to recover its reasonable cost of service and therefore drawing comparisons to other TES after a project has been granted a CPCN is not helpful.

4.0 Deferral Accounts

The following section discusses Creative Energy's proposed deferral accounts for each of the Heating TES and DCS, namely the RDDAs and RCVDAs.

4.1 Revenue Deficiency Deferral Account

Generally, levelized rates result in revenues recovering less than the cost of service during the initial years of service and then an over recovery of the cost of service in latter years when the load materializes. Creative Energy thus requests permanent approval of a separate RDDA for each the Heating TES and DCS as a necessary component to support implementation of its levelized Capacity Charge to record annual revenue deficiencies or surpluses resulting from the difference between forecast annual revenue at the approved rates and the forecast approved annual cost of service, and to remain in effect until the balance of each account is reduced to zero. The balance in the RDDAs would attract interest at Creative Energy's WACC and the account balance would be reduced to zero within the 30-year term over which rates are forecast.[229]

Based on Creative Energy's proposed rate design, rates charged to customers will under-recover the annual revenue requirements in the early years of the project and over-recover the revenue requirements in the latter years until such time the RDDA balances will have been reduced to zero.[230]

Positions of the Parties

In terms of the proposed RDDAs, the CEC submits that it would be preferable to establish a shorter time frame for the deferral account, instead of the 30-year duration of the CSAs, so that the RDDAs can be reviewed on a regular basis. The CEC therefore recommends that the amortization period for the RDDAs match the term of the rates for the Heating TES and the DCS.[231]

[229] Exhibit B-1, p. 2; Exhibit B-6, p. 6, 17; Exhibit B-13, BCUC IR 35.1

[230] Exhibit B-5, Section 2.1, p. 2; Exhibit B-6, Section 1.1, p. 2

[231] CEC Final Argument, paragraph 120, p. 20

BCOAPO agrees that the RDDA mechanisms are acceptable for rate-setting purposes, noting its support of the RDDA conceptually to smooth rate increases and agrees that difference between forecast annual revenue at the approved rates and forecast cost of service for TES and DCS ought to be captured in the RDDAs as proposed. BCOAPO views this as a way to strike a reasonable balance of cost and risk between the utility and ratepayer rather than placing greater risk on ratepayers (or conversely, the utility).[232]

Panel Determination

The issue for the Panel is whether to approve Creative Energy's request for a Heating RDDA and a Cooling RDDA. The Panel agrees that RDDAs for the Heating TES and the DCS are appropriate, indeed, RDDAs are often approved for levelized rate designs. In our view, these are reasonable mechanisms to achieve a levelized rate structure, and are consistent with previous decisions on thermal energy service projects. The RDDAs record the annual difference between the forecast revenue requirements, except for fuels costs, and the actual revenues based on the approved levelized Capacity Charge for each of the systems. The Panel acknowledges that the customer base for the Heating TES and DCS are established in the initial years of the projects; however, we accept that the RDDAs ensure stable rates that increase in a predictable and consistent manner, and reasonably match cost recovery with cost causation.

Parenthetically, we note the CEC's statement that a shorter timeframe for the RDDAs is preferable; however, we think that the CEC might have intended to match the shorter timeframe to the RCVDAs and not the RDDAs. We come to this conclusion because the CEC refers to BCUC IR 3.79.2 in the RDDA section of its Final Argument with respect to the preferred term; however, we recognize that this IR was asked in relation to the RCVDAs, not the RDDAs.[233]

The Panel approves an RDDA for each of the Heating TES and the DCS to record annual revenue deficiencies or surpluses for the Development (excluding the TES Extension) resulting from the difference between the annual revenue at the approved Capacity Charge and the approved annual forecast cost of service, except for fuel costs, for the Heating TES and DCS, respectively. Each RDDA shall remain in effect for the 30-year levelization period.

In addition, the Panel directs Creative Energy to file, in a compliance filing within 30 days of this decision, a description of the amount that it plans to accumulate in each RDDA during the respective test period. Such filing should indicate the revenues at the approved revised Capacity Charge, less forecast revenue requirements as revised in this decision.

4.2 Regulatory Costs Variance Deferral Account

Creative Energy seeks approval of a Heating RCVDA and Cooling RCVDA, to record the allocated difference between the forecast and the actual regulatory costs. Creative Energy submits its regulatory costs, which include BCUC fees, Participant Assistance/Cost Award fees and external regulatory legal support, are difficult to forecast and generally outside of its control, specifically with respect to the length and breadth of the review process of the two Applications.[234]

[232] BCOAPO Final Argument, p. 14

[233] Exhibit B-16, BCUC IR 79.2; CEC Final Argument, paragraph 120, p. 20

[234] Exhibit B-5, Section 4.4, p. 11; Exhibit B-6, Section 1.1, p. 4

Creative Energy intends to allocate the variance in regulatory costs for the joint review of the Applications in equal proportion to the Heating RCVDA and Cooling RCVDA. It notes that any precision gained by attempting to prorate the estimated share of the various components of the review would not outweigh the simple approach given that the customers of each system are currently the same.[235]

Creative Energy proposes a rate rider based on a five percent of net bill approach to recover/credit the variance between forecast and actual regulatory costs. It submits that this approach is reasonable, fair, easy to administer and provides rate predictability for its customers in an easily understood format.[236] Creative Energy adds that an additional benefit of this approach, where the billing determinant is approved in advance of the variance between forecast and actual costs being known, allows for a simple compliance and reporting construct.[237]

Creative Energy intends to apply the five percent rate rider to the total monthly charge for each building.[238] Under the proposed credit/recovery mechanism the time required to fully amortize the variance would depend on the difference between actual and forecast costs and the customers' monthly bill amount. Creative Energy proposes to commence recovery or credit of any balance in the deferral account when the balance is confirmed at the close of this proceeding and file a compliance filing in support.[239]

Creative Energy submits that the proposed RCVDAs can be approved for the term of the current rate-setting period for each of the Heating TES (2020-2023) and DCS (2020-2025), in which case it would re-apply for approval of the deferral accounts in support of future rates applications.[240] Alternatively, Creative Energy notes the proposed deferral accounts could be approved for the duration of the contracted service terms (30 years) in anticipation of the future planned rates applications.[241]

Creative Energy anticipates funding any balance in the deferral accounts through its operating line of credit, and therefore proposes the Heating RCVDA and Cooling RCVDA attract interest at its weighted average cost of debt (WACD).[242]

Positions of the Parties

The CEC agrees that regulatory costs are uncertain and to some extent outside of Creative Energy's control. The CEC submits that the proposed RCVDAs are appropriate and recommends that the BCUC approve the deferral account.[243]

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[235] Exhibit B-16, BCUC IR 33.1, 79.4
[236] Exhibit B-13, BCUC IR B-13, 33.3; Exhibit B-16, BCUC IR 79.6
[237] Exhibit B-13, BCUC IR 33.3
[238] Exhibit B-16, BCUC IR 79.1
[239] Exhibit B-13, BCUC IR 33.5
[240] Exhibit B-16, BCUC IR 79.2, 79.3
[241] Exhibit B-16, BCUC IR 79.2, 79.3
[242] Exhibit B-13, BCUC IR 33.7
[243] CEC Final Argument, paragraphs 132, 133

BCOAPO submits that actual regulatory costs (not variances) for the TES and DCS should be included in the RCVDAs and amortized over the time periods of the respective final rates.[244] BCOAPO accepts that establishing RCVDAs for the TES and DCS is appropriate. It does not support, however, Creative Energy's proposal for the 5 percent total bill rate rider that will lead to a recovery over a 12-month period. BCOAPO states that it is "struck by the marked inconsistency between the Utility's proposal for a quick recovery of the RCVDA (one year) and the long-term view (30-years) associated with the RDDA proposal. …[and] that costs should be included in rates over the period which customers benefit from these costs. Creative Energy is requesting final rates for the TES until 2023 and final rates for the DCS until 2025 so, in our submission, a far more appropriate approach would be to record the actual regulatory costs in the RCVDA and amortizing the recovery over the term of the approved rates: three years in the case of the TES rates and five years in the case of the DCS rates."[245]

Panel Determination

The use of a deferral account for regulatory costs is not unusual; regulatory costs are uncertain and generally beyond a utility's control. A deferral mechanism eliminates the risk of variances in regulatory costs, to which a utility and its customers are otherwise exposed. Indeed, neither of the interveners disputes that such an account is appropriate. Likewise, the Panel agrees that a Heating RCVDA and Cooling RCVDA are useful. There is less consensus, however, on the specifics of the deferral accounts, namely which costs should be deferred (variance of forecast to actual or the actual costs themselves), the term of the deferral accounts, the method of amortization and the appropriate carrying costs.

Although Creative Energy proposes to create an account for each of the Heating TES and DCS, which the Panel supports, there is no practical difference between these accounts and therefore we deal with the two accounts together in this discussion.

Creative Energy proposes to record the difference between the forecast and the final actual regulatory costs once those are determined at the conclusion of this proceeding. BCOAPO, on the other hand, takes the position that actual regulatory costs (not variances) should be recorded. In our view, however, it is not necessary to record actual costs in this account and we reject BCOAPO's proposal. The purpose of the deferral mechanism is to eliminate the risk that accompanies a variance, not to delay the recovery of the actual costs. In fact, most regulatory cost variance deferral accounts do not record actual costs, only the variance between actual and forecast. We agree with Creative Energy that the variance between forecast and actual costs, instead of the actual costs, should be deferred, and are satisfied with the proposed allocation of regulatory costs between the Heating RCVDA and Cooling RCVDA.

Creative Energy proposed that the deferral accounts be approved for the term of the current rate-setting period for each of the heating (2020-2023) and cooling (2020-2025) energy systems. We expect that Creative Energy would apply for approval of the continuation of these deferral accounts in future heating and/or cooling rates applications. Alternatively, Creative Energy notes the deferral accounts could be approved for 30 years – the duration of the term of contracted service. In our view, reviewing the deferral mechanism at each RRA for the Heating TES and/or DCS is preferable to approving it for the duration of the contract term of the respective CSAs. We recognize that this creates additional regulatory and administrative burden for both Creative Energy as

[244] BCOAPO Final Argument, p. 3

[245] BCOAPO Final Argument, p. 3

well as the BCUC, but that additional burden is not onerous in this case. Further, reviewing the mechanism at each RRA will provide an opportunity to explore alternative deferral mechanisms, which may be determined to be more effective.

The next issue regarding the proposed RCVDAs is the mechanism through which the revenue recorded in the deferral accounts will be recovered from or credited to customers. This is one of the issues regarding the RCVDAs on which BCOAPO disagrees with Creative Energy. Specifically, whereas Creative Energy proposes a five percent rate rider, BCOAPO argues that a more reasonable approach would be to record the actual regulatory costs in each of the RCVDAs and amortize the recovery over the term of the approved rates. Creative Energy states that its five percent rate rider proposal is transparent and easy for customers to understand and has the further advantage of administrative simplicity. On this issue the Panel prefers the approach recommended by the BCOAPO, namely, to amortize the account balance over the current rate-setting period. There is little to no loss in administrative simplicity to match the amortization period with the term, and customers will have no difficulty in understanding the symmetry between the amortization period and the term.

The last issue regarding the RCVDAs is the carrying cost that the accounts attract. Creative Energy proposes that the carrying cost should be its WACD. We find this to be reasonable because Creative Energy anticipates funding any balance in the deferral accounts through its operating line of credit, and there is likely to be little difference between its WACD and short-term debt rate.

Accordingly, the Panel approves both the Heating RCVDA and Cooling RCVDA, each bearing interest at Creative Energy's WACD, to record the allocated difference between the forecast regulatory costs and the final actual costs when so determined, each of which is to be amortized over the rate setting period as follows:

- **The period commencing November 1, 2019, through to December 31, 2023, for the Heating TES; and**
- **The period commencing November 23, 2020 (service commencement), through to December 31, 2025, for the DCS.**

The Panel accepts Creative Energy's proposal to allocate the variance in regulatory costs for the joint review of the Applications in equal proportion to the Heating RCVDA and Cooling RCVDA.

5.0 Customer Service Agreement

Creative Energy requests approval of the associated terms and conditions of service as separately set out in the Heating CSA and Cooling CSA as filed in the Evidentiary Update and the Cooling Application, respectively.[246] Creative Energy intends to have separate CSAs for the Heating TES and DCS, because unlike the DCS, the Heating TES will serve customers beyond the VHD.[247] For each energy system Creative Energy will execute a CSA with the Developer for each of the four buildings and the Developer will assign the respective CSA for Building 2 (the

[246] Exhibit B-1, Section 2.2, pp. 2–3; Exhibit B-2, BCUC IR 13.1; Exhibit B-6, Section 1.1, pp. 2–3

[247] Exhibit B-13, BCUC IR 51.3

residential tower) to the Strata Corporation at the prescribed time.[248] The Developer will retain ownership of Building 1, 3 and 4.[249]

The Heating CSA and Cooling CSA each have an initial term of 30 years from the commencement of the provision of energy services and will automatically be renewed on an annual basis thereafter unless otherwise terminated.[250]

The remainder of this section on the CSAs for the Heating TES and DCS discusses the issues with respect to the standard assignment provision and administrative issues.

Standard Assignment Provision

The Heating CSA and Cooling CSA filed with the Heating Application and Cooling Application are substantially equivalent to the CSA that the BCUC approved by Order G-42-17 for Creative Energy's NEFC customers. Section 3.1 of the CSAs adds a standard assignment provision. Creative Energy submits the proposed standard assignment provision is consistent with that provided in the NEFC connection agreement, approved under the same order.[251] In granting interim approval for the Heating TES and DCS rates by Order G-260-19 and Order G-225-20 respectively, the BCUC approved the CSAs, minus the standard assignment provision at section 3.1 of the CSA. The approved Heating CSA and Cooling CSA are consistent with the NEFC CSA, approved by Order G-42-17.

Creative Energy acknowledged that the standard assignment provision proposed in the Heating Application raises legitimate concerns and agreed to reconsider the wording as part of its future permanent rates application.[252] Creative Energy submits that it is appropriate to include an assignment provision to specify the rights of each party to assign the CSA. In the event of a sale of the Heating TES or DCS, which would be subject to BCUC approval, it is reasonable that the customer should have the comfort that the assignee of the CSA will agree to be bound by the terms and conditions as set out in the CSAs. Creative Energy suggests one change to the provision from that originally proposed: that the assignment of the CSAs be subject to BCUC acceptance. The revised proposed wording of the standard assignment provision is below and the proposed change is underlined:[253]

> The Customer may not assign this Customer Service Agreement or any of its rights or obligations hereunder without the prior written consent of the Utility, such consent not to be unreasonably withheld. The Utility may, subject to BCUC approval, assign this Customer Service Agreement or any of its rights or obligations thereunder (including, without limitation, by way of the sale of the majority of its shares or business or its material assets or by way of an amalgamation, merger or other corporate reorganization) to any of its Affiliates or to any other Person without the consent of the Customer, provided such Affiliate or Person is <u>accepted by the BCUC</u> to carry out the Customer Service Agreement and agrees in writing to assume and be bound by the

[248] Exhibit B-1, Section 2.2, pp. 2–3; Exhibit B-2, BCUC IR 13.1; Exhibit B-6, Section 1.1, pp. 2–3
[249] Heating TES CPCN proceeding, Exhibit B-1, Section 1.7, p. 16; DCS CPCN proceeding, Exhibit B-1, Section 3.4, p. 14
[250] Exhibit B-6, Section 1, p. 1; Appendix C, Section 18.1, p. 13; Exhibit B-5, Appendix D, Section 18.1, p. 14
[251] Exhibit B-1, Section 2.2, pp. 2–3
[252] Exhibit B-2, BCUC IR 18.2
[253] Exhibit B-5, Section 5, pp. 13–14; Exhibit B-6, Section 1.1, pp. 2–3

provisions of this Customer Service Agreement in all respects and to the same extent as the Utility is bound. [Emphasis added]

Creative Energy submits the revised wording ensures any disposition of Creative Energy's utility responsibilities and acquisition of those responsibilities by another, including by way of assignment of the CSA, is subject to BCUC approval.[254]

Administrative Issues

During the proceeding, several administrative issues arose regarding both the Heating CSA and Cooling CSA:

1. Page 1 of each of the Heating CSA and Cooling CSA states that terms and conditions are available for public inspection on the website of the BCUC and at the office of the BCUC. In addition, section 4.1 of each CSA states the rates to be charged as set out in the tariff may be reviewed on the website of the BCUC or at the offices of the BCUC. In the IR process, Creative Energy acknowledges that it is not the BCUC's practice to post terms and conditions for service or the rates as set out in tariffs on its website nor is it the BCUC's practice to have them available for public inspection at the BCUC's office. Creative Energy agreed that the tariffs would be posted on its website when rates are approved. Creative Energy subsequently clarified that its website is not a utility specific platform, but rather serves broader development aims, and as such Creative Energy only posts documents as directed by the BCUC, and does not intend to post tariff pages on its website given its design and purpose. Instead, Creative Energy submits the tariffs are available at its office or via email request.[255]
2. The terms and conditions of the Heating CSA and Cooling CSA refer to standard fees and charges related to meter testing, late payment and collection charges, dishonoured payment charges, security for payment of bills, and account charges. Creative Energy acknowledges the Applications, including the respective proposed tariff pages, do not include these fees and charges as they are not applicable. Creative Energy states it is not seeking approval of the referenced fees or charges and will consider filing a final Heating CSA and Cooling CSA removing reference to those fees and charges that are not applicable.[256]
3. Subsection 29.1 of the Heating CSA and Cooling CSA refers to section E of the terms and conditions for contact information and hours of operation for the utility; however, Creative Energy confirms that the reference should be to section C instead.[257]

In addition to the above issues, Creative Energy proposes to remove section 15.3, as reproduced below, from each of the CSAs:[258]

> The Utility may, without having to give notice, discontinue proving [sic] Energy Service to any Customer, who stops consuming Thermal Energy in any of the buildings, for a time period

[254] Exhibit B-13, BCUC IR 53.3

[255] Exhibit B-5, Appendix D, Cover Page; Section B, Subsection 4.1, p. 7; Exhibit B-6, Appendix C, Cover Page; Section B, Subsection 4.1, p. 7; DCS CPCN Application, Exhibit B-6, BCUC 28.1 and 28.1.1; Exhibit B-13, BCUC IR 54.1

[256] Exhibit B-2, BCUC IR 19.1; Exhibit B-5, Appendix D, Section A, p. 5; Section B, Subsection 7, 10, 13, 14, 17; Exhibit B-6, Appendix C, Section A, p. 5; Section B, Subsection 7, 10, 13, 14, 17; Exhibit B-13, BCUC IR 52.1

[257] Exhibit B-5, Appendix D, Section B, Subsection 15.3, p. 13; Exhibit B-6, Appendix C, Section B, Subsection 15.3, p. 13

[258] Exhibit B-5, Appendix D, Section 15.3, p. 13; Exhibit B-6, Appendix C, Section 15.3, p. 13; Exhibit B-13, BCUC IR 55.1

> determined by Creative Energy, acting reasonable, and no soon [sic] than six months, unless agreed by the Customer.

Creative Energy submits that if customers wish to continue with the service overall but for whatever reason do not take service for six months, that is not an issue so long as they keep their accounts in good standing. Further, if the customers have decided they no longer want heating or cooling service and attempt to force a termination by permanently stopping consuming energy from the TES, then Creative Energy submits the better way to resolve the situation would be to request consent to terminate, as set out in the Heating CSA and Cooling CSA.[259]

Creative Energy proposes to file the amended Heating CSA and Cooling CSA as part of a consolidated compliance filing.[260]

Positions of the Parties

The CEC submits that BCUC approval, as proposed in the CSAs, of a proposed assignee, amalgamation, merger or other corporate reorganization is appropriate.[261]

BCOAPO states that the terms and conditions in the CSAs appear reasonable.[262]

Panel Determination

Three issues arose during our review of the CSAs.

First, when the BCUC approved the Heating CSA by Order G-260-19 and the Cooling CSA by Order G-225-20, it did so without the "standard assignment provision," which provided Creative Energy, but not the Customer, the right to assign the CSAs. We are satisfied, however, that Creative Energy should reinstate its standard assignment provision, as amended, into the CSAs, because any assignment will be subject to BCUC acceptance.

Second, Creative Energy acknowledged that several references identified by the BCUC in this proceeding are either inapplicable or incorrect. It has agreed to update the CSAs accordingly.

The third issue that arose concerned a termination provision in section 15.3 of the CSAs. Although Creative Energy provided an explanation for this provision, during the IR process it proposed to remove section 15.3 entirely from the CSAs. The Panel agrees with Creative Energy's proposal to remove subsection 15.3 which allows it to discontinue energy service to any customer who stops consuming thermal energy for six months, because Creative Energy does not consider it an issue if the customer does not consume the thermal energy.

The Panel directs Creative Energy to revise the Heating CSA approved by Order G-260-19 and the Cooling CSA approved by Order G-225-20 as follows:

[259] Exhibit B-13, BCUC IR 55.1, 56.1

[260] Exhibit B-13, BCUC IR 52.1.1, 54.2, 58.1

[261] CEC Final Argument, paragraph 128, p. 21

[262] BCOAPO Final Argument, p. 16

- **Add the standard assignment provision as proposed by Creative Energy in its Evidentiary Update and Cooling Application, respectively;**
- **Remove reference that the terms and conditions, and tariffs are available on the BCUC's website or at the BCUC office, and clearly indicate where Creative Energy will provide access to the tariff pages;**
- **Remove reference to any standard fees and charges that are not applicable; and**
- **Remove section 15.3 of the CSAs as proposed.**

Creative Energy is directed to file the revised Heating CSA and Cooling CSA in a compliance filing within 30 days of this decision.

6.0 Other Issues Arising

6.1 TES Extension

Prior to filing the Evidentiary Update, Creative Energy filed a separate application with the BCUC on June 25, 2020 to extend its Heating TES to provide heating and DHW services to a 5th building at 889 Pacific Street, Vancouver (TES Extension Application).[263] By Order C-1-21, dated March 26, 2021, the BCUC granted a CPCN to Creative Energy to construct and operate the TES Extension.[264]

Creative Energy confirms occupancy at 889 Pacific Street is expected in October 2021.[265] Based on a forecast of capital costs for the TES Extension, Creative Energy states that the indicative impact of the TES Extension on overall heating rates would result in a reduction to the Capacity Charge of approximately nine percent in the first full year of service (2022).[266] In response to IRs, Creative Energy provided an updated Heating Rates Model incorporating the impact of the TES Extension on rates over the proposed 30-year term of service.[267] Table 22 below, illustrates the proposed Capacity Charge without incorporating the TES Extension and the indicative Capacity Charge incorporating the TES Extension:

Table 22: Proposed Capacity Charge with and without TES Extension

Capacity Charge	2020	2021	2022	2023
Heating TES Rates Model without TES Extension[268]	$ 141.60	$ 174.68	$ 178.18	$ 181.74
Heating TES Rates Model with TES Extension[269]			$ 163.74	$ 167.02

Creative Energy states that it considers it advisable to address the future rate impacts of both the TES Extension and the relocation of the temporary boiler plant (or change in the source of thermal energy) in a single future

[263] Creative Energy Registration of Extension to South Downtown Heating Thermal Energy System Application, Exhibit B-1
[264] Creative Energy Registration of Extension to South Downtown Heating Thermal Energy System Application, Order C-1-21
[265] Exhibit B-13, BCUC IR 62.4
[266] Exhibit B-16; BCUC IR 92.1
[267] Exhibit B-16, Attachment 92.1 Heating Rates Model IR3 (Extension)
[268] Exhibit B-13, Attachment Heating Rates Model IR2
[269] Exhibit B-16, Attachment 92.2 Heating Rates Model IR3 (Extension)

rates application for a test period beginning in 2024. It submits that this will promote regulatory efficiency as compared to any alternative that would require an additional rates application to be filed in the intervening period. Creative Energy states that this approach is supported by the proposed levelized rate design and the accompanying Heating RDDA, which will account for the timing difference in the recovery of the cost of service of the Heating TES over the entire contract term.[270] Creative Energy confirms that the Evidentiary Update excludes all costs associated with providing service to the 889 Pacific Street site.[271]

Creative Energy considers it reasonable to seek final approval of the proposed heating rates for 2020-2023 on the basis of the total cost of the system to service the four originating buildings for the Heating TES at the Development, and that the TES Extension to the 5th building at 889 Pacific Street can commence service under those rates later in 2021.[272] Creative Energy states that considerations into future rate-setting in respect of the TES Extension have no bearing on the requested approvals before the Panel at this time.[273]

Creative Energy clarifies it is not opposed to a further rate adjustment for the Heating TES when the TES Extension comes into service if there is a cost-effective way to implement such rate adjustment in terms of time and resources required and regulatory efficiency overall.[274] Creative Energy also states that a utility system extension to serve a new customer does not typically prompt an immediate rate filing in each case and economic extensions can proceed absent a rate change and any resulting rate impact can be reflected in the utility's next rate filing in the normal course.[275]

Creative Energy states that a "further rate adjustment," as noted in the above paragraph, does not refer to filing an updated rates application for BCUC approval, but states that a cost-effective means to implement a further rate adjustment could be accomplished by way of a compliance filing and an accompanying tariff rate schedule that set out the rate calculation for acceptance by the BCUC and without the need for an application and further regulatory process.[276] Absent a compliance-based approach, Creative Energy considers that it would be prudent and efficient to consider a rates application for the TES Extension for the subsequent and necessary rate setting period beginning in 2024.[277]

Creative Energy acknowledges that it will receive higher fixed revenues because of not incorporating the TES Extension into the current rates application. Creative Energy identifies, however, that these higher rates will simply reduce amounts added to the Heating RDDA based on current forecasts of cost. Because the higher revenues result in lower Heating RDDA additions, Creative Energy submits that no party is benefiting, as any increase in revenues in the short term will simply reduce the need for future recoveries to compensate for the short-term under-recoveries.[278] Creative Energy identifies that the TES Extension would reduce the amount

[270] Exhibit B-9, Panel IR 1.1, Panel IR 1.2.3
[271] Exhibit B-16, BCUC IR 68.1
[272] Exhibit B-9, Panel IR 1.2.2
[273] Creative Energy Final Argument, paragraph 33
[274] Creative Energy Registration of Extension to South Downtown Heating Thermal Energy System Application, Exhibit B-4, BCUC IR 3.1
[275] Creative Energy Registration of Extension to South Downtown Heating Thermal Energy System Application, Exhibit B-4, BCUC IR 3.1.1.1
[276] Exhibit B-16, IR 92.4
[277] Exhibit B-16, BCUC IR 92.4.1
[278] Exhibit B-16, BCUC IR 92.3

recorded in the Heating RDDA by approximately half, and lead to the Heating RDDA being extinguished roughly six years earlier than the scenario where the TES Extension does not occur.[279]

Positions of the Parties

The CEC acknowledges that the Evidentiary Update excludes all costs associated with providing service to the 889 Pacific Street site. The CEC submits that this is appropriate.[280]

BCOAPO notes that Creative Energy has confirmed that the indicative impact of the TES Extension on overall rates would result in a reduction to the Capacity Charge for 2020 of approximately 9 percent in the first full year of service. It also notes, however, Creative Energy's view that this indicative reduction has no bearing on the requested approvals in the current proceeding.[281]

BCOAPO submits that the forecast impact of the TES Extension should be incorporated into rates. BCOAPO states that their "clients are not so sanguine about the Utility's suggestion that the Panel approve delaying the recognition of the TES Extension in rates to 2024. While we understand CE's [Creative Energy's] desire for the certainty its position creates, we note that rate-setting inevitably requires the use of assumptions: assumptions including those used in this application."[282]

In Reply, Creative Energy submits that it is not opposed to a further rate adjustment for the Heating TES when the extension comes into service if there is a cost-effective way to implement such an adjustment. Creative Energy suggests one approach may be via a compliance filing and an accompanying tariff rate schedule that sets out the rate calculation for acceptance without the need for an application and further regulatory process. Creative Energy submits that if a compliance-based approach cannot be implemented that a fair and efficient alternative would be to consider a rates application for the TES Extension for the rate setting period beginning in 2024.[283]

Panel Determination

The issue for the Panel is to determine the appropriate time and mechanism to incorporate the TES Extension into rates for the Heating TES. Specifically, once the TES Extension goes into service, what rates should Creative Energy charge its customers, both at 889 Pacific Street as well as the four buildings at the Development?

The Heating Application includes only the four buildings of the Development for the period 2020-2023, whereas the TES Extension is planned to go into service in October 2021. Creative Energy's proposal would defer incorporating the TES Extension into rates until it files a rates application for the test period commencing 2024. Yet, Creative Energy forecasts a beneficial rate reduction for all ratepayers when the TES Extension does go into service, which provides a compelling reason to not wait until 2024.

[279] Exhibit B-16, BCUC IR 92.2.1
[280] CEC Final Argument, paragraph 45
[281] BCOAPO Final Argument, p. 10
[282] BCOAPO Final Argument, p. 10
[283] Creative Energy Rely Argument, Section 4.2, paragraphs 35–37, p. 8

While it may not be necessary to resolve all the issues regarding the TES Extension in this proceeding, we disagree with Creative Energy that considerations into future rate-setting in respect of the TES Extension have no bearing on the requested approvals before us.

The competing considerations are as follows. Creative Energy prefers to charge the same rates to both the TES Extension customer and the VHD customers, without incorporating the costs or revenues from the TES Extension, and to "sort it out" during the next RRA, likely in 2023. This means that the expected rate reduction will not find its way into rates until that next RRA. Although Creative Energy argues this is not necessarily a bad thing – the higher revenue generated over the next couple of years will reduce the Heating RDDA, BCOAPO points out that the indicative impact of the TES Extension is material.

In evaluating Creative Energy's proposal, we considered various options.

1. Keep current heating rates as interim until the final costs are available for the TES Extension;
2. Approve Permanent Rates only for 2020 and 2021, with the expectation that final TES Extension costs will be known by the time of the next rates application, which can address the anticipated rate reduction, or
3. Accept Creative Energy's proposal to file a single rates application for a test period beginning in 2024 that factors in the cost of service impacts of both the TES Extension and the relocation of the temporary boiler plant. In the intervening period, customers of 889 Pacific Street would be charged the heating rates to be approved in the Heating Application.

Knowing that the interim rates currently in place are too low, however, we do not see the first option as viable. This would unnecessarily lead to a large amount to be recovered from ratepayers once permanent rates are approved. Nor do we see the second option as efficient because this would require a new application in approximately 2022, followed by another one in 2023 or 2024 to address the relocation of the TES boiler. Although Creative Energy suggests that it could simply file a "rate adjustment" by way of a compliance filing and an accompanying tariff rate schedule, in fact, a rate change (which is what a rate adjustment amounts to) requires Panel approval, not acceptance through a compliance filing as Creative Energy proposes.

We find that a reasonable solution is a slight modification to the third option, Creative Energy's proposal, to file a single rates application for a test period beginning in 2024 that factors in the cost of service impacts of both the TES Extension and the relocation of the temporary boiler plant. However, instead of recording additional revenues from the TES Extension to the Heating RDDA, **we direct Creative Energy to create a new deferral account (the TES Extension Deferral Account) for the Heating TES, bearing interest at Creative Energy's WACC, to record both the annual revenues at the approved rates and the forecast estimated annual cost of service for the TES Extension**. Therefore, in the intervening period (i.e., until test year 2024), customers of Building 5 would be charged the heating rates as approved in this decision. The disposition of the TES Extension Deferral Account can be addressed when Creative Energy submits a rates application for the Heating TES for the test period commencing 2024.

In our view, this solution achieves the regulatory efficiency that Creative Energy seeks by dealing with the TES Extension and the relocation of the boiler in a single application. We do acknowledge, however, that ratepayers will likely pay higher rates in years 2022 and 2023 than they would have if the TES Extension were incorporated

into rates now, because Creative Energy forecasts that the TES Extension results in a beneficial rate reduction for ratepayers.

The key benefit of this solution is the transparency that accompanies segregating the additional revenue as well as cost of service from the TES Extension in a separate deferral account, instead of the proposed Heating RDDA. This will allow the BCUC to review the forecast estimated cost of service of the Heating TES for prudency as part of the next RRA, because these costs have not yet been reviewed for prudency. This also allows the BCUC to direct, as appropriate, the treatment of the net revenues, for example to return to the Heating RDDA, or be distributed / credited to customers, or be used to help to alleviate rates for the next period.

Accordingly, Creative Energy must refile the Permanent Rate Sheet for the Heating TES to include reference to Building 5 in a compliance filing within 30 days of the TES Extension coming into service. The draft Permanent Rate Sheet refers only to Buildings 1 through 4 and states as its class of service "Thermal energy for the provision of heating and domestic hot water to the four buildings currently served by the TES, … ."[284]

6.2 Who Are the Customers?

Throughout the proceeding we have been confronted with the fact that the customers of the Heating TES and the DCS are not the end users of the thermal energy. Creative Energy states that its customers are the owners of the buildings and the Strata Corporation, and the end users are the occupants of the individual residential or commercial units. The end users are, essentially, customers of Creative Energy's customers. Creative Energy also states that the customers of the Heating TES and Cooling DCS understand the proposed rate design, have accepted it based on the indicative rates presented in the CPCN application, and have not raised any concerns to the BCUC in this proceeding.[285]

The notion of "customer" in this proceeding is distinct from "end user." As we outline below, under the subheading Positions of the Parties, there is a competing view that argues the end user should also be viewed as a customer, in the sense that end users are entitled to expect a rate that is not unjust or unreasonable for safe and reliable service.

In our view, "who are the customers?" is an important discussion in the Applications, primarily because the Developer is the customer to whom the information on the heating and cooling services was communicated, and who committed to the CSAs and retains ownership of three of the four buildings of the development. Because the Developer (and, for that matter, the Strata Corporation) is not the end user, many of the considerations that we test as a regulator are inapplicable. For example, although we evaluate the rate design for its ability to encourage energy conservation (as set out in section 60 of the UCA), this is a "broken connection" because the entity who might conserve energy (the end user) is not privy to the rate design (the customer).

Therefore, we have decided to address this issue, and first we set out Creative Energy's position, followed by the CEC's submissions. We conclude this discussion with our assessment of who are the customers.

[284] Exhibit B-5, PDF p. 34

[285] Creative Energy Final Argument, paragraph 63, p. 14

Creative Energy states that individual building customers may seek to assign utility costs to individual occupants or tenants on a floor-area basis, given that facility managers, building operators, owners or tenants may find that utility costs expressed on a unit-area basis are easier to understand and translate into the fees or charges they are assigned. Any such allocation, however, is outside of the responsibility of Creative Energy.[286] Creative Energy submits that it "has no line of sight into how its charges to the building owner are passed through to end users (tenants, renters, unit owners, etc.) and that "many strata corporations pass their costs through to strata unit owners on the basis of unit entitlement which is often related to the square footage and market value of the unit."[287]

When asked to provide the information that was communicated to prospective unit owners/renters about the costs of heating/cooling, Creative Energy noted that it did not provide any information to prospective unit owners/renters in the Development about the costs of heating and cooling. Certain of the information regarding the nature of heating and cooling services was provided by the Developer to prospective unit owners/renters through property disclosure statements as extracted and copied below from the proceeding into the Heating TES CPCN proceeding.[288]

> It is intended that the Development will be designed to accommodate a connection to a district energy utility (the **"District Energy Utility"**), for the provision of domestic hot water, heating and cooling to the Development by way of community energy plants and systems operated by a utility provider (the **"Utility Provider"**). The Utility Provider may be Creative Energy Vancouver Platforms Inc., a utility regulated by the British Columbia Utilities Commission and an entity that is related to the Developer. A District Energy Utility Charge may be registered on title to the Lands to secure the obligation of the Strata Corporation to connect to the District Energy Utility in the future. If the Development is connected to the District Energy Utility prior to its completion, the Developer will enter into or cause the Nominee to enter into and cause the Strata Corporation to assume or to cause the Strata Corporation to enter into a service agreement (the **"District Energy Utility Service Agreement"**), which may also include the owners of the Rental Parcel, the Remainder Lands and the Granville Lands and the Utility Provider, for the provision of such utilities to Development, the Rental Component, the Commercial Component, the Building 3 Component and the Building 4 Component by the Utility Provider. Rates and service agreements will be regulated by the British Columbia Utilities Commission.

In response to an IR from the CEC asking Creative Energy to discuss the jurisdiction and responsibilities of the BCUC with respect to the costs or fees charged to individual occupants or tenants, Creative Energy replied:

> The BCUC has no jurisdiction or responsibility with respect to the strata fees charged by a strata corporation to strata unit owners. Such fees are governed by the *Strata Property Act*, and the regulations, rules and bylaws thereunder.
>
> If paragraph (d) of the definition of public utility in the *Utilities Commission Act* applies, the BCUC has no jurisdiction or responsibility with respect to a landlord's charges to tenants for energy provided to the rental unit. Also see BCUC Order G-177-18.[289,290]

[286] Exhibit B-1, p. 11

[287] Exhibit B-13, BCUC 37.1.2

[288] Exhibit B-13, BCUC IR 36.3

[289] Exhibit B-3, CEC IR 8.1

[290] BCUC Order G-177-18: A Class Exemption Pursuant to Section 88(3) of the Utilities Commission Act for British Columbia Hydro and Power Customers that Resell Electricity under Certain Lease Arrangements

Positions of the Parties

The CEC disagrees with Creative Energy's characterization of its "customers," in part because the "Owner/Developer" customer that Creative Energy refers to, is its own parent company which potentially stands to benefit in terms of larger dollar value returns based on a higher rate base from its TES.[291] The CEC submits that the Owner/Developer should not be considered as an independent "customer." The CEC notes that the energy is not "used" by the Owner/Developer but is directly passed on to ratepayers as a heating or cooling rate. Last, the CEC submits that the impact of energy rates on the end users should be heavily weighted in the Panel's determinations.[292]

Panel Discussion

This has been an interesting opportunity to examine the tripartite relationship between utility, ratepayer and end user. It is important to remind ourselves, however, that our jurisdiction as regulator extends to the utility and its ratepayers, and not the contractual relationship between ratepayer and end user, where those two are different entities.

As Creative Energy points out, and as BCOAPO acknowledges, Creative Energy has no line of sight into how its customers pass on utility costs to the end users. Creative Energy's customers, the building owners and Strata Corporation, are properly responsible for determining how to recover these costs from end users. For all we know, there could be complex or even convoluted recovery mechanisms in place that purport to balance perceived inequities between the end users. In our view, the allocation of costs from the customer to the end user is beyond the scope of our jurisdiction under the UCA.

6.3 Ownership Structure

Creative Energy is affiliated with the Westbank group of companies (Westbank).[293] Westbank manages a diverse portfolio of businesses and is involved in the utility sector in BC through Creative Energy Canada and its real estate development activities.[294]

Westbank Projects Corp., also affiliated with Westbank, is the owner and developer of the Development.[295] Creative Energy has secured individual connection contracts with the Developer, for all buildings in the Development. Ultimately, Buildings 1, 3, and 4 will be retained by the Developer and as previously mentioned Building 2 will be transferred to the Strata Corporation at the prescribed time.[296]

Creative Energy filed for approval of an Inter-Affiliate Conduct and Transfer Pricing Policy (Policy) in respect of all entities in the Creative Energy group that are subject to regulation by the BCUC as part of its 2021 RRA for the Core Steam System, which is ongoing at the time of this decision.[297] The proposed Policy is only applicable to

[291] CEC Final Argument, paragraphs 16, 17, p. 4
[292] CEC Final Argument, Section B, pp. 4–5
[293] Creative Energy Canada Platforms Corp. Application for Approval to Acquire Central Heat Distribution Limited, Exhibit B-3, BCUC IR 2.1
[294] DCS CPCN proceeding, Exhibit B-1, Section 2.4, p. 7
[295] DCS CPCN proceeding, Exhibit B-1, Section 1, p. 1
[296] Heating TES CPCN proceeding, Exhibit B-1, Executive Summary p. 7
[297] Creative Energy, 2021 RRA for the Core Steam System, Exhibit B-1, Section 1.2, p. 7

Creative Energy Developments LP and BCUC regulated affiliates and does not address other affiliates that are not regulated by the BCUC, including the Developer.[298]

Positions of the Parties

The CEC submits that the Developer and Creative Energy do not operate at arm's length, and therefore there is little incentive for the Developer to exert pressure on Creative Energy to minimize costs.[299] The CEC also states that the Developer potentially stands to benefit in terms of larger dollar value returns based on a higher rate base from its TES.[300]

The CEC acknowledges that heating and cooling rates are likely to be a small aspect of a significantly larger decision for someone to occupy space at the VHD; however, that does not diminish the importance of managing the rates to an appropriate level, and therefore, in its submission, the "relationship between the Owner/Developer and the utility should be considered."

In response, Creative Energy submits the CEC's concerns about Creative Energy's affiliation to Westbank are unwarranted. In addition, Creative Energy notes that since the completion of the corporate reorganization approved by Order C-1-20, Westbank is no longer Creative Energy's parent.[301]

Panel Discussion

Even though it raised the issue in the abstract, the CEC did not identify any concerns with Creative Energy's capital and development costs or the annual revenue requirement. Further, the CEC even recommends approval of the rates as filed. While the Panel accepts that there may be circumstances leading to the issue that the CEC identifies, in fact there is no evidence in this proceeding to support the CEC's concern that the related party relationship between Creative Energy and the Developer has resulted in costs being over-forecast. To the contrary, in our view, any potential for inappropriate conduct arising from a related-party relationship is mitigated by a public hearing process designed to examine the issues, including the costs, and key financial inputs of the rates model for the Heating TES and DCS. In particular, our regulatory process includes an evidentiary phase to:

(i) ensure the capital and development costs are reasonable and any evidence of costs not prudently incurred are appropriately identified; and

(ii) ensure the forecast operating and maintenance costs and their basis for estimation are reasonable with respect to the level of service being provided and relative to other similar thermal energy systems.

In addition, our regulatory process can also include reporting requirements in the post-application phase. Such requirements provide an opportunity to detect trends and are part of the BCUC's regulatory oversight over any regulated entity rather than over their related parties. We address reporting requirements in the next section.

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[298] DCS CPCN proceeding, Section 1.1, p. 1; Creative Energy, 2021 RRA for the Core Steam System proceeding, Exhibit B-4, BCUC IR Series 30.0

[299] CEC Final Argument, Section B, p. 5

[300] CEC Final Argument, Section B, p. 4

[301] Creative Energy Reply Argument, Section 4.3, paragraph 46, p. 9

The Panel recognizes that Buildings 1, 3, and 4 of the VHD are retained by the Developer, a customer and affiliate to Creative Energy and that the apportionment and recovery of costs from the end users within each of the buildings is a decision to be made by the Developer. We also acknowledge that it is the end users of these buildings that ultimately pay for the costs of service of the Heating TES and DCS, and the end users have not been actively involved in this proceeding and thus likely to have limited knowledge of the overall costs, rate design, and rates for the provision of heating and cooling service.

Apart from specific capital costs related to the Heating TES, as identified in Section 2.1.1 of this decision, the Panel has found that the costs are reasonable for the purpose of setting rates.

6.4 Reporting Requirements

In accordance with the requirements for Stream B TES, Creative Energy must submit an Annual Report for the Heating TES and DCS within four months of each fiscal year end. The general annual reporting requirements are set out in BCUC Letters L-36-94 and L-14-95.

Positions of the Parties

The TES Guidelines require Creative Energy to submit an annual report for the Heating TES and DCS within four months of each fiscal year end. In addition to the annual reporting requirements applicable to all Stream B TES, in this section we consider whether there are additional reporting requirements that may assist future reviews.

BCOAPO recommends that we direct Creative Energy to report on the status of the TES boiler relocation.[302] In response, Creative Energy points out that it reports on the status of the TES boiler relocation in accordance with the CPCN reporting requirements, and therefore a direction in this proceeding is unnecessary.[303] We agree with Creative Energy and decline to make such a direction.

BCOAPO also recommends that we direct Creative Energy to file an annual report on the balances of the RDDAs, as well as any unforeseen material variances in the balances in the RDDAs.[304] Creative Energy indicates that it is amenable to such a direction.[305] The Panel agrees that reporting on the balances would be useful to monitor the status of the deferral account balances.

Panel Determination

Reporting on the RDDAs, which is proposed to record annual revenue deficiencies or surpluses resulting from the difference between annual revenue at the approved rates and the forecast annual cost of service will enable tracking of the actual account balance to that forecast in the rates models for the Heating TES and DCS. Any material variance between the forecast and actual balances can be followed-up as part of the Annual Report review process.

[302] BCOAPO Final Argument, Summary, p. 4

[303] Creative Energy Reply Argument, Section 4.1, paragraph 32, p. 7

[304] BCOAPO Final Argument, p. 2

[305] Creative Energy Reply Argument, Section 4.1, paragraph 33, p. 7

Reporting on the Heating RCVDA and Cooling RCVDA, which is proposed to record the allocated difference between the regulatory cost forecast and the final actual costs when so determined, will enable tracking of the balance on an annual basis over the amortization period. The proposed five percent bill mechanism of the RCVDAs does not allow for an amortization period to be set based on number of years, but instead is based on the amount of the variance. Tracking this balance will ensure this amortization method is being appropriately applied over the amortization period.

In addition to reporting on the balances in the deferral accounts, we also consider that a detailed breakdown of the most recent prior period actual and forecast costs will be useful, where the forecast costs are those that were approved in its most recent RRA. Along with this information Creative Energy should discuss variances greater than 10 percent. In our view, this reporting will ensure appropriate regulatory oversight of the forecast amounts included in the rates model, which is of particular importance given the related party relationship between the Owner of Buildings 1, 3 and 4 and Creative Energy, and the risk of over-forecasting or under-spending.

Therefore, in addition to the annual reporting required pursuant to the TES Guidelines, and that required for the Variable Charge as noted earlier in this decision, we direct Creative Energy to report as follows:

1. **The account balance of the RDDAs for each of the Heating TES and the DCS.**
2. **The account balance of the Heating RCVDA, Cooling RCVDA and the TES Extension Deferral Account.**
3. **A detailed breakdown of the most recent prior year period actual and forecast costs.**

7.0 Summary of Directives

This summary is provided for the convenience of readers. In the event of any difference between the directions in this summary and those in the body of the decision, the wording in the decision shall prevail.

#	Directive	Energy System	Page
1.	Therefore, the Panel approves the proposed capital and development costs for the Heating TES to be recovered in rates, apart from the following that are not supported by evidence: 1. $2,615 Legacy Transfer costs from CE Canada which appear to be miscoded to the Development; 2. $27,296 PO706 Legacy Transfer costs for which Creative Energy is unable to provide documented support; and 3. $42,619 of the Road Restoration forecast costs, as the forecast costs are greater than actual. The Panel denies Creative Energy's request to recover the above-mentioned Heating TES capital and development costs, which total $72,530.	Heating TES	16
2.	The Panel finds Creative Energy's proposed capital and development costs for the DCS to be reasonable for a project of this nature and accepts the purchase price of the DCS as being within reason.	DCS	18
3.	Given Order G-227-20, we direct Creative Energy to re-calculate the Heating TES and DCS revenue requirements using the three-factor Massachusetts Formula approved by Order G-227-20 and to file the revised rates models for both systems in a compliance filing within 30 days of this decision.	Heating TES and DCS	26
4.	The Panel approves Creative Energy's proposal to depreciate the capital and development costs for both the Heating TES and DCS on a straight-line basis over 30 years, which is	Heating TES and DCS	26

	equivalent to the contract term of the CSAs for both energy systems.		
5.	The Panel accepts the forecast revenue requirements of the Heating TES and DCS for setting rates for the respective test periods of the energy systems, subject to the directives and determinations in this decision.	Heating TES and DCS	27
6.	We approve a 4 percent cost of debt.	Heating TES and DCS	28
7.	Therefore, the Panel approves the Variable Charge, as proposed for each of the Heating TES and the DCS, and directs that Creative Energy include a calculation of the variable costs on the customers' bill for transparency. In addition, to assist with monitoring the volatility of the Variable Charge the Panel directs Creative Energy to include in its annual reporting to the BCUC: (i) the Variable Charge per MWh for each of the Heating TES and DCS for each of the previous 12 months; and (ii) the actual variable costs charged to each customer for each of the Heating TES and DCS for each of the previous 12 months.	Heating TES and DCS	43
8.	The Panel also approves the Capacity Charge, as proposed for each of the Heating TES and the DCS, subject to the directives and determinations in this decision, in particular in the next section, which deals with the Levelization of the Capacity Charge.	Heating TES and DCS	43
9.	Therefore, the Panel approves Creative Energy's proposed 30-year levelization period for the Capacity Charge for both the Heating TES and the DCS.	Heating TES and DCS	50
10.	We direct Creative Energy to re-calculate the levelized Capacity Charge for the Heating TES and DCS so that the RDDAs are forecast to be drawn down to zero at year 30, and not earlier, and to file the revised rate models and Permanent Rate Sheets for both systems in a compliance filing within 30 days of this decision.	Heating TES and DCS	53
11.	The Panel approves an RDDA for each of the Heating TES and the DCS to record annual revenue deficiencies or surpluses for the Development (excluding the TES Extension) resulting from the difference between the annual revenue at the approved Capacity Charge and the approved annual forecast cost of service, except for fuel costs, for the Heating TES and DCS, respectively. Each RDDA shall remain in effect for the 30-year levelization period. In addition, the Panel directs Creative Energy to file, in a compliance filing within 30 days of this decision, a description of the amount that it plans to accumulate in each RDDA during the respective test period. Such filing should indicate the revenues at the approved revised Capacity Charge, less forecast revenue requirements as revised in this decision.	Heating TES and DCS	57
12.	Accordingly, the Panel approves both the Heating RCVDA and Cooling RCVDA, each bearing interest at Creative Energy's WACD, to record the allocated difference between the forecast regulatory costs and the final actual costs when so determined, each of which is to be amortized over the rate setting period as follows: • The period commencing November 1, 2019, through to December 31, 2023, for the Heating TES; and • The period commencing November 23, 2020 (service commencement), through to December 31, 2025, for the DCS. The Panel accepts Creative Energy's proposal to allocate the variance in regulatory costs for the joint review of the Applications in equal proportion to the Heating RCVDA and Cooling RCVDA.	Heating TES and DCS	60
13.	The Panel directs Creative Energy to revise the Heating CSA approved by Order G-260-19 and the Cooling CSA approved by Order G-225-20 as follows: • Add the standard assignment provision as proposed by Creative Energy in its Evidentiary Update and Cooling Application, respectively; • Remove reference that the terms and conditions, and tariffs are available on the BCUC's website or at the BCUC office, and clearly indicate where Creative Energy will provide access to the tariff pages; • Remove reference to any standard fees and charges that are not applicable; and • Remove section 15.3 of the CSAs as proposed. Creative Energy is directed to file the revised Heating CSA and Cooling CSA in a compliance filing within 30 days of this decision.	Heating TES and DCS	63
14.	we direct Creative Energy to create a new deferral account (the TES Extension Deferral Account) for the Heating TES, bearing interest at Creative Energy's WACC, to record both	Heating TES	67

	the annual revenues at the approved rates and the forecast estimated annual cost of service for the TES Extension.		
15.	Accordingly, Creative Energy must refile the Permanent Rate Sheet for the Heating TES to include reference to Building 5 in a compliance filing within 30 days of the TES Extension coming into service.	Heating TES	67
16.	Therefore, in addition to the annual reporting required pursuant to the TES Guidelines, and that required for the Variable Charge as noted earlier in this decision, we direct Creative Energy to report as follows: 1. The account balance of the RDDAs for each of the Heating TES and the DCS. 2. The account balance of the Heating RCVDA, Cooling RCVDA and the TES Extension Deferral Account. 3. A detailed breakdown of the most recent prior year period actual and forecast costs.	Heating TES and DCS	73

DATED at the City of Vancouver, in the Province of British Columbia, this 22nd day of July 2021.

Original signed by:

T. A. Loski
Panel Chair / Commissioner

Original signed by:

E. B. Lockhart
Commissioner

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ORDER NUMBER
G-222-21

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Creative Energy Vancouver Platforms Inc.
Application for Heating Rates for the Heating Thermal Energy System and Cooling Rates for the District Cooling System at the Vancouver House Development

BEFORE:
T. A. Loski, Panel Chair
E. B. Lockhart, Commissioner

on July 22, 2021

ORDER

WHEREAS:

A. On October 2, 2019, Creative Energy Vancouver Platforms Inc. (Creative Energy) applied to the British Columbia Utilities Commission (BCUC) for the approval of rates on an interim basis, effective November 1, 2019, for its provision of thermal energy heating service under its ownership and operation of the thermal energy system (TES) for heating (Heating TES) at the Vancouver House Development (VHD) in the South Downtown area of Vancouver (Heating Application);

B. By Order C-1-19, dated May 3, 2019, the BCUC recommended that a prudency review of the Heating TES capital expenditures be conducted prior to approving final rates for the VHD. Order C-1-19 also directed Creative Energy to file a final report within six months following the completion of the Heating TES, such report to include a complete breakdown of the final costs, a comparison of these costs to the estimates, and provide an explanation of all material cost variances (Final Cost Report);

C. By Order G-260-19, dated October 28, 2019, the BCUC, among other things, approved Creative Energy's rates for the provision of heating service at the VHD on an interim and refundable basis, effective November 1, 2019;

D. On December 20, 2019, Creative Energy submitted responses to BCUC Information Request (IR) No. 1, and sought approval to summarize its responses on the detailed accounting and verification of the costs of the Heating TES as part of the Final Cost Report when the Heating TES is complete;

E. By Order G-9-20, dated January 16, 2020, the BCUC adjourned the proceeding until July 31, 2020, to allow Creative Energy to provide the Final Cost Report for the BCUC's review and approval of final rates for the Heating TES and directed Creative Energy to concurrently file an evidentiary update containing an

application for multi-year permanent rates. This date was extended to August 31, 2020, at the request of Creative Energy;

F. On August 11, 2020, Creative Energy applied to the BCUC for the approval of rates on an interim and permanent basis, for its provision of cooling service at the VHD, effective the date it completes the transaction to acquire the district cooling system (DCS) and begins providing cooling service as per the terms of the Construction and Purchase Agreement between Creative Energy and Westbank Projects Corp., the owner and developer of the VHD (Developer) (Purchase Agreement) (Cooling Application);

G. On August 27, 2020, Creative Energy filed its evidentiary update and application for permanent rates for the Heating TES at the VHD (Evidentiary Update) requesting permanent approval of heating rates for the period 2020 through 2023, and in accordance with Order C-1-19, filed its Final Cost Report;

H. By Order G-225-20 dated August 31, 2020, the BCUC, among other things, approved Creative Energy's rates for the provision of cooling service at the VHD on an interim and refundable basis, effective on the date Creative Energy begins providing cooling service as per the terms of the Purchase Agreement;

I. By Order G-233-20, dated September 14, 2020, the BCUC determined that the Heating Application and Cooling Application (collectively Applications) are to be heard at the same time and established a preliminary regulatory timetable to review the Heating Application and the Cooling Application (together, Applications);

J. The Commercial Energy Consumers Association of British Columbia and BC Old Age Pensioners' Organization et al. registered as interveners in the proceeding to review the Applications;

K. By letter dated October 7, 2020, the Panel issued Panel IR No. 1 and by Order G-252-20, the BCUC amended the regulatory timetable to accommodate the Panel IRs;

L. By letter dated November 25, 2020, Creative Energy notified the BCUC it completed the transaction to acquire the DCS from the Developer on November 23, 2020;

M. By Order G-4-21, dated January 8, 2021, the BCUC established the remainder of regulatory process for the proceeding including written final and reply arguments;

N. On March 3, 2021, Creative Energy filed a request to the BCUC to amend the regulatory timetable for filing written final and reply arguments and the regulatory timetable was amended by Order G-62-21;

O. By Order C-1-21, dated March 26, 2021, and its accompanying decision, the BCUC granted a CPCN to Creative Energy to extend the Heating TES to provide heating and domestic hot water services to 889 Pacific Street (TES Extension);

P. On April 8, 2021, the BCUC re-opened the evidentiary record to issue Panel IR No. 2 and amended the regulatory timetable to request written supplementary final and reply arguments limited in scope to the matters related to Panel IR No. 2; and

Q. The BCUC has considered the Applications, evidence and submissions of the parties and makes the following determinations.

NOW THEREFORE pursuant to sections 56 and 58 to 61 of the UCA and for the reasons provided in the Decision issued concurrently with this Order, the BCUC orders as follows:

1. Creative Energy is approved to recover for the Heating TES the levelized capacity charge rate design and charges per kilowatt (kW) of design peak heating demand on a permanent basis, effective November 1, 2019, for the VHD as filed in Appendix C to the Evidentiary Update, subject to the directives and determinations outlined in this Order and the Decision issued concurrently.

2. Creative Energy is approved to recover for the DCS the levelized capacity charge rate design and charges per kW of design peak cooling demand on a permanent basis, effective November 23, 2020, for the VHD as filed in Appendix B-2 to the Cooling Application, subject to the directives and determinations outlined in this Order and the Decision issued concurrently.

3. Creative Energy is approved to use the variable charge rate design and the determination of the variable charge for the Heating TES on a permanent basis, effective November 1, 2019, subject to the directives and determinations outlined in this Order and the Decision issued concurrently.

4. Creative Energy is approved to use the variable charge rate design and the determination of the variable charge for the DCS on a permanent basis, effective November 23, 2020, subject to the directives and determinations outlined in this Order and the Decision issued concurrently.

5. Creative Energy is approved to establish a Revenue Deficiency Deferral Account (RDDA) for the Heating TES, bearing interest at Creative Energy's weighted average cost of capital (WACC) to record the annual revenue deficiencies or surpluses resulting from the difference between the annual revenue at the approved Capacity Charge and the approved annual forecast cost of service, except for fuel costs, and the RDDA for the Heating TES shall remain in effect for the 30-year levelization period.

6. Creative Energy is approved to establish a RDDA for the DCS, bearing interest at Creative Energy's WACC to record the annual revenue deficiencies or surpluses resulting from the difference between the annual revenue at the approved Capacity Charge and the approved annual forecast cost of service, except for fuel costs, and the RDDA for the DCS shall remain in effect for the 30-year levelization period.

7. Creative Energy is approved to establish a Regulatory Cost Variance Deferral Account (RCVDA) for the Heating TES, accruing interest at Creative Energy's weighted average cost of debt (WACD), to record the allocated variance between the forecast and actual regulatory costs and to be amortized over the period commencing November 1, 2019, through to December 31, 2023.

8. Creative Energy is approved to establish a RCVDA for the DCS, accruing interest at Creative Energy's WACD, to record the allocated variance between the forecast and actual regulatory costs and to be amortized over the period commencing November 23, 2020, through to December 31, 2025.

9. Creative Energy is directed to establish a new deferral account (the TES Extension Deferral Account) for the Heating TES, bearing interest at Creative Energy's WACC, to record both the annual revenues at the approved rates and the forecast estimated annual cost of service for the TES Extension.

10. Creative Energy is approved to use the terms and conditions for service as provided in the Customer Service Agreement (CSA) for the Heating TES effective, November 1, 2019, and subject to Creative Energy filing the required amendments outlined in Section 5.0 of the Decision issued concurrently with this Order.

11. Creative Energy is approved to use the terms and conditions for service as provided in the CSA for the DCS effective, November 23, 2020, and subject to Creative Energy filing the required amendments outlined in Section 5.0 of the Decision issued concurrently with this Order.

12. Creative Energy is denied recovery of $72,530 of capital and development costs for the Heating TES as outlined in Section 2.1.1 of the Decision issued concurrently with this Order.

13. Creative Energy is approved to depreciate the capital and development costs for the Heating TES on a straight-line basis over 30 years.

14. Creative Energy is approved to depreciate the capital and development costs for the DCS on a straight-line basis over 30 years.

15. Creative Energy is directed to re-calculate its revenue requirements and rates for the provision of heating and cooling service for the respective test periods, subject to the adjustments resulting from the directives and determinations contained in this Order and the Decision issued concurrently and to file the revised rate models and permanent rates sheets with the BCUC for endorsement within 30 days of this Order.

16. Creative Energy is directed to include the following in its Annual Reports for the Heating TES:

    a. The Variable Charge per MWh for each of the previous 12 months, and the actual variable costs charged to each customer for each of the previous 12 months;
    b. The account balance of (i) the RDDA; (ii) the RCVDA ; and (iii) the TES Extension Deferral Account; and
    c. A detailed breakdown of the most recent prior year period actual and forecast costs.

17. Creative Energy is directed to include the following in its Annual Reports for the DCS:

    a. The Variable Charge per MWh for each of the previous 12 months, and the actual variable costs charged to each customer for each of the previous 12 months;
    b. The account balance of (i) the RDDA; and (ii) the RCVDA; and
    c. A detailed breakdown of the most recent prior year period actual and forecast costs.

18. Creative Energy is directed to collect from or refund to customers the difference between the interim and permanent rates for the Heating TES at the average prime rate of Creative Energy's principal bank for its most recent year.

19. Creative Energy is directed to collect from or refund to customers the difference between the interim and permanent rates for the DCS at the average prime rate of Creative Energy's principal bank for its most recent year.

20. Creative Energy must inform all customers of the Heating TES and DCS of the respective permanent rates by way of written notice to be included with their next customer invoices after Creative Energy's compliance filing for each respective system has been accepted by the BCUC.

21. Creative Energy is directed to comply with all other directives and determinations outlined in the Decision issued concurrently with this Order.

DATED at the City of Vancouver, in the Province of British Columbia, this 22nd day of July 2021.

BY ORDER

Original signed by:

T. A. Loski
Commissioner

Glossary of Terms

Acronym	Description
2019-2020 RRA	2019-2020 RRA for the Core Steam System and NEFC Service Areas
AACE	Association for the Advancement of Cost Engineering
AFUDC	Allowance for Funds Used During Construction
Applications	Heating Application and Cooling Application
BC Hydro	British Columbia Hydro and Power Authority
BCOAPO	British Columbia Old Age Pensioner's Association et al.
BCUC	British Columbia Utilities Commission
Building 1	1480 Howe Street (podium)
Building 2	1480 Howe Street (tower)
Building 3	1461 Granville Street
Building 4	1462 Granville Street
Building 5	889 Pacific Street
Capacity Charge	The fixed capacity charge will recover the capital and fixed operating costs of the given energy system.
CCA	Capital cost allowance
CE Canada	Creative Energy Canada Platforms Corp.
CEDLP	Creative Energy Developments Limited Partnership
City	City of Vancouver
Cooling Application	Application for rates for the provision of cooling service at the Development effective the date Creative Energy completes the transaction to acquire the DCS from the owner of the Development and begins providing cooling service as per the terms of the Construction and Purchase Agreement.
Cooling CSA	Terms and conditions for cooling service as set out in the CSA.
Cooing RCVDA	To record the difference between the regulatory cost forecast and the final actual costs for the DCS when so determined.
Cooling RDDA	To record annual revenue deficiencies or surpluses resulting from the difference between forecast annual revenue at the approved rates and the approved annual cost of service for the DCS and to remain in effect until the balance of the account is reduced to zero.
CPCN	Certificate of Public Convenience and Necessity
Creative Energy	Creative Energy Vancouver Platforms Inc.
CSA	Customer Service Agreement
DCS	District Cooling System
DCS CPCN	CPCN for Creative Energy to acquire and operate a TES for cooling, known as the DCS
DES	District energy system
Developer	Westbank Projects Corp.
Development	Vancouver House Development
DHW	Domestic hot water
DPS	Distribution piping system
ETS	Energy transfer station
Evidentiary Update	Evidentiary update and Application for Permanent Rates for the

	Heating TES at the Development
FEI	FortisBC Energy Inc.
Final Cost Report	Final cost report for the Heating TES
GCOC	Generic Cost of Capital
Heating Application	Application for approval of rates, effective November 1, 2019 for its provision of heating service under its ownership and operation of the Heating TES at the Development in South Downtown area of Vancouver.
Heating CSA	Terms and conditions for heating service as set out in the CSA.
Heating RCVDA	To record the difference between the regulatory cost forecast and the final actual costs for the DCS when so determined.
Heating RDDA	To record annual revenue deficiencies or surpluses resulting from the difference between forecast annual revenue at the approved rates and the approved annual cost of service for the Heating TES and to remain in effect until the balance of the account is reduced to zero.
Heating TES	Thermal Energy System for heating
Heating TES CPCN	Creative Energy's Application for a CPCN for a Neighbourhood Energy System in the South Downtown area of Vancouver
IR	Information Request
kW	Kilowatt
KWL	Kerr Wood Leidel Consulting Engineers
MWh	Megawatt hour
NEFC	Northeast False Creek
O&M	Operations and maintenance
Phase 1	Construction phase of the Heating TES to provide construction heating only to Buildings 1 and 2.
Phase 2	Construction phase of the Heating TES to install additional infrastructure and equipment to provide DHW to Buildings 1 and 2 as well as the necessary infrastructure and equipment to provide heating services to Buildings 3 and 4.
PO	Purchase order
Purchase Agreement	Construction and Purchase Agreement between Creative Energy and Westbank Projects Corp.
RCVDA	Regulatory Cost Variance Deferral Account
RDDA	Revenue Deficiency Deferral Account
ROE	Return on equity
SEUL	Shannon Estates Utility Ltd.
Stream A	Exemption issued to Creative Energy on March 3, 2017 to build a Heating TES to serve 1480 Howe Street (Buildings 1 and 2) of the Development, for the duration of construction on the site (Order G-28-17 and accompanying reasons for decision).
Stream A Application	Creative Energy's registration form for a Stream A TES to provide heat for construction purposes only to 1480 Howe Street, in accordance with the TES Guideline requirements, filed January 6, 2017.
TES	Thermal Energy System
TES Extension	Extension of the Heating TES to provide heating and DHW services to Building 5
TES Guidelines	The BCUC's Thermal Energy System Regulatory Framework Guidelines

Test Period for the DCS	Proposed rate setting period of 2020-2025 for the DCS
Test Period for the Heating TES	Proposed rate setting period of 2020-2023 for the Heating TES
The CEC	The Commercial Energy Consumers Association of British Columbia
TRVA	Tax Rate Variance Account
UCA	*Utilities Commission Act*
Variable Charge	The variable charge will recover on a flow-through basis the actual fuel costs for the natural gas and electricity used to operate the Heating TES and the actual electricity and water costs for the DCS.
VHD	Vancouver House Development
WACC	Weighted average cost of capital
WACD	Weighted average cost of debt

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Creative Energy Vancouver Platforms Inc.
Application for Heating Rates for the Thermal Energy System and Cooling Rates for the District Cooling System
at the Vancouver House Development

EXHIBIT LIST

Exhibit No.	Description
COMMISSION DOCUMENTS	
A-1	Letter dated October 22, 2019 – Appointing the Panel for the review of Creative Energy Vancouver Platforms Inc.'s Application for Interim Heating Rates for the Thermal Energy System at the Vancouver House Development
A-2	Letter dated October 28, 2019 – BCUC Order G-260-19 approving heating rates on an interim basis
A-3	Letter dated October 31, 2019 – BCUC Order G-264-19 establishing a regulatory timetable
A-4	Letter dated November 29, 2019 – BCUC Information Request No. 1 to Creative Energy
A-5	Letter dated January 15, 2020 – BCUC Order G-9-20 adjourning the proceeding
A-6	Letter dated July 31, 2020 – BCUC letter regarding Creative Energy extension request
A-7	Letter dated September 14, 2020 – Appointing the Panel for the review of Creative Energy's Application for Interim Cooling Rates for the District Cooling System at the Vancouver House Development
A-8	Letter dated September 14, 2020 – BCUC Order G-225-20 approving cooling rates on an interim basis
A-9	Letter dated September 14, 2020 – BCUC Order G-233-20 establishing a regulatory timetable and Public Notice

A-10	Letter dated October 7, 2020 – Panel Information Request No. 1 to Creative Energy
A-11	Letter dated October 7, 2020 – BCUC Order G-252-20 amending the regulatory timetable
A-12	Letter dated November 17, 2020 – BCUC Information Request No. 2 to Creative Energy
A-13	Letter dated December 15, 2020 – BCUC response to Creative Energy's extension request to file IR No. 2 responses
A-14	Letter dated January 8, 2021 – BCUC Order G-4-21 establishing a further regulatory timetable
A-15	Letter dated January 28, 2021 – BCUC Information Request No. 3 to Creative Energy
A-16	Letter dated March 3, 2021 – BCUC Order G-62-21 establishing an amended regulatory timetable
A-17	Letter dated April 8, 2021 – BCUC Panel Information Request No. 2 to Creative Energy

APPLICANT DOCUMENTS

B-1	**Creative Energy Vancouver Platforms Inc. (Creative Energy)** - Letter dated October 2, 2019 Submitting Application for Interim Heating Rates for the Thermal Energy System at the Vancouver House Development
B-1-1	Letter dated October 23, 2019 – Creative Energy Submitting a Draft Order
B-2	Letter dated December 20, 2019 – Creative Energy Submitting Responses to BCUC Information Request No. 1
B-2-1	**CONFIDENTIAL -** Letter dated December 20, 2019 – Creative Energy Submitting Confidential Response to BCUC Information Request No. 1
B-2-2	Letter dated December 27, 2019 – Creative Energy Submitting Revisions to BCUC IR No.1
B-3	Letter dated January 3, 2020 – Creative Energy Submitting Responses to CEC Information Request No. 1
B-4	Letter dated July 30, 2020 – Creative Energy Submitting Extension Request to file an evidentiary update
B-5	Letter dated August 27, 2020 – Creative Energy Submitting an evidentiary update
B-6	Letter dated August 11, 2020 – Creative Energy Submitting Vancouver House Development District Cooling System (DCS) Rates Application
B-7	Letter dated September 16, 2020 – Creative Energy Submitting confirmation of notification process

B-8	Letter dated September 30, 2020 – Creative Energy Submitting notification in compliance with Order G-225-20
B-9	Letter dated October 21, 2020 – Creative Energy Submitting responses to Panel Information Request No. 1
B-10	Letter dated October 30, 2020 – Creative Energy Submitting Update in compliance with Order G-252-20
B-11	Letter date November 25, 2020 - Creative Energy Submitting tariff page in compliance with Order G-225-20
B-12	Letter dated December 15, 2020 – Creative Energy requesting extension to file responses to Information Request No. 2
B-13	Letter dated December 18, 2020 – Creative Energy Submitting responses to BCUC Information Request No. 2
B-14	Letter dated December 18, 2020 – Creative Energy Submitting responses to CEC Information Request No. 2
B-15	Letter dated December 18, 2020 – Creative Energy Submitting responses to BCOAPO Information Request No. 2
B-16	Letter dated February 22, 2021 – Creative Energy Submitting responses to BCUC Information Request No. 3
B-16-1	Letter dated March 3, 2021 – Creative Energy Submitting errata to responses to BCUC Information Request No. 3 Questions 90.1 and 90.4
B-17	Letter dated February 22, 2021 – Creative Energy Submitting responses to CEC Information Request No. 3
B-18	Letter dated February 22, 2021 – Creative Energy Submitting responses to BCOAPO Information Request No. 3
B-19	Letter dated March 3, 2021 – Creative Energy Submitting proposed amended Regulatory Timetable
B-20	Letter dated April 14, 2021 – Creative Energy response to BCUC Panel Information Request No. 2
B-21	Letter dated April 15, 2021 – Creative Energy Submitting notice regarding supplemental arguments

C1-1	**COMMERCIAL ENERGY CONSUMERS ASSOCIATION OF BRITISH COLUMBIA (CEC)** – Letter dated November 22, 2019 – Request for Intervener Status by Christopher Weafer
C1-2	Letter dated December 13, 2019 – CEC Submitting Information Request No. 1 to Creative Energy
C1-3	Letter dated November 24, 2020 – CEC Submitting Information Request No. 2 to Creative Energy
C1-4	Letter dated January 28, 2021 – CEC Information Request No. 3 to Creative Energy
C2-1	**BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION ET AL. (BCOAPO) -** Letter dated October 16, 2020 Request to Intervene by Leigha Worth & Irina Mis
C2-2	Letter dated November 24, 2020 – BCOAPO Submitting Information Request No. 2 to Creative Energy
C2-3	Letter dated January 28, 2021 – CEC Information Request No. 3 to Creative Energy