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## Creative Energy Vancouver Platforms Inc.

# Application for a Certificate of Public Convenience and Necessity to Acquire and Operate a Thermal Energy System for Cooling at the Vancouver House Development

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## Decision and Order C-2-20

April 1, 2020

Before:

T. A. Loski, Panel Chair  
E. B. Lockhart, Commissioner  
R. I. Mason, Commissioner

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**COMMISSION ORDER C-2-20**

## **1.0 Introduction**

### **1.1 Summary of Application and Approvals Sought**

On August 16, 2019, Creative Energy Vancouver Platforms Inc. (Creative Energy) applied for a Certificate of Public Convenience and Necessity (CPCN) pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA)<sup>1</sup> for the acquisition and operation of a district thermal energy system to provide cooling (District Cooling System or DCS) to the Vancouver House development (Vancouver House) in the south downtown neighbourhood of Vancouver (Project).<sup>2</sup>

### **1.2 Regulatory Process and Participants**

The Panel established a written public hearing for the review of the Application, including two rounds of information requests and written final and reply arguments. Two parties registered as interveners in the proceeding: Commercial Energy Consumers Association of British Columbia (the CEC), and FortisBC Alternative Energy Services Inc. The CEC actively participated in this proceeding. Interested parties, Westbank Projects Corp. and Howe Street Ventures Ltd., submitted a joint letter of comment.

### **1.3 Legislative Framework**

Section 45(1) of the UCA stipulates that a person must not begin the construction or operation of a public utility plant or system, or an extension of either, without first obtaining from the BCUC a certificate that public convenience and necessity requires, or will require, the construction or operation of the plant or system proposed.

The procedure on application is provided in Section 46 of the UCA. Section 46(3) states that the BCUC may issue or refuse to issue a CPCN or may issue a CPCN for the construction or operation of only a part of the proposed facility, line, plant, system or extension, and may attach terms and conditions to the CPCN. Section 46 also stipulates the BCUC's consideration requirements when deciding whether to issue a CPCN.

The BCUC's CPCN Guidelines<sup>3</sup> and Thermal Energy System (TES) Regulatory Framework Guidelines<sup>4</sup> (TES Guidelines) provide general guidance regarding the BCUC's expectation of the information that should be included in a TES CPCN application while providing the flexibility for an application to reflect the specific circumstances of the applicant, the size and nature of the project and the issues raised by the application.

The relevant sections of the UCA are outlined in Section 9.0.

### **1.4 Previous Relevant Decision**

On November 7, 2018, Creative Energy filed a Stream A application with the BCUC to register the DCS, then referred to as the 1480 Howe Street TES, as a Stream A thermal energy system (Stream A Application). Creative Energy requested approval of the Stream A Application on the basis that the DCS met the characteristics of a Stream A thermal energy system as defined by the TES Guidelines. The BCUC's review of Creative Energy's

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<sup>1</sup> *Utilities Commission Act*, R.S.B.C. 1996, c. 473.

<sup>2</sup> Exhibit B-1, Section 1.1, p. 1.

<sup>3</sup> British Columbia Utilities Commission (BCUC) 2015 Certificate of Public Convenience and Necessity (CPCN) Application Guidelines, Final Order G-20-15, dated February 12, 2015.

<sup>4</sup> BCUC Thermal Energy Systems (TES) Framework Revisions to the TES Regulatory Framework, Final Order G-27-15, dated March 2, 2015, Appendix A (TES Guidelines).

Stream A Application found that the DCS failed to meet five of the six Stream A TES Characteristics defined in section 2.3 of the TES Guidelines.

Therefore, on December 21, 2018, by Order G-251-18, the BCUC denied the Stream A Application. As a result, and in accordance with the TES Guidelines, the DCS is deemed a Stream B TES and a CPCN application is required for Creative Energy's proposed acquisition and operation of the DCS.<sup>5</sup>

## **1.5 Decision Framework**

The structure of this Decision largely follows that of the Application and the BCUC's CPCN Guidelines. Relevant evidence submitted by the applicant and interveners is summarized in each section:

- Section 2 provides an outline of the DCS, including the location, Project description, design, construction, and existing agreements between Creative Energy and the Developer;
- Section 3 addresses the Project need and its justification;
- Section 4 discusses the alternative technical solutions and the alternative ownership structures;
- Section 5 outlines the Project costs and indicative rate impacts;
- Sections 6 and 7 of the Decision address consultation, alignment with provincial energy objectives and Creative Energy's internal long-term resource planning, respectively;
- Section 8 discusses three issues identified by the CEC in its final argument: Creative Energy's proposed use of the Massachusetts Formula, load and occupancy risk, and the corporate relationship between Creative Energy and the developer of Vancouver House; and
- Panel determinations are provided in Section 9 of the Decision.

## **2.0 Applicant and Project Description**

Creative Energy is a privately held energy infrastructure business with a focus on district energy system service in urban areas. The company has over 50 years of experience operating a district energy system in downtown Vancouver, and currently serves over 210 customers and accounts through its North East False Creek steam utility.<sup>6</sup> Creative Energy states that its team has extensive experience in the development, design, implementation and maintenance of district thermal energy systems, and the team will support the ownership, operation and regulation of the DCS.<sup>7</sup>

The design and construction of Vancouver House and the DCS are the responsibility of Westbank Projects Corp. (Developer), a party affiliated with Creative Energy.<sup>8</sup> Vancouver House comprises four buildings on three parcels of land.<sup>9</sup> Three of the four buildings are for commercial use, while one is a residential tower. The DCS will provide space cooling to all four buildings, distributed from a centrally located plant room in the residential tower, via short runs of underground pipes.<sup>10</sup> Creative Energy is seeking BCUC approval to acquire and operate the DCS. Creative Energy and the Developer have entered into a Construction and Purchase Agreement

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<sup>5</sup> Creative Energy Vancouver Platforms Inc. (Creative Energy) Stream A Registration for the 1480 Howe Street Cooling Thermal Energy System (TES), Final Order G-251-18, dated December 21, 2018.

<sup>6</sup> Exhibit B-1, Section 2.1, p. 5; Section 2.2, p. 6.

<sup>7</sup> Exhibit B-1, Section 2.1, p. 5; Section 5.2, p. 20.

<sup>8</sup> Exhibit B-1, Section 1.1, p. 1.

<sup>9</sup> *ibid.*, p. 1.

<sup>10</sup> *ibid.*, p. 1.

(Purchase Agreement) whereby Creative Energy has agreed to purchase and operate the completed DCS, subject to receiving CPCN approval.<sup>11</sup>

The Purchase Agreement caps the purchase price for the DCS at the lesser of the Developer's actual construction costs or \$2.2 million plus 15 percent, equating to a total capped purchase price of \$2.53 million.<sup>12</sup> The actual DCS construction costs are in excess of \$2.53 million and the additional costs are borne by the Developer.<sup>13</sup> The Purchase Agreement includes a Contribution Agreement between the two parties, in which Creative Energy agrees to make financial contributions to the Developer in recognition of the benefits associated with Creative Energy's use of the floor space in the Residential Tower<sup>14</sup> that is utilized by the cooling plant.<sup>15</sup>

## 2.1 Vancouver House Location

As noted above, Vancouver House comprises four buildings on three parcels of land in the south downtown neighbourhood of Vancouver:

- Buildings 1 and 2 at 1480 Howe Street;
- Building 3 at 1461 Granville Street; and
- Building 4 at 1462 Granville Street.<sup>16</sup>

Buildings 1, 3 and 4 are for commercial use (Commercial Buildings), while Building 2 is a residential tower (Residential Tower).<sup>17</sup> The total floor area of Vancouver House is 64,598m<sup>2</sup>. Table A provides a breakdown of the DCS floor area and the expected occupancy date for each building.

**Table A: DCS Floor Area and Expected Occupancy<sup>18</sup>**

Building	Floor Area (m <sup>2</sup> )	Expected Occupancy
<b>Building 1 (1480 Howe Street)</b>	11,875	December 2019
<b>Building 2 (1480 Howe Street)</b>	42,860	December 2019
<b>Building 3 (1461 Granville Street)</b>	4,726	April 2020
<b>Building 4 (1462 Granville Street)</b>	5,137	June 2020
<b>Total</b>	64,598	N/A

Figure 1 shows the location of Vancouver House, and the location of the DCS works, including the centralized cooling plant, the energy transfer stations, and the distribution piping network to connect the centralized cooling plant to each building (green dotted line).<sup>19</sup>

<sup>11</sup> *ibid.*, pp. 1-2.

<sup>12</sup> *ibid.*, p. 2.

<sup>13</sup> *ibid.*, p. 2.

<sup>14</sup> Defined as Lot A in the Contribution Agreement and the Purchase Agreement.

<sup>15</sup> Exhibit B-1, Appendix 2, pp. 4, 14; Exhibit B-6, BCUC IR 25.1; Attachment 25.1, p. 1.

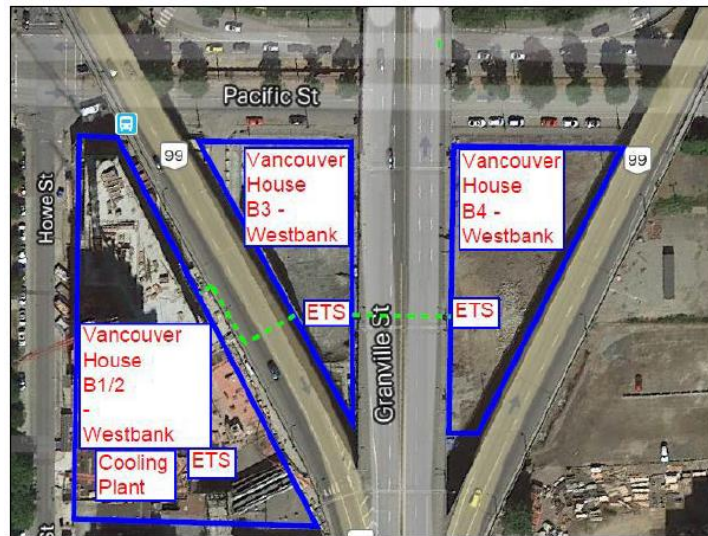
<sup>16</sup> Exhibit B-1, Section 1.1, p. 1.

<sup>17</sup> *ibid.*

<sup>18</sup> Table prepared by BCUC. Exhibit B-1, Section 3.3, p. 10; Exhibit B-8, BCUC IR 5.1.1.1.

<sup>19</sup> Exhibit B-1, Section 1.1, p. 1, Section 3.3, p. 11.

**Figure 1: Map of Vancouver House Development and DCS Works**



## 2.2 District Cooling System Description

Creative Energy states that the main objective of the DCS is to ensure that the selected technology and system meet the cooling demands of Vancouver House cost-effectively. The DCS comprises two 250-ton chillers, one 200-ton chiller, and two 475-ton cooling towers, as well as feed and distribution pumps, a control system, expansion tanks, and electricity input connections. Table B summarizes the key technical information for the DCS.

**Table B: DCS Technical Information<sup>20</sup>**

Category	Capacity
Output capacity for each Chiller (kW)	350 ton: 1231 kW x 2 chillers 200 ton: 703 kW Total: 3,165 kW
Peak supply temperature (°C)	5°C
Max Return temperature (°C)	33.6°C
Max Thermal Efficiency	97.5%
Operating Strategy (e.g. staged implementation)	Staged
Distribution Piping System efficiency	99%

The majority of the DCS equipment, including the chillers, is located in the central plant room on Level P1 of Building 1. Some equipment and infrastructure required to connect the buildings to the central plant room are located outside of the central plant room. This includes the distribution piping, the cooling towers on the roof of Building 1 and the energy transfer stations for Buildings 3 and 4, which are in each of the buildings' mechanical rooms on Levels P3 and P2, respectively.<sup>21</sup>

The DCS operates by circulating chilled water from the central plant through supply piping to the energy transfer stations, where the cool water exchanges heat with the respective building's heat exchangers to provide space cooling. The water is then returned to the central plant room via return piping.<sup>22</sup>

<sup>20</sup> Exhibit B-1, Section 3.3, p. 10.

<sup>21</sup> Exhibit B-1, Section 3.3, p. 10; Exhibit B-6, BCUC IR 4.6, Attachment 4.3, pp. 1-3, Attachment 4.4, p. 1; Exhibit B-8, BCUC IR 3.3.

<sup>22</sup> Exhibit B-1, Section 3.3, p. 10; Exhibit B-8, BCUC IR 3.1, 3.3.

### **2.3 DCS Design and Construction**

The design of Vancouver House drove the design for the DCS and the DCS is a component of the mechanical design specifications for Vancouver House. Integral Group is the Mechanical Engineer of Record for Vancouver House and Integral Group was also retained by the Developer to design the DCS. At the instruction of Creative Energy, Kerr Wood Leidel conducted a third-party review of the design and costs of the DCS.<sup>23</sup>

The Developer is responsible for the design and construction of the DCS as part of the construction of the entire Vancouver House. Creative Energy explains that the construction of the DCS is substantially complete and the three chillers in the cooling plant have been commissioned. Remaining work includes the piping and energy transfer stations at Buildings 3 and 4, which are anticipated to be completed by March 2020.<sup>24</sup>

### **2.4 Construction and Purchase Agreement**

On February 12, 2016, Creative Energy and the Developer<sup>25</sup> entered into a Purchase Agreement, whereby Creative Energy has agreed to purchase the completed DCS and operate the DCS as a utility to provide cooling services to Vancouver House.<sup>26</sup>

Creative Energy states that its obligation to purchase the DCS under the Purchase Agreement is contingent on Creative Energy receiving CPCN approval from the BCUC. After receiving approval, Creative Energy will purchase the DCS upon substantial completion of construction, and prior to occupancy. Creative Energy will assume the entirety of the DCS assets on an unencumbered basis, at which point Creative Energy will operate the DCS as a public utility to provide cooling services to the four buildings.<sup>27</sup>

The Purchase Agreement is discussed in more detail in Section 5.1 of these reasons for decision.

### **2.5 Contribution Agreement**

The Purchase Agreement includes a requirement that following its execution the parties to the agreement enter into a Contribution Agreement. The Contribution Agreement was executed on February 12, 2016 and pursuant to its terms, Creative Energy agrees to make financial contributions to the Developer in recognition of the benefits associated with Creative Energy's use of the floor space in the Residential Tower<sup>28</sup> that is utilized by the cooling plant.<sup>29</sup>

Creative Energy submits that the Contribution Agreement should not be conflated with any requirement to compensate the Developer for any construction costs above the agreed purchase price.<sup>30</sup> The costs resulting from the Contribution Agreement are discussed in Section 5.3 of these reasons for decision.

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<sup>23</sup> Exhibit B-1, Section 3.1, p. 8, Section 3.2, p. 9; Exhibit B-7, CEC IR 1.2.

<sup>24</sup> Exhibit B-1, Section 1.1, p. 1; Exhibit B-6, BCUC IR 3.1.

<sup>25</sup> The Purchase Agreement is between Howe Street Ventures Ltd. and Howe Street Property Inc., subsidiaries of the Developer and collectively the "Owner", and Creative Energy.

<sup>26</sup> Exhibit B-1, Section 1.1, p. 1; Appendix 2.

<sup>27</sup> Exhibit B-1, Section 1.1, pp. 1-2, Section 3.1, p. 8; Appendix 2.

<sup>28</sup> Defined as Lot A in the Contribution Agreement and the Purchase Agreement.

<sup>29</sup> Exhibit B-1, Appendix 2, pp. 4, 14; Exhibit B-6, BCUC IR 25.1; Attachment 25.1, p. 1.

<sup>30</sup> Exhibit B-6, BCUC IR 25.1.



### 3.0 Project Need and Justification

Vancouver House requires space cooling for occupancy, for both residential and commercial use and without an operational DCS, occupants of buildings would be without space cooling. Creative Energy submits that Vancouver House requires cooling for livability and comfort and therefore “the need for the [P]roject is clear.”<sup>31</sup>

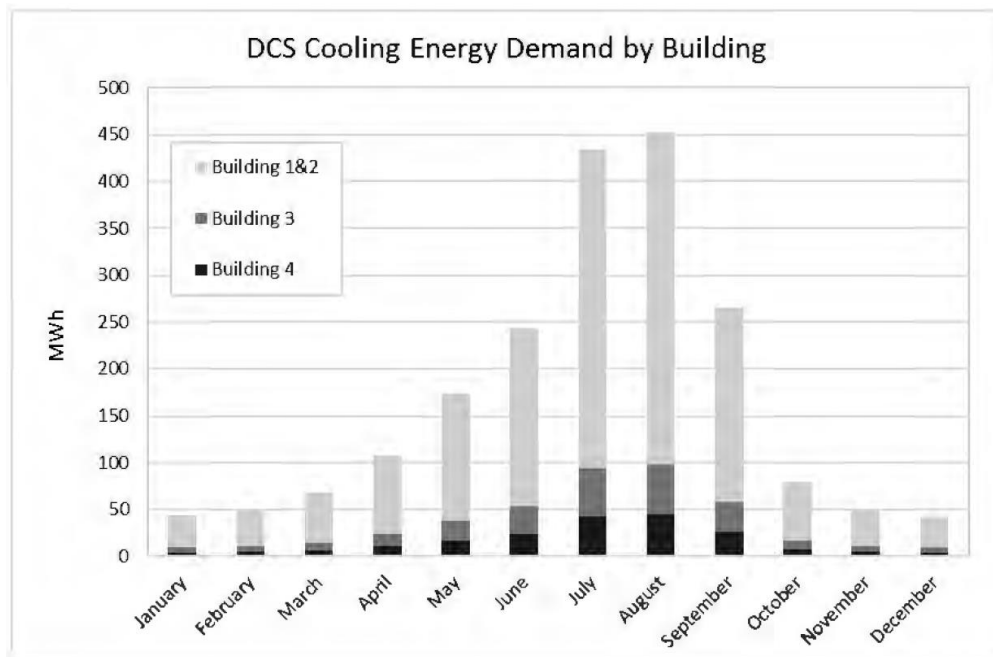
The forecast peak cooling and annual cooling for Vancouver House are provided by Integral Group and are based on the outputs of an Hourly Analysis Program that calculates the cooling loads for each individual building using weather data for the local region. The table below from the Application provides the forecast peak cooling and annual cooling for Vancouver House.

**Table C: Peak Cooling and Annual Cooling for the Vancouver House Development<sup>32</sup>**

Building	Floor Area (m <sup>2</sup> )	Peak cooling (kW)	Annual cooling (MWh)
Building 1 (1480 Howe Street)	11,875	322	274
Building 2 (1480 Howe Street)	42,860	1,457	1,300
Building 3 (1461 Granville Street)	4,726	370	237
Building 4 (1462 Granville Street)	5,137	340	199
<b>Total</b>	<b>64,598</b>	<b>2,489</b>	<b>2,010</b>

The monthly cooling demand of each building is provided in Figure 2 below.

**Figure 2: DCS Cooling Energy Demand by Building<sup>33</sup>**



<sup>31</sup> Exhibit B-1, Section 3.2, p. 9.

<sup>32</sup> *ibid.*, Section 3.3, p.12.

<sup>33</sup> Exhibit B-7, CEC IR 7.3.

Creative Energy states that the individual building peak load requirements do not account for distribution losses associated with system efficiency in the transmission of energy from the cooling plant through the pipe network. Further, an estimate of diversified peak demand on the central plant must also account for diversity between the individual buildings.<sup>34</sup> Creative Energy explains that the diversity factor, a factor which is used to size the capacity of a system, is different for every system, as it is impacted by the nature and timing of tenant occupancy, HVAC control systems configuration, solar shading, air leakage and a number of other minor factors.<sup>35</sup>

Creative Energy states that the overall system efficiency is estimated at 97 percent and the diversity factor is estimated at 95 percent.<sup>36</sup> Table D provides the load and generation requirements for the DCS, indicating that the peak demand production requirement of the DCS is 2,438 kW.<sup>37</sup>

**Table D: DCS Load and Generation Requirements<sup>38</sup>**

Load and Generation Requirements	Peak Demand (kW) Total	Annual Energy (MWh) Total
<b>1. Total load requirement</b>	2,489	2,010
<b>2. Production requirement (97% efficiency)</b>	2,566	2,015
<b>3. Net Production requirement (95% building diversity factor)</b>	2,438	n/a

Creative Energy states that the total peak capacity of the central plant is 3,165 kW, and this is reflective of the necessary, and lumpy, capacity investments required to meet net production requirements.<sup>39</sup> The DCS's 3,165 kW peak capacity exceeds the estimated diversified peak cooling requirement of 2,438 kW, ensuring that the DCS can meet the expected load requirements.<sup>40</sup>

Creative Energy submits that the design of the DCS has been properly sized to meet the load requirements, with recognition of the lumpy nature of the investment in the central plant chillers.<sup>41</sup> The spare capacity will allow the DCS to meet 80 percent of peak demand if the largest chiller unit was not operational.<sup>42</sup>

### *Panel Discussion*

The Panel is satisfied with the need for the supply of cooling to Vancouver House. The Panel notes that the Developer designed the buildings on the assumption that cooling service will be provided and that without an operational cooling system, commercial and residential occupants of Vancouver House would be without space cooling.

<sup>34</sup> Exhibit B-1, Section 3.3, p. 13.

<sup>35</sup> *ibid.*

<sup>36</sup> *ibid.*

<sup>37</sup> *ibid.*

<sup>38</sup> Table by BCUC. Exhibit B-1, Section 3.3, p. 13.

<sup>39</sup> Exhibit B-1, Section 3.3, p. 14.

<sup>40</sup> *ibid.*, Section 5.3, p. 20.

<sup>41</sup> *ibid.*, p. 20.

<sup>42</sup> *ibid.*, Section 3.3, p. 14.

## 4.0 Description and Evaluation of Alternatives

This section discusses alternatives to the Project as well as alternative ownership and operations options, followed by the Panel Discussion.

### 4.1 Project Alternatives

Creative Energy submits that on the Developer's prerogative, the design and construction of the four buildings can only accommodate the DCS. The only option otherwise is for each building to have its own individual cooling plant.<sup>43</sup>

Creative Energy explains that although a cooling plant in each building would eliminate the distribution piping connection between the four buildings, this would require a significantly larger footprint in each of the Commercial Buildings to house the additional equipment. This would include cooling towers in each building and additional capital would be needed for pumping systems, controls, and additional cooling plant equipment. Creative Energy notes that as the buildings have already been constructed there is insufficient space for each building to have its own equipment.<sup>44</sup>

In addition, Creative Energy notes that the cost of operating and maintaining four separate systems as opposed to one DCS would be higher overall, both from an operating efficiency perspective, and due to the cost of additional operators.<sup>45</sup>

In summary, Creative Energy states that the Developer's design of the Vancouver House drove the need and design for the DCS, and therefore there are no practical alternatives.<sup>46</sup>

### 4.2 Ownership and Operation Alternatives

Acknowledging that all four buildings in Vancouver House have been built and the construction of the DCS is substantially complete, the Application discusses alternative ownership and operation options for the DCS.<sup>47</sup>

One alternative would have the Developer own and operate the DCS, for example, if the Application is not approved. In that case, Creative Energy states that the Developer would continue to own and operate the DCS. As a result of providing service to the Residential Tower, the Developer would become a public utility under the UCA.<sup>48</sup> This would require the Developer to apply for a CPCN for operation of the DCS and potentially it would need to reorganize to separate the utility business from the non-utility business at Vancouver House.<sup>49</sup> Creative Energy submits that this would result in:

- higher customer costs, in particular to the residential strata, based in part on the higher actual costs of construction, compared to the total capped purchase price of \$2.53 million;<sup>50</sup>
- an increase in overall transaction and regulatory costs to support and acquire the knowledge and expertise to operate the DCS; and

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<sup>43</sup> Exhibit B-1, Section 3.2, p.9.

<sup>44</sup> *ibid.*, p. 9.

<sup>45</sup> *ibid.*, p. 9.

<sup>46</sup> *ibid.*, p. 9.

<sup>47</sup> Exhibit B-7, BCUC IR 27.1.

<sup>48</sup> Creative Energy Final Argument, paragraph 13, p. 3.

<sup>49</sup> Exhibit B-1, Section 3.1, p. 9.

<sup>50</sup> Exhibit B-1, Section 1.1, p. 2; Creative Energy Final Argument, paragraph 39, p. 9.

- diminishing regulatory efficiency overall,
- none of which would support the public interest.<sup>51</sup>

Creative Energy submits that its purchase and operation of the DCS will provide better separation between the ownership of the regulated DCS from the unregulated Vancouver House entity.<sup>52</sup> This will simplify the ownership, regulatory, managerial, and administrative aspects of the DCS, facilitating reporting to the BCUC and increasing regulatory efficiency.<sup>53</sup> Creative Energy submits that these benefits will be leveraged further through its operation of a separate thermal energy system that provides heating to Vancouver House.<sup>54</sup>

Creative Energy has not quantified the operational benefits, improved regulatory efficiency and lower transaction costs resulting from its acquisition and operation of the DCS. However, Creative Energy is of the view that these benefits are “highly probable and material.”<sup>55</sup>

Creative Energy illustrates the relative beneficial impact on indicative customer rates associated with its acquisition and operation of the DCS in Table E. This is compared against the alternative where the Developer establishes itself as a public utility and seeks full recovery of the cost to construct and operate the DCS. Table F provides a qualitative risk assessment comparing the two ownership and operation alternatives.

**Table E: Comparison of the Revenue Requirements and Rates Based on: (i) Creative Energy Owns and Operates the DCS; and (ii) the Developer Owns and Operates the DCS<sup>56</sup>**

	Creative Energy Owns and Operates	Developer Owns and Operates
Project Cost	2,576,532	3,025,215
m2	64,598	64,598
Customer Demand MWh	2,010	2,010
Return on Equity	102,344	120,166
Interest	59,289	69,614
Depreciation	85,926	100,890
Income Tax	0	0
Maintenance	30,857	30,857
Operator Cost	20,400	20,400
Insurance	4,490	4,490
Municipal Access Fee	5,449	0
Lease Payments	32,640	32,640
Administration	25,500	25,500
Fixed Revenue - 2020	366,895	404,557
Electricity Cost (Note 2)	69,020	69,020
Variable Revenue - 2020	69,020	69,020
Total Cost of Service - 2020	435,915	473,577
All-in \$/m2 cost of service – 2020	\$6.75	\$7.33
All-in \$/MWh cost of service – 2020	\$216.87	\$235.61

<sup>51</sup> Exhibit B-6, BCUC 1.2; Creative Energy Final Argument, paragraph 39, p. 9.

<sup>52</sup> Exhibit B-1, Section 3.1, p. 8.

<sup>53</sup> *ibid.*

<sup>54</sup> *ibid.*; Creative Energy was granted a CPCN to construct and operate a thermal energy system providing heating to the Development by Order C-1-19, dated May 3, 2019.

<sup>55</sup> Exhibit B-6, BCUC IR 1.3.

<sup>56</sup> Exhibit B-6, BCUC IR 1.3; Exhibit B-8, BCUC IR 1.1.

**Table F: Comparison of Risks Based on: (i) Creative Energy Owns and Operates the DCS; and (ii) the Developer Owns and Operates the DCS** <sup>57</sup>

Risk	Creative Energy Owns and operates	Developer Owns and operates
Operational and Reliability Risk	<p>Low</p> <ul style="list-style-type: none"> <li>• Extensive experience operating and maintaining thermal energy systems.</li> <li>• Leverage management of Heating TES operations</li> <li>• Reliable technology</li> </ul>	<p>Low</p> <ul style="list-style-type: none"> <li>• Assume contract out for suitable operations experience; but likely higher cost, less efficient management</li> <li>• Reliable technology</li> </ul>
Regulatory Compliance and Efficiency Risk	<p>Low</p> <ul style="list-style-type: none"> <li>• Extensive experience and institutional knowledge of applicable processes and legislation</li> </ul>	<p>High</p> <ul style="list-style-type: none"> <li>• Limited experience and institutional knowledge</li> <li>• Relative inefficiency in supporting processes</li> </ul>
Transaction Costs/Risks	<p>Low</p> <ul style="list-style-type: none"> <li>• Resources and supporting organizational structure in place</li> </ul>	<p>High</p> <ul style="list-style-type: none"> <li>• Resources and supporting organizational structure not in place</li> <li>• Additional contracting for required services and administrative complexity</li> </ul>

Creative Energy submits that its acquisition and operation of the DCS is both a lower cost and lower risk option compared to the alternative where the Developer owns and operates the DCS.<sup>58</sup>

### *Position of the Parties*

Creative Energy states that the issue arising from the Application is not whether it is necessary and in the public convenience for the DCS to be built, or whether there are feasible alternatives to the DCS. Rather, Creative Energy submits that the question is whether the public interest is better served by Creative Energy acquiring and operating the DCS as compared to the operation of the DCS by the Developer, which has no experience as a regulated public utility. Creative Energy argues that the question of whether the proposed acquisition and operation of the DCS by Creative Energy is necessary and in the public convenience requires the BCUC to decide, in the public interest, the need and desirability of the proposed action.<sup>59</sup>

The CEC disagrees. The CEC submits that it is incorrect to frame the public interest test in this instance as an either/or situation relative to the utility owner. Such options are at best a small consideration among those the BCUC should contemplate.<sup>60</sup> The CEC states that “the BCUC should review the Application with all the considerations of the public interest normally evaluated in a CPCN,”<sup>61</sup> including the appropriateness of the purchase price, the capability of the plant, the likely rates, the impact on ratepayers for the DCS and larger utility, the alignment with government principles, key risks, and overall cost-effectiveness.<sup>62</sup>

In reply, Creative Energy states that it “does not argue that items such as ‘the appropriateness of the purchase price, the capability of the plant, the likely rates, the impact on ratepayers for the DCS and larger utility, the alignment with government principles, key risks, overall cost-effectiveness, etc.’ are not relevant to the

<sup>57</sup> Exhibit B-6, BCUC IR 1.3; Exhibit B-8, BCUC IR 1.1.

<sup>58</sup> Exhibit B-6, BCUC IR 1.3.

<sup>59</sup> Creative Energy Final Argument, paragraph 16, p. 3.

<sup>60</sup> CEC Final Argument, paragraph 14, p. 3.

<sup>61</sup> *ibid.*, paragraph 16, p. 3.

<sup>62</sup> *ibid.*, paragraph 17, p. 3.

Commission's consideration of this Application.” Rather, Creative Energy submits that for the majority of such considerations, the costs, benefits and risks are the same whether Creative Energy or the Developer owns and operates the DCS. For those items where the cost, benefits and risks differ, if Creative Energy versus the Developer owns and operates the DCS, “in each case the public interest is better served by Creative Energy owning and operating the DCS.”<sup>63</sup>

### *Panel Discussion*

With respect to the Project alternatives presented by Creative Energy, the Panel notes that Vancouver House buildings were designed with the DCS to be included in the Residential Tower. The Panel also notes that the buildings have no other source for cooling, as the development was built with this system in mind. The Panel is persuaded by Creative Energy’s evidence that there is not sufficient space in each of the Commercial Buildings to install separate cooling systems. Accordingly, the Panel is satisfied that the DCS is the only reasonable alternative for cooling service at Vancouver House.

Regarding the ownership option, the Panel views that all considerations of the public interest should be considered in evaluating the Application. The Panel considers that under any ownership structure, the DCS owner/operator is a public utility within the meaning of the UCA. The Panel is persuaded by Creative Energy’s evidence that under its ownership, versus the Developer’s ownership, it is the lower cost and risk option. Accordingly, the Panel is satisfied that the public interest is better served by Creative Energy owning and operating the DCS than by the Developer owning and operating it.

In Section 9.0 of these reasons for decision, the Panel addresses Creative Energy’s claim that the question before the BCUC is whether the public interest is better served by Creative Energy acquiring and operating the DCS as compared to the operation of the DCS by the Developer.

That said, the Panel is concerned about the manner in which this Application came about. The Developer of Vancouver House and Creative Energy, two affiliated parties,<sup>64</sup> executed the Purchase Agreement whereby the Developer would construct the DCS assets and Creative Energy would purchase the DCS assets from the Developer. The Purchase Agreement was executed in anticipation of construction starting and was effective February 12, 2016.

Creative Energy itself, a public utility, would not have been permitted, under section 45 of the UCA, to start construction of the DCS assets without the authorization of the BCUC. Instead, the Developer, which appears not to be a public utility, constructed the DCS assets without the knowledge or authorization of the BCUC.

Creative Energy knew prior to the construction of the DCS starting that it intended to acquire the DCS assets, and that the DCS would therefore be regulated public utility assets. And yet, Creative Energy did not make its initial application for approval of the DCS until November 7, 2018, almost three years after executing the Purchase Agreement. Further, despite being “an experienced operator of district thermal energy systems,”<sup>65</sup> Creative Energy made its initial application for the DCS to be registered as a Stream A TES, which was denied by the BCUC as it failed to meet five of the six criteria for a Stream A TES. This subsequent Application as a Stream B TES was not submitted until August 16, 2019, three and a half years after Creative Energy executed the Purchase Agreement.

By the time the Panel received this Application, the DCS assets had been constructed, and Vancouver House was nearing completion in a form which virtually required DCS to be the solution. The analysis of alternatives for the DCS, such as different technologies, is almost completely meaningless as a result. The Panel urges that Creative Energy in future submits its applications to allow for a meaningful assessment of alternatives, and that it does

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<sup>63</sup> Creative Energy Reply Argument, paragraph 7, p. 2.

<sup>64</sup> Exhibit B-1, Section 1.1, p. 1.

<sup>65</sup> *ibid.*, p. 2.

not knowingly allow related parties who do not appear to be public utilities to start construction of assets that Creative Energy intends to acquire later as regulated public utility assets.

## **5.0 Project Costs**

Direct Project costs include the capital and development costs through to Project completion. These direct Project costs, as well as the fuel and non-fuel operating costs, are factored into Creative Energy's proposed annual indicative revenue requirement, indicative rates and rate design. This section will discuss capital and development costs, operating costs, and indicative revenue requirements and rates. The Panel's discussion on each of these Project cost elements is at the end of this section.

### **5.1 Capital and Development Costs**

As previously stated, Creative Energy and the Developer entered into a Purchase Agreement whereby the Developer builds the DCS as part of the construction of Vancouver House. The Purchase Agreement establishes the purchase price at the actual construction costs paid by the Developer, up to a maximum of \$2.53 million. Creative Energy states the purchase price and contractual cap was based on the Developer's forecast cost to construct the DCS. Creative Energy asserts that any risk surrounding the cost estimate was wholly mitigated by the contractual mechanism to cap construction costs, and that this mechanism aligns Creative Energy's actual purchase price with the price if Creative Energy were to construct the DCS directly.<sup>66</sup>

The Developer estimates total construction costs of the DCS to be \$2.98 million and, in accordance with the Purchase Agreement, assumes the risk of any construction costs exceeding the purchase price. As an end user of the DCS, Creative Energy submits that the Developer has an incentive to manage construction costs and avoid overruns. Creative Energy is not required to compensate the Developer for any construction costs above the agreed purchase price, and Creative Energy does not expect to receive any contributions, grants, or other funding for the acquisition and operation of the DCS. It is the purchase price to acquire the DCS that is the capital cost factored into the determination of overall revenue requirements and customer rates.<sup>67</sup>

In addition to the purchase price, Creative Energy plans to similarly capitalize development costs, which include costs associated with: (a) the peer review of system design completed by Kerr Wood Leidel; (b) the civil works to support connection of the DCS between Buildings 2 and 3; and (c) internal management and legal services to commission the DCS and obtain the necessary regulatory approvals. The estimated development costs to determine overall revenue requirements and rates are summarized in Table G below. Creative Energy will file an updated report of actual and budgeted costs to commission the DCS, and the costs to obtain the necessary regulatory approvals, as part of its final rates application for the DCS.<sup>68</sup>

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<sup>66</sup> Exhibit B-1; Section 1.1, p. 1; Exhibit B-1, Section 3.1, p. 8; Exhibit B-8, BCUC IR 8.1.

<sup>67</sup> Exhibit B-1, Section 3.1, p. 8; Exhibit B-6, BCUC IR 1.1, 6.7.

<sup>68</sup> Exhibit B-6, BCUC IR 6.1.1; Exhibit B-7, CEC IR 10.3.



**Table G: Estimated Development Costs (through regulatory approvals)** <sup>69</sup>

Component	Estimated Budget (through regulatory approvals)
Peer Review	\$20,000
Legal	\$20,000
Internal Management	\$50,000
Civil Works	\$15,000
Total	\$105,000

## 5.2 Operating Costs

Operation of the DCS will require both fuel and non-fuel related operating costs. The DCS will utilize only electricity, as a fuel source, to run the central plant equipment and Creative Energy will be served under BC Hydro's Medium General Service rates.<sup>70</sup> The annual electricity costs at Project completion are estimated to be \$58,488.

Non-fuel operating costs include maintenance, operator, insurance and administrative costs, together with lease payments and municipal access fees in lieu of property taxes. The total annual non-fuel operating costs at Project completion in 2020, are estimated to be \$118,044.<sup>71</sup> The basis of some of the non-fuel operating costs estimates is briefly described below:

- Creative Energy estimates annual maintenance costs at one percent of the Developer's total cost to complete, thereby tying the costs to the value of assets in service as opposed to the lower cost to purchase the asset.<sup>72</sup>
- Operator costs assume the DCS requires a part-time operator estimated at 20 percent of a full-time equivalent employee.<sup>73</sup> Insurance costs include owner's insurance and general liability insurance. Consistent with similar projects, Creative Energy tied the insurance estimates to the Developer's cost to construct.<sup>74</sup>
- Administrative costs are allocated between Creative Energy's Core Steam system and its other regulated Vancouver projects.<sup>75</sup> The allocation methodology is discussed in Section 8.1 of these reasons for decision.
- The lease payments are established in the Contribution Agreement, which Creative Energy explains is effectively a lease agreement for the required building floor space in the Residential Tower for the cooling plant.<sup>76</sup> The Contribution Agreement requires Creative Energy to pay \$20 per square foot for the building floor space, escalated annually at inflation. The cooling plant will occupy a space of approximately 1,600 square feet, resulting in an annual estimated cost of \$32,000.<sup>77</sup>

<sup>69</sup> Table prepared by BCUC. Exhibit B-7, CEC IR 10.3.

<sup>70</sup> Exhibit B-1, Section 4.2, p. 16.

<sup>71</sup> Exhibit B-1, Sections 4.2, 4.3, Table 9, pp. 16-17.

<sup>72</sup> Exhibit B-6, BCUC IR 11.2.

<sup>73</sup> *ibid.*, BCUC IR 19.4.

<sup>74</sup> *ibid.*, BCUC IR 12.1.

<sup>75</sup> Exhibit B-7, CEC IR 4.1.2.

<sup>76</sup> Exhibit B-6, BCUC IR 14.1.

<sup>77</sup> Exhibit B-6, BCUC IR 25.1; Attachment 25.1, Section 4 p. 2, Section 6, p. 2.



Creative Energy explains that except for electricity costs and municipal access fees, all operating costs will be based on actual figures, forecasted at inflation. The Municipal Access Fee is payable to the City of Vancouver and is based on total Project revenues. Electricity costs will be charged on an actual as incurred basis, therefore no escalation factors will be applied, other than those arising from changes to the cost incurred by Creative Energy.<sup>78</sup>

The estimated cost of each operating cost component is summarized in Table H below.

**Table H: Estimated Annual Operating Costs at Project Completion - 2020<sup>79</sup>**

<b>Component</b>	<b>Estimated Cost at Project Completion</b>
<b>Electricity</b>	\$58,488
<b>Maintenance</b>	\$29,897
<b>Operator</b>	\$20,400
<b>Insurance</b>	\$4,200
<b>Administration</b>	\$25,500
<b>Lease Payments</b>	\$32,640
<b>Municipal Access Fees</b>	\$5,407

### **5.3 Indicative Revenue Requirements and Rates**

Creative Energy is not seeking approval of revenue requirements and customer rates for the DCS as part of this Application. Creative Energy states that any proposed rates and supporting revenue requirements for the DCS will be the subject of a future rates application. The revenue requirements and rates included in the Application are based on current estimates and Creative Energy submits that they are “reasonably indicative of the expected cost of service of the DCS and the required rates for cost of recovery over time.”<sup>80</sup>

The indicative annual revenue requirement at Project completion will include the purchase price, capitalized development costs, and both fuel and non-fuel operating costs. Creative Energy plans to implement a two-part rate structure consisting of a variable and fixed charge to recover the cost of service from customers. Creative Energy explains that the variable charge would recover fuel costs whereas the fixed charge would recover the remainder of the annual revenue requirement and would be charged per square meter of connected floor area. As part of the Application, Creative Energy illustrated a levelized rate structure for the fixed charge as it submitted this structure would “support stable, predictable and competitive rates”.<sup>81</sup>

Creative Energy maintains that overall, compared to customer rates that would be based on the Developer’s cost of service to construct and operate the DCS, customer rates are expected to be lower based on Creative Energy’s lower cost of service to purchase and operate the DCS.<sup>82</sup>

<sup>78</sup> Exhibit B-8, BCUC IR 27.1.

<sup>79</sup> Table prepared by BCUC. Exhibit B-1, Section 4.2, Table 8, p. 16; Section 4.3, Table 9, pp. 16-17.

<sup>80</sup> Exhibit B-1, Section 4, p. 15.

<sup>81</sup> *ibid.*, Section 4.5, p. 18.

<sup>82</sup> Exhibit B-6, BCUC IR 8.1, 8.3.

## *Position of the Parties*

The CEC submits that the absence of competitive forces and the presence of a large captive ratepayer base create a significant potential for cost-effectiveness to be diminished and consequently impose unnecessary costs on ratepayers. The CEC notes that due to the large number of customers in utilities, even small increments of increased rates that are beneficial to the utility and/or its owner can add up to result in significant benefits to the utility and/or its owner. The CEC submits that these matters should be “carefully scrutinized”<sup>83</sup> by the Panel. Notwithstanding these points, the CEC accepts the purchase price as likely being within reason and has no objection to Creative Energy’s acquisition of the DCS based on the purchase price.<sup>84</sup>

The CEC states that it has reviewed the evidence supporting the costs included in the indicative annual revenue requirement, including direct costs, allocated costs, interest costs, and depreciation, etc., and it has not identified any significant issues.<sup>85</sup> The CEC submits that the “indicative annual revenue requirement is acceptable.”<sup>86</sup> The CEC is “generally satisfied with the costs and the indicative rates and rate design proposed by Creative Energy, and does not object to final rates being approved at a later date.”<sup>87</sup>

## *Panel Discussion*

Although Creative Energy is not seeking approval of the indicative revenue requirements or customer rates, the Panel is satisfied that the estimated capital costs and operating costs are reasonable for a project of this nature. The Panel’s review of the evidence did not reveal any reason to question the accuracy of Creative Energy’s indicative revenue requirements and rates analysis. The Panel notes that the CEC finds the indicative revenue requirement acceptable and is generally satisfied with the indicative rates. The Panel considers the indicative revenue requirements and rates to be reasonable in light of the Project size and scope and the need for the Project. Although the Panel finds the indicative revenue requirements and rates to be reasonable for the purposes of the Application, the approval of the revenue requirements and customer rates will be subject to review and approval by the BCUC in a future proceeding.

## **6.0 Consultation**

### **6.1 Consultation with First Nations**

Creative Energy states that the development of the DCS did not impose a duty to consult First Nations, because apart from the distribution pipework that crosses two City of Vancouver streets, all of the DCS infrastructure is located on titled land.<sup>88</sup>

No interveners addressed First Nations consultation in final argument.

### **6.2 Public Consultation**

Creative Energy explains that the small-scale DCS system is meant to serve one customer, eventually two, once the Strata Corporation for the Residential Tower is established. Therefore, no wider consultation process was necessary, and since the DCS was designed by the Developer there were “no alternatives about which to consult with the public.”<sup>89</sup>

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<sup>83</sup> CEC Final Argument, paragraph 25, p. 4.

<sup>84</sup> *ibid.*, paragraphs 24, 25, 26, 27, p. 4.

<sup>85</sup> *ibid.*, paragraph 30, p. 5; paragraph 31, p. 6.

<sup>86</sup> *ibid.*, paragraph 32, p. 6.

<sup>87</sup> *ibid.*, paragraph 37, p. 6.

<sup>88</sup> Exhibit B-1, Section 7.1, p. 22.

<sup>89</sup> Exhibit B-1, Section 7.2, p. 22.

Creative Energy states that its planned purchase and operation of the DCS will have no direct impact on the public beyond those served by the DCS. The DCS will not connect to any other developments and Creative Energy's purchase and operation will not impact the rates or service of any of its customers outside of Vancouver House.<sup>90</sup>

The Project will only directly impact the occupants of Vancouver House. Creative Energy explains that the Developer, as the initial sole customer of the DCS, is fully aware of the DCS and does not require further information. All potential purchasers of units in the Residential Tower were provided with information about the DCS as part of the disclosure statement for Vancouver House. Future members of the Strata Corporation were also informed during the marketing of units in the Residential Tower, allowing them to "purchase on an informed basis."<sup>91</sup>

The marketing materials referred to a "Community Energy System" and the Developer's disclosure statement indicated that Vancouver House was intended to accommodate a connection to a district energy utility for cooling services. It also indicated that the Developer would enter into and cause the Strata Corporation to assume a service agreement for the district energy utility. Creative Energy states that the disclosure statement was provided to potential purchasers in the Residential Tower.<sup>92</sup>

In its final argument Creative Energy further states that in accordance with Order G-222-19, Creative Energy provided notice of the Application directly to any tenants of Vancouver House and all parties that purchased units in Vancouver House, equating to over 600 people in total.<sup>93</sup> Creative Energy states that if the Application is approved, it does not anticipate conducting any further consultation with the Developer or the Strata Corporation.<sup>94</sup>

No interveners addressed public consultation in final argument.

### *Panel Discussion*

The Panel is satisfied that Creative Energy's consultation efforts to date have been adequate and sufficient given the nature of the Application. The Panel notes that the Developer, which is responsible for the design and construction of the DCS and is a party in the Purchase Agreement, is fully aware of the Project. Further, all parties that purchased units in the Residential Tower were provided with information about the DCS as part of the disclosure statement. These parties also received notification of the Application. The Panel is satisfied that all parties directly affected by the Project have been sufficiently notified, and Creative Energy's consultation with the public is adequate.

## **7.0 Provincial Government Energy Objectives and Long-term Resource Plan**

### **7.1 Energy Objectives**

Section 46(3.1) of the UCA requires the BCUC to consider "the applicable of British Columbia's energy objectives" (Energy Objectives) and the extent to which the Application is consistent with the requirements of the *Clean Energy Act* (CEA).<sup>95</sup>

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<sup>90</sup> *ibid.*, pp. 22-23.

<sup>91</sup> *ibid.*, p. 23.

<sup>92</sup> Exhibit B-1, Section 7.2, p. 23; Exhibit B-6, BCUC IR 2.1.

<sup>93</sup> Creative Energy Final Argument, paragraph 21, p. 5.

<sup>94</sup> Exhibit B-8, BCUC IR 2.3.

<sup>95</sup> UCA, sections 46(3.1)(a) and (c).

Creative Energy states that the DCS will contribute to the Energy Objectives summarized in Table I:

**Table I: Contribution of DCS to Provincial Government Energy Objectives<sup>96</sup>**

<b>Energy Objectives (Section 2 of <i>Clean Energy Act</i>)</b>	<b>Contribution of DCS</b>
<b>(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently.</b>	<ul style="list-style-type: none"><li>• District energy systems promote energy efficiency.</li><li>• The DCS uses electricity only.</li></ul>
<b>(k) to encourage economic development and the creation and retention of jobs.</b>	<ul style="list-style-type: none"><li>• Development of the DCS sustains employment for local contractors, consultants, and developers. The continued operation of the DCS will support jobs at Creative Energy, a BC energy firm.</li></ul>
<b>(o) to achieve British Columbia's energy objectives without the use of nuclear power.</b>	<ul style="list-style-type: none"><li>• The project does not utilize nuclear power.</li></ul>

Creative Energy submits that the DCS will contribute to Energy Objective (i) as district energy systems promote energy efficiency. However, in the absence of any real operating data for the DCS, Creative Energy states it is extremely difficult to estimate the efficiency gains delivered by the DCS compared to using a separate cooling system for each building. In general, Creative Energy states that a district cooling plant is able to operate for more hours of the year in the high coefficient of performance range, due to a more stable load, load diversity, and thermal mass of the network, whereas a stand-alone approach generates higher relative peak loads.<sup>97</sup>

With respect to Energy Objective (k), Creative Energy states that the continued operation of the DCS will require a part-time operator estimated at 20 percent of a full-time equivalent. The operation of the DCS will also require the assistance of a team at Creative Energy who will support the ownership, ongoing operation and regulation of the DCS.<sup>98</sup>

The DCS will not connect to Creative Energy's existing customer core, North East False Creek, or any other Creative Energy service areas. Therefore, Creative Energy submits that the DCS will not hamper other projects or initiatives undertaken by Creative Energy or others, from advancing the Energy Objectives not identified in Table I above.<sup>99</sup>

No interveners addressed the Energy Objectives in final argument.

### *Panel Discussion*

The Panel notes that no intervener has raised any issues regarding Creative Energy's characterization of the Project's alignment with the Provincial Government's Energy Objectives. The Panel notes that the DCS uses only electricity as an energy source, therefore its operation will not result in an increase in greenhouse gas emissions, nor does it use nuclear power. In addition, the Panel considers that the continued operation of the DCS will support jobs at Creative Energy. The Panel notes that the other Energy Objectives are not applicable to this Application.

Accordingly, the Panel is satisfied that the Project is consistent with the Provincial Government's Energy Objectives as set out by Creative Energy.

<sup>96</sup> Table prepared by BCUC. Exhibit B-6, BCUC IR 19.1.

<sup>97</sup> Exhibit B-8, BCUC IR 20.1.

<sup>98</sup> Exhibit B-6, BCUC IR 19.4.

<sup>99</sup> *ibid.*, BCUC IR 19.2, 19.5.

## 7.2 Long-term Resource Plan

Creative Energy's most recent Long-term Resource Plan (LTRP) was submitted to the BCUC on June 9, 2017, in accordance with section 44.1 of UCA. By Order G-147-17, dated September 25, 2017, the proceeding was adjourned until Creative Energy files its RRA for the 2020-2021 test period, at which point Creative Energy is to file a complete and updated LTRP.<sup>100</sup> The most recent LTRP is not relevant to the Application as it relates to Creative Energy's Core Stream system, and therefore this is not a consideration for the Panel in this proceeding.

## 8.0 Issues Arising

Three major issues arose during the review of the Application. These are: administrative cost allocation methodology, load and occupancy risk, and the commercial relationship between Creative Energy and the Developer. These issues are discussed in this section.

### 8.1 Administrative Cost Allocation Methodology

Pursuant to Order G-205-18 the BCUC approved Creative Energy's use of a 3-factor allocation methodology<sup>101</sup> to allocate administrative costs between Creative Energy's core steam services and its other regulated Vancouver projects. This allocation methodology provides a straightforward and accepted means for utilities to allocate residual administration expenses (costs that are not capitalized or readily or appropriately directly assigned) across multiple projects. The nature of the application of the allocation methodology across projects necessarily means that the same method needs to be applied to all projects, including the DCS.<sup>102</sup>

The 3-factor allocation methodology involves deriving the percentage ratio between each regulated Vancouver project and Creative Energy overall for the following three factors: (1) gross property, plant and equipment; (2) direct labour expense; and (3) gross revenues. A combined percentage ratio is then derived for each project as the simple average of these three factors and is applied to the total administrative costs to determine the amounts to be allocated to each project.<sup>103</sup>

Creative Energy has recently assessed that a modified approach based on only two factors (direct labour expenses and gross revenues) may more reasonably reflect the fair allocation of costs to its operating energy systems, including the DCS. Creative Energy submits that when capital costs are included in the allocation method, a disproportionate and unrepresentative large amount of costs would be allocated in the initial years of operating and too little would be allocable when the assets have experienced depreciation in later years.<sup>104</sup>

Applying the 2-factor approach, assuming allocations are effective July 2020, leads to an administration cost of approximately \$12,104 for 2020, which represents approximately one percent of Creative Energy's total administration costs. In contrast, applying the same assumptions, the 3-factor approach results in costs of approximately \$23,493 in 2020.<sup>105</sup> Creative Energy requested approval of the 2-factor approach as part of its 2019-2020 Revenue Requirements Application (RRA) for its Core Steam system, filed on December 19, 2019. Creative Energy states it will incorporate the BCUC's decision on the RRA request for approval into a rates application for the DCS at the appropriate time and as applicable.<sup>106</sup>

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<sup>100</sup> Order G-147-17, dated September 25, 2017.

<sup>101</sup> The allocation methodology that was approved by Order G-205-18 is referred to as the Massachusetts Formula.

<sup>102</sup> Exhibit B-8, BCUC IR 13.2, 13.7.

<sup>103</sup> Exhibit B-9, CEC IR 31.1.

<sup>104</sup> Exhibit B-7, CEC IR 4.1.2.

<sup>105</sup> Exhibit B-9, CEC IR 34.1.

<sup>106</sup> Creative Energy Vancouver Platforms Inc. 2019–2020 Revenue Requirements Application for the Core Steam System and Northeast False Creek Service Areas, Exhibit B-1; Exhibit B-7, CEC IR 4.1.2, 19.1; Exhibit B-8, BCUC IR 13.3.

## *Intervener Arguments*

The CEC recommends that the BCUC approve the CPCN conditional upon the use of the 3-factor allocation methodology. However, the CEC also submits that it would be preferable to review the proposed allocation methodology in Creative Energy's next revenue requirements application, which includes the Core Steam, North East False Creek and south downtown, rather than in the Application. The CEC states this will provide increased opportunity for a full review of the implications and avoid establishing a precedent based on the Application. If the 2-factor approach is deemed to be preferable, the DCS can be easily altered.<sup>107</sup>

Creative Energy agrees with the CEC that it is preferable that the review of the 2-factor allocation methodology take place as part of the next RRA, which was filed on December 19, 2019. The RRA included a request to change from the 3-factor to a 2-factor approach for the allocation of administration costs for all applicable Creative Energy projects. Creative Energy argues that whether the 3-factor or 2-factor approach is used to allocate administrative costs has "no bearing on the need and desirability"<sup>108</sup> of the acquisition and operation of the DCS. Therefore, Creative Energy submits that the CEC's recommendation that the BCUC approve the CPCN conditional upon the use of the 3-factor allocation methodology should be denied. Creative Energy states that the final rates application for the DCS will use the allocation methodology approved by the BCUC as part of the RRA.<sup>109</sup>

## *Panel Discussion*

For the following reasons, the Panel does not see the need to condition the approval of the Application on the use of a specific cost allocation methodology.

The Panel considers that it is appropriate to have the review and approval of the cost allocation methodology in a revenue requirements proceeding, not in this CPCN proceeding. The Panel notes that Creative Energy filed an RRA that is currently being reviewed by the BCUC. The RRA includes a proposal related to its cost allocation methodology.

The Panel finds the CEC position to be confusing. On the one hand the CEC submits it would be preferable for the review of the appropriate cost allocation to occur in a revenue requirements proceeding for the entire Creative Energy utility, rather than in this proceeding. However, on the other hand the CEC recommends that the BCUC condition approval of this application on the use of a certain cost allocation methodology, which will be reviewed in a separate BCUC proceeding. These two positions appear to be in direct contradiction to one another.

The CEC's proposed condition appears to imply that the public interest consideration for the CPCN be dependent on the cost allocation methodology to be used by Creative Energy for all its utility operations. The Panel disagrees. The cost allocation methodology will potentially have an impact on revenue requirements and rates. However, the Panel is satisfied that costs resulting from whichever allocation methodology is approved by the BCUC is not a decisive factor in determining the public interest or the public convenience and necessity for this Project.

## **8.2 Load and Occupancy Risk**

The CEC submits that there remains some load risk related to the occupancy of the Residential Tower and therefore recommends that the BCUC approve the Application conditional upon further confirmation relating to the occupancy status of the Residential Tower in a form acceptable to the BCUC.<sup>110</sup>

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<sup>107</sup> CEC Final Argument, paragraph 4, p. 1; paragraphs 48-49, p. 7.

<sup>108</sup> Creative Energy Reply Argument, paragraph 10, p. 3.

<sup>109</sup> Creative Energy Reply Argument, paragraphs 10-11, pp. 2-3; paragraph 11, p. 3.

<sup>110</sup> CEC Final Argument, paragraph 4, p. 1; paragraph 76, p. 11; paragraph 92, p. 14.

The CEC notes that the cooling demand is concentrated largely in the summer months and is used predominantly by Buildings 1 and 2, with the floor area of the Residential Tower nearly four times that of Building 1. Therefore, the CEC submits that the Residential Tower's load is crucial to the load of the DCS. Whilst the CEC acknowledges that the load risk is likely low, it states that it would be prudent to verify that the load will materialize prior to providing final approval of the CPCN application.<sup>111</sup>

The occupancy of Building 1 and the Residential Tower began in December 2019 and the CEC states that there appears to be a delay in occupancy of Buildings 3 and 4, which has been extended from December 2019 to April 2020 and June 2020, respectively.<sup>112</sup>

Creative Energy states that Howe Street Ventures Ltd. will bear the risk that the Commercial Buildings are less than 100 percent rented at any given time.<sup>113</sup> The units in the Residential Tower are owned strata units and the owner of each unit is responsible for paying the strata fees set by the Strata Corporation whether or not the unit is occupied.<sup>114</sup> The Residential Tower is sold out, but there may be some small risk to the Developer related to purchasers being unable to close their condo purchase(s) and forfeiting their deposits. In that case, Creative Energy explains, the Developer maintains ownership of those units and is responsible for the assigned costs until it is able to sell the unit(s).<sup>115</sup>

The CEC states that the evidence suggests that occupancy of the Residential Tower is developing, however it could be useful to wait until a large majority of the Residential Tower is occupied before concluding that there is no load risk.<sup>116</sup>

In reply, Creative Energy submits that there is no load risk related to occupancy that ought to impede the Application approval or the timing of the approval. It states that the CEC's recommendation is without merit, is unnecessary, and could not reasonably be acted upon.<sup>117</sup>

Creative Energy argues that there are several issues with respect to the CEC's recommendation that the load be verified. Creative Energy states that it is not clear what criteria would be used to satisfy the concern relating to occupancy, at what point in time such criteria ought to be met, or how the actual number of individuals residing in the residential building at any given time could bear on the merits of the requested CPCN. Further, each of the four buildings has, or will have, an occupancy permit, and all the units of the residential strata building have been sold.<sup>118</sup>

Creative Energy further explains that the occupancy of the buildings at any given time will continuously change, depending on the extent to which the rental building space is rented, how the tenants use the space, and the extent to which strata unit owners reside in their units.<sup>119</sup> Creative Energy also submits that "even if there was a valid reason to monitor occupancy rates, doing so would raise privacy issues."<sup>120</sup>

Creative Energy submits that any impact on its net income due to load variance resulting from variable occupancy rates will depend on the rate design. Creative Energy states that it intends to recover variable costs from its customers on a flow-through basis. As a result, load variance will have minimal or no impact on net

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<sup>111</sup> CEC Final Argument, paragraphs 65, 68, p. 10; paragraph 63, p. 9.

<sup>112</sup> Exhibit B-1, Section 3.3, p. 10; Exhibit B-6, BCUC IR 3.2; CEC Final Argument, paragraph 70, p. 11.

<sup>113</sup> CEC Final Argument, paragraph 74, p. 11.

<sup>114</sup> Exhibit B-7, CEC IR 27.3.

<sup>115</sup> CEC Final Argument, paragraph 75, p. 11.

<sup>116</sup> CEC Final Argument, paragraph 76, p. 11; paragraph 12, p.12.

<sup>117</sup> Creative Energy Reply Argument, paragraph 16, p. 4.

<sup>118</sup> Creative Energy Reply Argument, paragraph 13, p. 3.

<sup>119</sup> *ibid.*, paragraph 14, p. 3.

<sup>120</sup> *ibid.*, p. 3.



income.<sup>121</sup> Therefore, Creative Energy submits that “the CEC’s concern about load and occupancy is misplaced”.<sup>122</sup>

### *Panel Discussion*

The Panel is satisfied that the minimal load risk related to occupancy should not impede the approval of the Application or the timing of any decision regarding the Application. The Panel notes that each of the four buildings has or will have an occupancy permit and all units of the residential strata building have been sold. The Panel recognises that the occupancy of the buildings at any given time will continuously change, resulting in load changes, and that monitoring occupancy levels may result in privacy related issues. Additionally, the Panel considers that rate design options can be structured to mitigate revenue impacts from load changes and notes rate design matters will be the subject of a future application to the BCUC.

## **8.3 Commercial Relationship between Creative Energy and the Developer**

The CEC states that it is of the view that the commercial relationship between Creative Energy and the Developer “requires attention,”<sup>123</sup> in that the Developer is the owner of Creative Energy.

The CEC submits that the Developer has an interest in maximizing income from Creative Energy. Since the Developer is developing properties with district energy systems that are to be purchased by Creative Energy, and are ultimately funded by ratepayers, the BCUC should increase its level of scrutiny. The CEC submits that the BCUC should exercise caution when examining commercial activities occurring between the Developer and Creative Energy, for which ratepayers are paying.<sup>124</sup> The CEC does not provide suggestions of what could comprise increased scrutiny.

Creative Energy does not address the CEC’s position in its reply argument.

### *Panel Discussion*

The Panel is cognisant of the commercial relationship between Creative Energy and the Developer. However, the Panel is satisfied that the terms of the Purchase Agreement and the Contribution Agreement mitigate any concerns regarding this commercial relationship for the Application.

## **9.0 CPCN Determination**

In this section the Panel will address Creative Energy’s claim that the question before the BCUC is whether the public interest is better served by Creative Energy acquiring and operating the DCS as compared to the operation of the DCS by the Developer. This will be followed by the Panel’s determination on the CPCN.

The Panel disagrees with Creative Energy’s position that the issue arising from the Application is whether the public interest is better served by Creative Energy acquiring and operating the DCS as compared to the ownership and operation of the DCS by the Developer. Rather, the Application is about whether the public interest is served by granting a CPCN to Creative Energy to acquire and operate the DCS. In either ownership scenario, the owner would be a public utility as defined by the UCA and would require a CPCN in order to operate, which the BCUC would issue only if it is necessary and serves the public convenience.

In assessing Creative Energy’s Application, the Panel is required to consider sections 45 and 46 of the UCA.

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<sup>121</sup> *ibid.*, paragraph 15, p. 4.

<sup>122</sup> *ibid.*, p. 4.

<sup>123</sup> CEC Final Argument, paragraph 1, p. 1.

<sup>124</sup> *ibid.*, paragraph 3, p. 1.



Section 45(1) of the UCA stipulates that a person must not begin the construction or operation of a public utility plant or system, or an extension of either, without first obtaining from the BCUC a certificate that public convenience and necessity require, or will require, the construction or operation of the plant or system.

Section 46(3) states that the BCUC may issue or refuse to issue a CPCN or may issue a CPCN for the construction or operation of only a part of the proposed facility, line, plant, system or extension, and may attach terms and conditions to the CPCN. Section 46 (3.1) requires the BCUC to consider:

- (a) the applicability of British Columbia's energy objectives;<sup>125</sup>
- (b) the most recent long-term resource plan filed by the public utility under section 44.1, if any; and
- (c) the extent to which the application for the certificate is consistent with the applicable requirements under sections 6 and 19 of the *Clean Energy Act* (CEA).

**The Panel** has considered the Application and the relevant sections of the UCA and **finds that the public convenience and necessity requires the operation of the DCS to provide cooling service to Vancouver House.** For the reasons set out elsewhere in this decision, **the Panel finds that the public interest is better served by Creative Energy owning and operating the DCS than by the Developer owning and operating it. Accordingly, pursuant to section 45 and 46 of the UCA, the Panel grants a CPCN to Creative Energy to acquire and operate the DCS.**

**DATED** at the City of Vancouver, in the Province of British Columbia, this        1st        day of April 2020.

*Original signed by:*

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T. A. Loski  
Panel Chair / Commissioner

*Original signed by:*

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E. B. Lockhart  
Commissioner

*Original signed by:*

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R. I. Mason  
Commissioner

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<sup>125</sup> BC's energy objectives are defined in section 2 of the *Clean Energy Act*.



**ORDER NUMBER  
C-2-20**

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

and

Creative Energy Vancouver Platforms Inc.  
Application for a Certificate of Public Convenience and Necessity to Acquire  
and Operate a Thermal Energy System for Cooling at the Vancouver House Development

**BEFORE:**

T. A. Loski, Panel Chair  
E. B. Lockhart, Commissioner  
R. I. Mason, Commissioner

on April 1, 2020

**CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY**

**WHEREAS:**

- A. On August 28, 2019, Creative Energy Vancouver Platforms Inc. (Creative Energy) filed an application with the British Columbia Utilities Commission (BCUC) for a Certificate of Public Convenience and Necessity (CPCN) pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA) to acquire and operate a district cooling system (DCS) to provide cooling to the Vancouver House Development (Vancouver House) in the south downtown area of Vancouver (Application). Vancouver House comprises four buildings located on three parcels of land:
- Buildings 1 and 2 at 1480 Howe Street;
  - Building 3 at 1461 Granville Street; and
  - Building 4 at 1462 Granville Street.
- B. On August 28, 2014, the BCUC issued Order G-127-14 approving the Thermal Energy Systems (TES) Regulatory Framework Guidelines (TES Guidelines) and revisions to the TES Guidelines were approved by Order G-27-15. Under Section 2.1 of the TES Guidelines, a Stream A TES is defined as:
- An On-Site TES with an Initial Capital Cost above \$500,000 but less than \$15,000,000 is exempt from sections 44.1, 45 and 59-61 of the UCA. TES Providers are required to register Stream A TES prior to building or otherwise acquiring the Stream A TES.
- C. On November 7, 2018, Creative Energy filed with the BCUC an application to register the 1480 Howe Street Cooling Stream A Thermal Energy System in accordance with the TES Guidelines. By Order G-251-18, Creative Energy's application was denied;

- D. By Orders G-222-19, G-227-19 and G-339-19, dated September 12, November 8, and December 19, 2020, respectively, the BCUC established a regulatory timetable for the review of the Application, which included, among other things, intervener registration, two rounds of information requests, submissions on further process and final arguments;
- E. FortisBC Alternative Energy Services Inc. and Commercial Energy Consumers Association of British Columbia (the CEC) registered as interveners;
- F. On January 10, 2020 and January 24, 2020, Creative Energy and the CEC filed final arguments, respectively. On January 31, 2020, Creative Energy filed its reply argument; and
- G. The BCUC has considered the evidence and submissions and finds that the public convenience and necessity requires Creative Energy's acquisition and operation of the DCS to provide cooling service to Vancouver House.

**NOW THEREFORE** pursuant to sections 45 and 46 of the UCA and for the reasons outlined in the decision issued concurrently with this order, the BCUC orders that a CPCN is granted to Creative Energy to acquire and operate the DCS to provide cooling service to Vancouver House.

**DATED** at the City of Vancouver, in the Province of British Columbia, this        1st        day of April 2020.

BY ORDER

*Original signed by:*

T. A. Loski  
Commissioner

Attachment