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Creative Energy Vancouver Platforms Inc.

Application for a Certificate of Public Convenience and Necessity for
a Neighbourhood
Energy System in the South Downtown area of Vancouver

Decision
and Order C-1-19

May 3, 2019

Before:

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

TABLE OF CONTENTS

Page no.

1.0	Introduction	1
1.1	Background.....	1
1.2	Approval Sought	2
1.3	The Applicant.....	3
1.4	Regulatory Process	3
1.5	Legislative Framework.....	3
1.5.1	<i>Utilities Commission Act</i>	3
1.5.2	TES Guidelines.....	5
1.5.3	CPCN Guidelines	5
1.6	Previous Relevant Decisions.....	6
1.6.1	1480 Howe Street Thermal Energy System	6
1.6.2	Extension of the 1480 Howe Street Thermal Energy System	6
2.0	Description of the Proposed Project	7
2.1	Project Location.....	7
2.2	Phase 1 NES	7
2.3	Phase 2 NES	9
2.4	Project Costs.....	9
2.5	Load Forecast	10
2.6	Future Strategy for Containerized Boiler Plant	13
3.0	Project Justification.....	14
3.1	Project Need.....	14
3.2	Project Alternatives	16
3.3	Project Risks	19
3.4	Consultation	22
3.5	Long Term Resource Plan	23
3.6	<i>Clean Energy Act</i> and BC's Energy Objectives	23
3.7	Capital Costs	26

3.8	Looking Ahead	29
4.0	CPCN Determination	30
4.1	Confidentiality	30
5.0	Reporting	31

BCUC ORDER C-1-19
APPENDIX A – Exhibit List

1.0 Introduction

1.1 Background

On November 7, 2018, Creative Energy Vancouver Platforms Inc. (Creative Energy, Applicant or Company) 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). The Applicant seeks to operate and expand a thermal energy system (TES) to provide heat to Buildings 1 to 4 and domestic hot water (DHW) to Buildings 1 and 2 in the Vancouver House Development (Development), located in the South Downtown area of Vancouver (Application).

The BCUC issued a Stream A exemption to the Applicant on March 3, 2017 to build a TES to serve 1480 Howe Street only (Buildings 1 and 2 of the Development), for the duration of construction on the site. The issuance of a Stream A exemption means that the TES is exempt from sections 44.1, 45 and 59 to 61 of the UCA while Buildings 1 and 2 are being constructed. As part of the Stream A exemption the Applicant was directed to file with the BCUC any changes to the temporary status, location or use of the TES, in accordance with the BCUC's Thermal Energy Systems Regulatory Framework Guidelines (TES Guidelines).¹

The Applicant is now applying to expand the TES to create a Neighbourhood Energy System (NES), which uses the natural gas-based TES to provide service to the Development. The Development comprises four buildings located on three separate parcels of land:

- Buildings 1 and 2 – 1480 Howe Street;
- Building 3 – 1461 Granville Street; and
- Building 4 – 1462 Granville Street.²

Creative Energy's intention is that the NES, at its completion, will be operated to provide heating services to all buildings within the Development, as well as DHW to Buildings 1 and 2.³

For the purposes of this proceeding, the Development is considered to comprise two phases of construction for which Westbank (the Developer) is responsible. The first phase is the construction of Buildings 1 and 2 on a single site located at 1480 Howe Street (Construction Phase 1). The second phase is the construction of Buildings 3 and 4 on two separate sites, 1461 and 1462 Granville Street, respectively (Construction Phase 2).⁴

The NES is to be constructed by Creative Energy in two phases, as explained below.

¹ Creative Energy Vancouver Platforms Inc. Stream A Registration for the 1480 Howe Street Thermal Energy System, Order G-28-17 and Decision dated March 3, 2017 (1480 Howe Street TES Stream A Order and Decision), pp. 1–2; BCUC Order G27-15, Appendix A, *Thermal Energy Systems Regulatory Framework Guidelines* (TES Guidelines).

² Exhibit B-1, p. 5.

³ Ibid., pp. 17–18.

⁴ Ibid., pp. 16–17, Schedule 9, p. 2.

Phase 1 NES

During Construction Phase 1, Creative Energy constructed a TES to provide construction heating only to Buildings 1 and 2 (Phase 1 NES). The Phase 1 NES 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 2.⁵

Once the construction of the containerized boiler and underground piping was complete, Creative Energy commenced operating the Phase 1 NES to provide the Developer with construction heating only to Buildings 1 and 2.⁶

Phase 2 NES

During Construction Phase 2, Creative Energy proposes 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 (together the Phase 2 NES).⁷

Following the completion of the construction of the Phase 2 NES, Creative Energy intends to operate the NES as one system, providing heating to the Development as a whole and DHW to Buildings 1 and 2.⁸

1.2 Approval Sought

In its Application, Creative Energy seeks approval to continue to operate the Phase 1 NES on a permanent basis, to construct and operate the necessary infrastructure and equipment to provide DHW to Buildings 1 and 2, and to provide space heating to Buildings 3 and 4. Creative Energy is applying to the BCUC for a CPCN pursuant to sections 45 and 46 of the UCA authorizing it to construct the Phase 2 NES and operate the NES to serve the Development.⁹

Creative Energy explains that while it has filed indicative rate information and a proposed customer service agreement (CSA) in accordance with the requirements of section 2.4.1 of the TES Guidelines, Creative Energy is not requesting approval of the rates or the CSA. The indicative rate information was provided for the purposes of evaluating the financial impact of the NES. Creative Energy states that it intends to file a revenue requirement application for approval of interim and final rates and the CSA “prior to the occupants of [Buildings 1 and 2] taking service”.¹⁰

⁵ Exhibit B-1, p. 5.

⁶ Exhibit B-2, BCUC IR 2.2.

⁷ Exhibit B-1, pp. 17–18; Exhibit B-2, BCUC IR 3.1, 3.5.3; Exhibit B-3, BCUC IR 37.1.

⁸ Exhibit B-1, p. 14.

⁹ Ibid., pp. 17–18, 37; Schedule 1, p. 2.

¹⁰ Exhibit B-1, pp. 6, 29, 53; Exhibit B-2, p. 1; TES Guidelines, pp. 18–19.

1.3 The Applicant

Creative Energy is a privately held energy infrastructure business with a focus on district energy service in urban areas. The Company has over 45 years of experience operating a low-cost district energy system in downtown Vancouver.¹¹

In 1968, Creative Energy (previously Central Heat Distribution Ltd.) received a CPCN for its existing steam utility and a CPCN in 2016 to operate a further three Stream A utilities in North East False Creek (NEFC). The Company currently serves over 210 customers including condominium buildings, hotels, office buildings, social housing, small manufacturers, a major hospital and other institutions.¹²

Creative Energy's central steam plant is located at 720 Beatty Street. Two smaller steam-to-hot-water plants are located at 39 Smithe Street and 685 Pacific Boulevard respectively. The Company also owns and maintains approximately 14 km of steam distribution mains in downtown Vancouver and 1.2 km of hot water distribution in NEFC, for which it has a 30-year Municipal Access Agreement with the City of Vancouver (the City).¹³

1.4 Regulatory Process

The BCUC, by Order G-249-18 dated December 21, 2018, established a regulatory timetable which included one round of information requests (IRs) and a submission from Creative Energy on further process.

On January 30, 2019, by Order G-23-19, the BCUC established a further regulatory timetable for the review of the Application, which included a second round of IRs and a submission from Creative Energy on further process.

By Order G-42-19 dated February 27, 2019, the BCUC established the remainder of the regulatory timetable for the review of the Application, which included the submission of Creative Energy's Final Argument on March 1, 2019.

No registered interveners or interested parties participated in the proceeding.

1.5 Legislative Framework

1.5.1 *Utilities Commission Act*

Section 45(1) of the UCA stipulates that except as otherwise provided, after September 11, 1980, 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.¹⁴

Section 46(3.1) of the UCA stipulates that in deciding whether to issue a CPCN applied for by a public utility other than the authority (as defined in the UCA), the BCUC must consider:¹⁵

¹¹ Exhibit B-1, p. 9.

¹² Ibid.

¹³ Ibid.

¹⁴ *Utilities Commission Act*, RSBC 1996, c. 473.

¹⁵ *Utilities Commission Act*, RSBC 1996, c. 473.

- a) the applicable of British Columbia's energy objectives,
- 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].

British Columbia's (BC) energy objectives are specified in section 2 of the CEA and include the following:¹⁶

- a) to achieve electricity self-sufficiency;
- b) to take demand-side measures and to conserve energy;
- c) to generate at least 93% of the electricity in British Columbia from clean or renewable resources;
- d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- e) to ensure the authority's ratepayers receive the benefits of the heritage assets;
- f) to ensure the authority's rates remain among the most competitive of rates charged by public utilities in North America;
- g) to reduce BC greenhouse gas emissions;
- h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;
- i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;
- j) to reduce waste by encouraging the use of waste heat, biogas and biomass;
- k) to encourage economic development and the creation and retention of jobs;
- l) to foster the development of first nation and rural communities through the use and development of clean or renewable resources;
- m) to maximize the value, including the incremental value of the resources being clean or renewable resources;
- n) to be a net exporter of electricity from clean or renewable resources;
- o) to achieve British Columbia's energy objectives without the use of nuclear power;
- p) to ensure the commission, under the Utilities Commission Act, continues to regulate the authority with respect to domestic rates but not with respect to expenditures for export, except as provided by this Act.

Section 41 of the UCA stipulates that a public utility that has been granted a CPCN and has begun any operation for which the certificate is necessary, must not cease operation or a part of it without first obtaining permission from the BCUC.

¹⁶ *Clean Energy Act*, SBC 2010, c. 22.

1.5.2 TES Guidelines

The TES Guidelines describe the BCUC's regulatory framework for thermal energy systems in BC. The framework provides a scaled approach to the regulation of TES, where the regulatory oversight increases as the size and scope of the TES increases. There are four TES categories: Micro TES, Strata Corporation TES, Stream A TES and Stream B TES.¹⁷ Of particular relevance to this proceeding are Stream A TES and Stream B TES which are defined as follows:

Stream A TES: An On-Site TES with an Initial Capital Cost above \$500,000 but less than \$15,000,000 is exempt from sections 44.1, 45-46 and 59-61 of the UCA. TES [owners and operators] are required to register Stream A TES prior to building or otherwise acquiring the Stream A TES.

Stream B TES: All other TES will be regulated similar to other Public Utility systems. An application for a CPCN and a rate approval application are required.¹⁸

The TES Guidelines state that a TES which does not meet the requirements of a Micro TES or a Strata Corporation TES, and does not meet the Stream A characteristics as described in section 2.3.1 of the TES Guidelines, is by default considered to be a Stream B TES. In such cases, a CPCN application is to be submitted to the BCUC. CPCN applications for Stream B TES are generally expected to be prepared in accordance with the BCUC's 2015 Certificate of Public Convenience and Necessity Application Guidelines (CPCN Guidelines) as well as section 2.4.2 of the TES Guidelines, which outlines additional filing requirements for Stream B TES.¹⁹

1.5.3 CPCN Guidelines

The BCUC's CPCN Guidelines provide general guidance regarding the BCUC's expectation of the information that should be included in a 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.²⁰

A CPCN application submitted under sections 45 and 46 of the UCA should contain information on the following:

- Applicant;
- Project Need, Alternatives and Justification;
- Consultation;
- Project Description;
- Project Cost Estimate;
- Provincial Government Energy Objectives and Policy Considerations; and
- New Service Areas.²¹

¹⁷ TES Guidelines, pp. 6–7.

¹⁸ Ibid., p. 7.

¹⁹ Ibid, pp. 18, 20–22; BCUC Order G-20-15, *2015 Certificate of Public Convenience and Necessity Application Guidelines* (CPCN Guidelines).

²⁰ CPCN Guidelines, p. 1.

²¹ Ibid., pp. 4–9.

1.6 Previous Relevant Decisions

1.6.1 1480 Howe Street Thermal Energy System

On January 6, 2017, Creative Energy filed a Stream A application with the BCUC to register a TES for 1480 Howe Street as a Stream A TES (1480 Howe Street TES). The TES was designed to provide heat, for construction and commissioning purposes only, to Buildings 1 and 2 of the Vancouver House Development. Due to insufficient on-site space, Creative Energy stated that the temporary energy centre, which comprised the thermal generation and distribution equipment and facilities, would be located on a City-owned site, directly beneath the Granville Street Bridge.²²

On March 3, 2017 by Order G-28-17, Creative Energy's Stream A application for the registration of the 1480 Howe Street TES was approved and was thereby exempted from CPCN requirements, regulation of rates and Long-Term Resource Planning (sections 44.1, 45 and 59 to 61 of the UCA). The BCUC granted Stream A designation subject to the provision that the exemption was only for the duration of construction on the site. The Order directed Creative Energy to file with the BCUC any changes to the temporary status, location or use of the TES, in accordance with the TES Guidelines.²³

1.6.2 Extension of the 1480 Howe Street Thermal Energy System

On October 16, 2018, Creative Energy filed an application to extend the 1480 Howe Street TES to provide space heating to Buildings 3 and 4 of the Development (Extension of the Stream A TES).²⁴ Buildings 3 and 4 are located at 710 Pacific Street and 1410 Granville Street²⁵ respectively, and are therefore located on different sites to Buildings 1 and 2 and the existing thermal generation and distribution equipment and facility.²⁶

The BCUC's review of Creative Energy's application found that the extension of the 1480 Howe Street TES failed to meet five of the six Stream A Characteristics as defined by the TES Guidelines. The BCUC further found that Creative Energy's intention to deliver thermal energy to Buildings 3 and 4 beyond the completion of the construction period of Buildings 1 and 2 was in conflict with the temporary nature of Order G-28-17. On November 1, 2018, by Order G-207-18, Creative Energy's application to extend the 1480 Howe Street Stream A TES was denied. Therefore, in accordance with the TES Guidelines, the TES is considered to be a Stream B TES.²⁷

²² Exhibit B-1, Schedule 9, pp. 1-2; Schedule 10, p. 1; 1480 Howe Street TES Stream A Order and Decision, Appendix A, p. 1.

²³ 1480 Howe Street TES Stream Order and Decision, pp. 1-2.

²⁴ Creative Energy Vancouver Platforms Inc. Stream A Registration for the Extension of the 1480 Howe Street Thermal Energy System, Decision and Order G-207-18 dated November 1, 2018 (Extension of the 1480 Howe Street TES Stream A Order and Decision), p. 1.

²⁵ In Creative Energy's Extension of the 1480 Howe Street TES Stream A Order and Decision the addresses of Buildings 3 and 4 are stated to be 710 Pacific St. and 1410 Granville St. respectively. In the current Application the addresses have been changed to 1461 and 1462 Granville St. respectively.

²⁶ Extension of the 1480 Howe Street TES Stream A Order and Decision, p. 1, Appendix A, p. 2.

²⁷ TES Guidelines, pp. 12, 18; Extension of the 1480 Howe Street TES Stream A Order and Decision, p. 2, Appendix A, p. 3.

2.0 Description of the Proposed Project

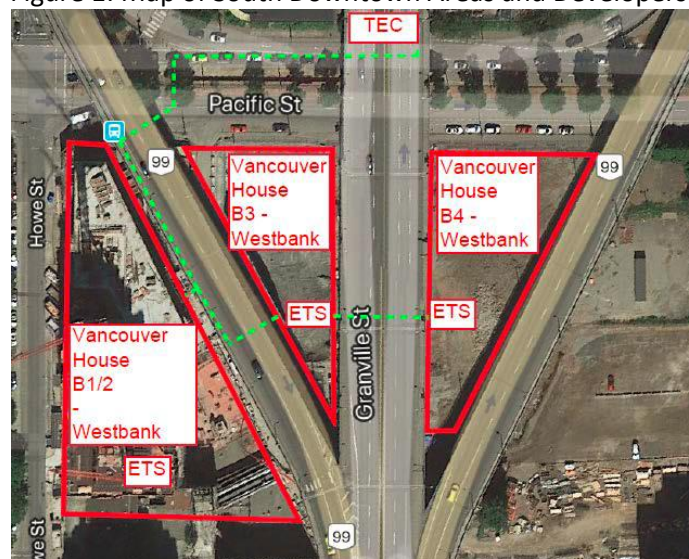
2.1 Project Location

The subject of the Application is a project to extend the existing TES to create one that covers multiple sites, hence the term NES, which delivers thermal energy to the Development located in the South Downtown area of Vancouver.²⁸

Building 1 is a podium for retail and commercial spaces and Building 2 is a high-rise residential building. Both Buildings 3 and 4 are medium-rise office buildings. Initially Creative Energy will have one customer: Westbank, who is also the Developer. Creative Energy states that once Building 2 is complete a strata corporation will be formed and the building will be transferred from Westbank to the strata corporation. When in operation Creative Energy will have four contracts, three with Westbank and one with the strata corporation. Westbank will continue to be responsible for managing the commercial aspects of the Development.²⁹

The Development is served by a containerized boiler plant temporarily located between 600 and 700 block of Pacific Street, underneath the Granville Street Bridge. The buildings are connected to the containerized boiler plant via underground piping that crosses Pacific Street and connects to an ETS located in Buildings 1 and 2 and is intended to connect to an ETS in each of Buildings 3 and 4.³⁰ Figure 1 identifies the locations of Buildings 1 to 4, the containerized boiler plant (shown as TEC), the ETS and the underground piping route (shown as a dotted green line).

Figure 1: Map of South Downtown Areas and Developers³¹



2.2 Phase 1 NES

In the first phase, Phase 1 NES, Creative Energy constructed a TES to provide space heating for the construction of Buildings 1 and 2 only. The construction of the Phase 1 NES is complete and Creative Energy confirms that the Phase 1 NES is currently in operation.³²

²⁸ Exhibit B-1, pp. 17–18.

²⁹ Ibid., pp. 16–17.

³⁰ Ibid., p. 19.

³¹ Ibid., p. 20.

Creative Energy states that Phase 1 NES comprised the following mechanical equipment:

Hot water is produced in the Containerized Boiler Plant located under the Granville street bridge on Pacific Street using two Viessmann Vitocrossal CA3 6.0 boilers;

Two distribution pumps and a controls system within the Containerized Boiler Plant distribute the hot water through a buried piping network (Distribution Piping System, or DPS) that was buried under Pacific and Continental Street as part of this project, and run into the parkade level of Vancouver House Buildings 1 and 2 where it continues to Energy Transfer Stations (ETSs);

The ETSs consist of heat exchangers and control valves and a separate controls system to modulate the flow from the boiler plant, based on the amount of heat demand from the building; and

Buildings 1 and 2 flow a closed loop water circuit through the heat exchangers in the ETS and draw the heat out of the supply side for space heating and domestic hot water. The amount of heat used by each building is measured using temperature transmitters and flow meters.³³

Creative Energy states that each Viessmann Vitocrossal CA3 6.0 boiler has an output capacity of 1,688 kW and a maximum thermal efficiency of 96.1 percent. The DPS efficiency is estimated to be approximately 97 percent.³⁴

Building 1 has two heat exchangers, one for DHW and one for space heating. Building 2 has a total of four heat exchangers: one for DHW and three for space heating, one for each zone of the tower.³⁵ Creative Energy provides a list of equipment in the containerized boiler plant and the ETS in the table below.³⁶

The following table provides a list of equipment in the Containerized Boiler Plant and the Energy Transfer Station.

Major Equipment Description	Manufacturer
Boilers (2of)	Viessmann
Pump (2of)	Bell and Gossett
Expansion Tank (1of)	Bell and Gossett
Heat Exchangers (6of)	Alfa Laval
Controls system	ESC and Delta V
Flow meters	Kamstrup

Creative Energy confirms that the mechanical infrastructure and equipment required for the supply of DHW to Buildings 1 and 2 were installed during the construction of the Phase 1 NES. Apart from system testing, routine building commissioning and the correction of some installation deficiencies, the installation work for DHW to Buildings 1 and 2 is complete.³⁷

³² Exhibit B-1, p. 5, Schedule 9, p.2; Exhibit B-2, BCUC IR 2.2.

³³ Exhibit B-2, BCUC IR 3.2.

³⁴ Ibid., BCUC IR 7.1; BCUC IR 28.3.

³⁵ Ibid., BCUC IR 3.5.

³⁶ Ibid., BCUC IR 3.2.

³⁷ Exhibit B-3, BCUC IR 37.1, 37.1.1.

Creative Energy explains that the Phase 1 NES is currently in operation in respect of the provision of construction heat and “[u]pon CPCN approval, Creative Energy’s operation in Phase 1 [NES] will transition to providing [heating] service, including domestic hot water, under building occupancy.”³⁸ Creative Energy states that the construction of Buildings 1 and 2 is expected to be sufficiently complete to allow occupancy in May 2019.³⁹

2.3 Phase 2 NES

Creative Energy states that the Phase 2 NES will connect the existing TES to Buildings 3 and 4 for the provision of heating services. The expansion of the TES will create an NES and Creative Energy requires CPCN approval to construct and operate the NES to serve Buildings 3 and 4.⁴⁰

Creative Energy explains that for the Phase 2 NES, the equipment built and installed as part of the Phase 1 NES will be part of the foundational infrastructure and system that supplies heat to Buildings 3 and 4. The Phase 2 NES entails installation of a DPS to connect Buildings 3 and 4 to the Phase 1 NES network as well as the installation of two heat exchangers, one in Building 3 and one in Building 4.⁴¹

Creative Energy confirms that the installation of all the DPS for the Phase 2 NES is complete, prior to authorization pursuant to the CPCN. It explains that the timing of other site activities required that construction of the DPS connection for the Phase 2 NES coincided with an open trench at the site to install water connections and complex landscape structures. Creative Energy submits that had it not taken advantage of this opportunity, the costs to construct the DPS would have been much higher because of the necessity to reopen and subsequently recover the trench beneath the Granville Street high-end landscape works.⁴²

The occupancy of Buildings 3 and 4 is expected in June 2019. The construction of the ETS is anticipated to commence on March 28, 2019 for Building 3 and on May 2, 2019 for Building 4. The construction period for each ETS is expected to be 6 weeks.⁴³

2.4 Project Costs

The total capital cost of the NES is an estimated \$3,393,000, with approximately \$778,000 allocated to Phase 2 NES. Table 12 provides a breakdown of the total estimated capital costs according to the NES phase and year of expenditure.⁴⁴

³⁸ Exhibit B-2, BCUC IR 2.2.

³⁹ Ibid., BCUC IR 6.1.

⁴⁰ Exhibit B-1, pp. 6, 14.

⁴¹ Exhibit B-2, BCUC IR 3.5.

⁴² Ibid., BCUC IR 6.2; Exhibit B-3, BCUC IR 36.1.

⁴³ Exhibit B-1, p. 23; Exhibit B-2, BCUC IR 6.2, Attachment 6.2, p. 1.

⁴⁴ Exhibit B-5, Attachment 1, BCUC IR 27.1.2.

Table 12: NES Total Capital Costs (nominal \$000s)⁴⁵

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

The capital costs of the NES are discussed further in Section 3.7.

2.5 Load Forecast

The forecast energy loads for the entire NES are based on the total floor areas of Buildings 1 to 4 and the Energy Use Intensity (EUI) factors per square meter. Creative Energy states that the EUI factors are based on a combination of the requirements set out by the City's building policies, the Company's experience with recent buildings in Vancouver and information provided by the development team for the Development.⁴⁶

The total floor area for the Development is 64,598 m².⁴⁷ Floor area per building is provided in Table 3.

⁴⁵ Exhibit B-5, Attachment 1, BCUC IR 27.1.2.

⁴⁶ Exhibit B-1, p. 41.

⁴⁷ Ibid., pp. 19, 21.

Table 3: Floor Areas and Timelines for Vancouver House Development⁴⁸

Building	Floor Space (m ²)	Approx. Completion
Building 1	11,875	March 2019
Building 2	42,860	March 2019
Building 3	4,726	June 2019
Building 4	5,137	June 2019
Total	64,598	

The peak and annual EUIs are provided in Tables 13 and 14 respectively.

Table 13: Energy Use Intensity – Peak W/m²⁴⁹

	High Rise Residential	Commercial office space
Total W / m ²	40	50

Table 14: Average Energy Use Intensity – Annual kWh/m²⁵⁰

	High-Rise Residential	Commercial office space
Space Heat kWh / m ²	33	90
DHW kWh / m ²	25	-
Total kWh / m ²	58	90

Creative Energy states that at current build out, the annual energy sales will be 4,028 MWh and assuming annual losses within the NES hot water network to be 3 percent, the total energy production requirement for the NES will be 4,153 MWh.⁵¹ Updated Table 15 provides the estimated annual energy sales and network losses for 2019 and 2020.

⁴⁸ Exhibit B-1, p. 21. The Approx. Completion dates for Buildings 1 and 2 were revised to May 2019 in Exhibit B-2, BCUC IR 2.2.1.

⁴⁹ Exhibit B-1, p. 42.

⁵⁰ Ibid.

⁵¹ Ibid., pp. 42-43; Exhibit B-3, BCUC IR 41.1.1.

Updated Table 15: Annual Energy Sales & Network Losses⁵²

	2019	2020
Sales MWh	3556	4,028
NES Network Losses MWh	110	125
Energy production requirement, MWh	3,666	4,153

The containerized boiler plant capacity is 3,376 kW based on the use of two 1,688 kW Viessmann boilers. Creative Energy provides a comparison of the peak demand (kW) and the annual demand (MWh) against the boiler plant capacity in the table below.⁵³

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

Note 1: Total annual peak figures are the forecast coincident peak demands for each building, taking into account the diversity of peak demand for space heating and domestic hot water in Buildings 1 and 2 (Creative Energy service to Buildings 3 and 4 will be space heating only). The assumed coincident peak for each of Buildings 1 and 2 reflects entirely space heating load based on timing. As suggested by the response to [BCUC] IR 28.4.1⁵⁴, when the diversity between buildings is not considered (unrealistic), there is capacity to supply 600kW of domestic hot water load if it were to also occur at such a peak (unexpected).

Creative Energy states that in the unlikely event that the indicated peak loads of each building coincide, the total peak demand would equal 2,548 kW and factoring the thermal energy generation and transmission efficiencies, the peak requirement from the boiler plant would be 2,770 kW, which is less than the total system generating capacity of 3,376 kW.⁵⁵

⁵² Exhibit B-3, BCUC IR 41.1.1.

⁵³ Exhibit B-2, BCUC IR 28.3.

⁵⁴ Ibid., BCUC IR 28.4.1.

⁵⁵ Ibid.

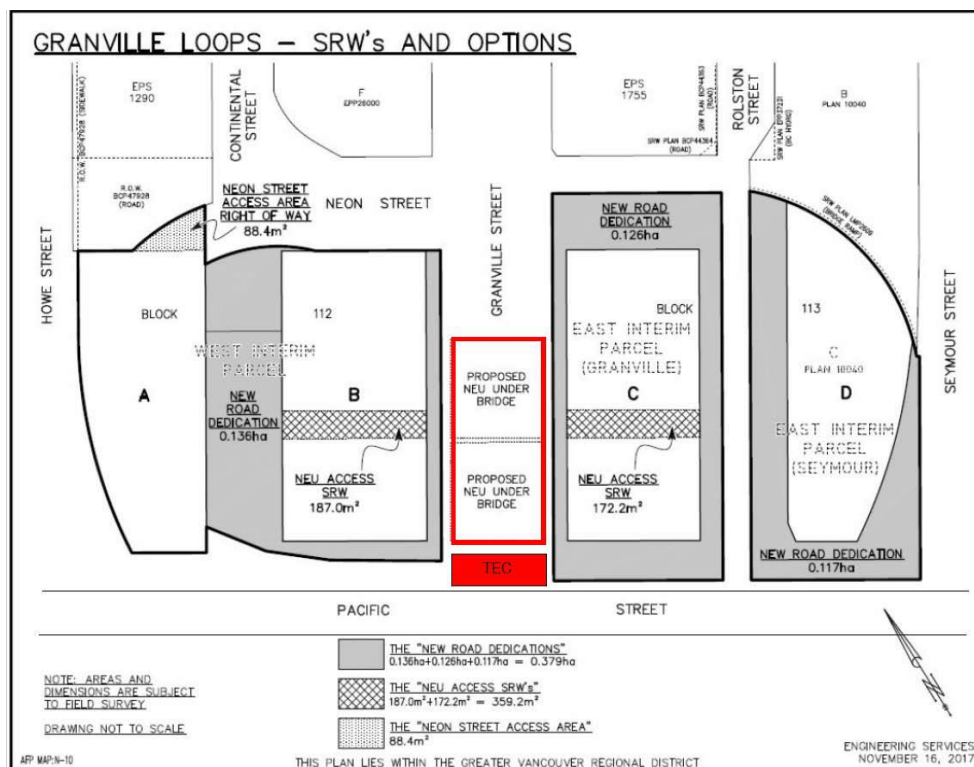
2.6 Future Strategy for Containerized Boiler Plant

The City issued a permit letter to Creative Energy, dated December 3, 2018, for the temporary location of the containerized boiler plant. The terms of the permit letter stipulate that Creative Energy must relocate the plant from its current location by December 31, 2023.⁵⁶ Creative Energy states:

...the City has provided written confirmation that Creative Energy has 5 years to develop and execute a plan to relocate the Containerized Boiler plant, and to maintain service to the existing customers. Creative Energy will continue to engage with the City of Vancouver on a strategy and process for relocation. Please refer to Schedule 5 of the application, which sets out that the City of Vancouver is committed to work with Creative Energy to ensure that customers are not left without service.⁵⁷

The permanent location of the containerized boiler plant has not yet been identified. Creative Energy states that it is conducting negotiations with the City to determine the best location. The Company states that it expects that it will find a permanent location for the containerized boiler plant in close proximity to the existing, temporary location. Creative Energy is considering a location behind the bridge pier, adjacent to the current location and the City of Vancouver has tentatively allocated this location to Creative Energy in a leasing document issued to prospective developers for developing the Granville Loops into residential towers.⁵⁸

The tentative location for the permanent facility is identified in the figure below:⁵⁹



⁵⁶ Exhibit B-2, BCUC IR 4.1.2, 4.3, Attachment 4.1.2.

⁵⁷ Ibid., BCUC IR 4.3.1.

⁵⁸ Exhibit B-1, p. 59; Exhibit B-3, BCUC IR 42.5.

⁵⁹ Exhibit B-3, BCUC IR 42.5.

In a letter to the City, dated March 19, 2018, Creative Energy outlines its long-term strategy for the NES, stating:

Creative Energy understands that although some customers in the neighbourhood are not held to the [Low Carbon Energy Systems] LCES policy, developments that rezoned after 1st May 2017 will need to comply with LCES policy, and that Creative Energy's permanent plant will need to produce a quantity of low carbon energy to satisfy potential demand.⁶⁰

Creative Energy states that the permanent plant will use all of the equipment from the existing containerized boiler plant and the Company also plans to implement a low carbon energy source to meet the base load demand, thereby creating a Low Carbon District Energy Facility. Creative Energy has engaged a consultant to undertake a low carbon feasibility assessment to develop and evaluate the technical and financial feasibility for the following low carbon energy concepts: geo-exchange, air-source heat pumps and the conversion of Vancouver's Dedicated Fire Protection System into an ambient temperature loop.⁶¹

It is unclear whether Creative Energy's ability to relocate the containerized boiler plant to a permanent location on City-owned land is dependent on the implementation of a low carbon energy source because at present, the City has not provided firm requirements for the plant relocation. In the event that the containerized boiler plant could not be relocated to the permanent location on City-owned land Creative Energy states that it would work with private landholders of existing and upcoming developments to find a location for a boiler plant to serve the existing load.⁶²

Following the relocation of the containerized boiler plant Creative Energy states that the DPS and the ETS will continue to be used and useful assets. The Applicant states that if the boiler plant is relocated with its existing container, all the related equipment and piping will remain used and useful. If the contents of the containerized boiler plant are extracted and relocated to a separate space, then Creative Energy states that the majority of the assets would still be useable.⁶³

Creative Energy acknowledges that there will be costs associated with relocating the containerized boiler plant equipment to its permanent location and these costs have not been captured in the forecast spend and capital budgets referenced within the Application and will need to be captured in a future application.⁶⁴

3.0 Project Justification

In this Section, the Panel reviews the Application in terms of the CPCN criteria previously discussed. In particular, the Panel examines the project need, alternatives, risks, public consultation, alignment with BC's energy guidelines, the load forecast and costs.

3.1 Project Need

As outlined in Section 2.1, the Development comprises four buildings of mixed use. At full build-out, the total floor area of the Development will be 64,598 m² and the heat and DHW requirements of each building are

⁶⁰ Exhibit B-1, Schedule 5, p. 1.

⁶¹ Exhibit B-1, p. 59; Exhibit B-2, BCUC IR 4.3.1.1, Attachment 30.1.2.

⁶² Exhibit B-2, BCUC IR 31.1, 31.2.

⁶³ Exhibit B-3, BCUC IR 42.1.

⁶⁴ Exhibit B-1, p. 59.

calculated based on the EUI factors per square meter. Creative Energy estimates the average EUI for residential and commercial buildings of 58 kWh / m² and 90 kWh / m² respectively and that in 2020, at full occupancy, the Development will have a total energy demand of 4,028 MWh per year.⁶⁵

Creative Energy has already constructed the TES to serve Buildings 1 and 2 for Construction Phase 1 and as a result approximately 75 percent of the infrastructure necessary for the NES has been constructed. Creative Energy states that under the existing Stream A exemption, it is only permitted to provide service to Buildings 1 and 2 until occupancy. As Buildings 1 and 2 have no alternative sources of thermal energy, Creative Energy submits that it “requires this CPCN to be approved by the occupancy date otherwise the residence will be without heating and hot water.”⁶⁶

Creative Energy intends to expand the NES to provide heat only to Buildings 3 and 4. Creative Energy states that both buildings were designed on the assumption that an NES would serve the buildings, and as a result neither building has sufficient on-site space to implement any other system. The DHW loads for Buildings 3 and 4 are stated to be insignificant due to the commercial nature of the buildings; therefore the Developer will provide the load via small electric systems.⁶⁷

Panel Determination

Creative Energy proposes that the NES will serve the heating requirements of the Buildings 1, 2, 3 and 4 as well as the DHW requirements of Buildings 1 and 2. In considering the application for a CPCN, the Panel must first establish whether there is a need for the NES.

All four buildings in the Development have been designed on the assumption that heat will be provided from an NES and hence the Developer has provided no on-site space to implement any other solution. All four buildings are in the latter stages of completion, with occupancy of Buildings 1 and 2 anticipated in May 2019 and Buildings 3 and 4 starting in June 2019. Given the advanced stage of construction, the feasibility of securing suitable on-site space for heat generation is impracticable and therefore there is a need for an external source of heat for all four buildings.

Buildings 1 and 2 have no on-site source of DHW, as the Developer has assumed that this will also be provided by the NES, therefore there is a need for an external source of DHW. Buildings 3 and 4, being primarily commercial in nature, have an insignificant demand for DHW, and therefore have no need for external supply from the NES.

The total floor space for the four buildings is 64,598 m². The Panel is satisfied with Creative Energy’s estimate of the average EUI for residential and commercial buildings, and the total energy demand at full build-out of 4,028 MWh per year.

For these reasons, the Panel is satisfied that the need exists for the supply of heat to all four buildings and DHW to Buildings 1 and 2, as applied for by Creative Energy. **Therefore, the Panel finds that there is a need for heat and DHW for the Development.**

⁶⁵ Exhibit B-1, pp. 17, 21, 41; Exhibit B-3, BCUC IR 41.1.1.

⁶⁶ Exhibit B-1, pp. 17–18, 35.

⁶⁷ Ibid., pp. 6, 14, 18.

3.2 Project Alternatives

As outlined in Section 1.6.1, the 1480 Howe Street TES received a Stream A exemption to construct the Phase 1 NES and provide construction heat to Buildings 1 and 2 pursuant to Order G-28-17, dated March 3, 2017.

On page 1 of the Stream A application, Creative Energy stated that the first phase would be constructed in 2017 with the second phase scheduled for 2019. Creative Energy further explained on February 2, 2017 that the Stream A application related to “phase 1 only”⁶⁸ and that Creative Energy would “apply for a Stream B for connection to Phase 2.”⁶⁹

On October 16, 2018, Creative Energy filed an application to extend the 1480 Howe Street TES to provide space heating to Buildings 3 and 4, however pursuant to Order G-207-18 dated November 1, 2018, the application was denied.⁷⁰

Creative Energy filed its Application for a CPCN on November 7, 2018, stating that:

Given the expiration of the Order G-28-17 exemption on or about the date Buildings 1 and 2 achieve occupancy, Creative Energy requires a CPCN to continue operating the NES at that time during the operations phase of Buildings 1 and 2. Creative Energy submits it is in the public interest to issue a CPCN before occupancy of Buildings 1 and 2, which Creative Energy expects will be March-April, 2019.⁷¹

During the IR process, Creative Energy explained that the occupancy dates for Buildings 1 and 2 have been extended to May 2019 and that the Company is still requesting a final order from the BCUC by March 15, 2019 to allow it to seek approval of rates prior to the occupants of Construction Phase 1 taking service and to also “minimize delays to Phase 2 [NES] activities that require CPCN approval.”⁷²

In the Application, Creative Energy states that the containerized boiler plant, which has been sized to serve the entire Development, the service lines and the energy transfer station for the Phase 1 NES are built and in operation. The Applicant further explains that “[a]pproximately 75% of the infrastructure necessary for the NES has already been built to serve the construction activities for Vancouver House Buildings 1 and 2.”⁷³

In response to IRs, Creative Energy stated that the installation of all DPS required for the Phase 2 NES is complete, as is the construction of all the mechanical infrastructure and equipment required for the installation of DHW to Buildings 1 and 2. Creative Energy explained that the timing of other site activities required that construction of the DPS connection under Phase 2 to coincide with an open trench to install water connections and complex landscape structures. Creative Energy submitted that had it not taken advantage of this opportunity “the costs to construct the DPS would have been much higher”.⁷⁴

⁶⁸ Exhibit B-1, Schedule 10, BCUC Staff Question 1.6.

⁶⁹ Exhibit B-1, Schedule 9, p. 1; Exhibit B-1, Schedule 10, BCUC Staff Question 1.6.

⁷⁰ Extension of the 1480 Howe Street TES Stream A Order and Decision.

⁷¹ Exhibit B-1, p. 6.

⁷² Exhibit B-2, Cover Letter, p. 1.

⁷³ Exhibit B-1, pp. 6, 16, 35.

⁷⁴ Exhibit B-2, BCUC IR 6.2; Exhibit B-3, BCUC IR 36.1, 37.1.1.

Creative Energy stated that it originally considered connecting the NES to its existing central steam system at an estimated cost of \$3,150,000. This option however was discounted as Building 2 is designed to achieve Leadership in Energy and Environmental Design (LEED) Platinum certification and the efficiency of the steam system fails to meet the certification's requirements, as well as those set by the City.⁷⁵

In its analysis of the alternatives for the Phase 2 NES, Creative Energy considered the technical, financial and ergonomic viability of seven options:

1. Connection to steam provided by Creative Energy generated by biomass fuel;
2. Sewage heat recovery (Granville Bridge and Jervis St);
3. Small scale biomass plant;
4. Closed loop geo-exchange;
5. Closed loop ocean-exchange;
6. Open loop ocean-exchange; and
7. Solar thermal collectors.⁷⁶

In support of its assessment of the alternatives, Creative Energy included in the Application a 2012 report prepared for Westbank by Cobalt Engineering, titled *Low Carbon Energy Feasibility Screening (Phase 1) Beach and Howe* (Cobalt Study). The Cobalt Study assessed the seven options against a business as usual (BAU) scenario, whereby each building has its own on-site natural gas boiler.⁷⁷

In its assessment of the alternatives, Creative Energy notes that the construction of the Phase 1 NES is complete, and consequently, approximately 75 percent of the infrastructure necessary for the NES has already been constructed and the capital costs have already been expended. These, Creative Energy notes, "are important factors in considering the feasibility of any alternatives to the use of the NES for serving the Vancouver House Development going forward."⁷⁸

Creative Energy states that as a result of its alternatives analysis, it determined that the NES is the preferred method for providing thermal energy to the Development and each of the alternatives were considered to be unfeasible primarily due to insufficient on-site space and high capital costs compared to the estimated \$800,000 required to connect Buildings 3 and 4 to the existing Phase 1 NES infrastructure.⁷⁹

Creative Energy submits that the NES has been appropriately sized and, with a system capacity of 3,376 kW, it has sufficient capacity to serve the peak demand of the whole Development in the unlikely event that all four buildings were to have a coincident peak demand of 2,548 kW. Creative Energy further states that if it were to adopt one of the alternative options, Buildings 3 and 4 would not connect to the existing infrastructure currently serving Buildings 1 and 2 and as a consequence, the rates for Buildings 1 and 2 would be high. Furthermore, the

⁷⁵ Exhibit B-1, pp. 9, 32; Exhibit B-2, BCUC IR 15.3.1; Exhibit B-3, BCUC IR 42.8.

⁷⁶ Exhibit B-1, p. 32.

⁷⁷ Ibid., p. 31, Schedule 2.

⁷⁸ Exhibit B-1, pp. 32, 35; Exhibit B-2, BCUC IR 2.2.

⁷⁹ Exhibit B-1, pp. 32–33; Schedule 2; Creative Energy Final Argument, pp. 4, 10–11.

sunk costs associated with the infrastructure already constructed would result in the existing system failing to realize its maximum potential, and would ultimately be wasteful.⁸⁰

In addition to the existing Phase 1 NES infrastructure, Creative Energy states that it has completed the installation work for both the mechanical infrastructure and equipment required for the supply of DHW to Buildings 1 and 2, and the DPS required to connect Buildings 3 and 4 to the Phase 1 NES. The remaining installation work for the Phase 2 NES consists primarily of the installation of two ETS in Buildings 3 and 4.⁸¹

Panel Determination

For the following reasons, **the Panel finds that the NES proposed by Creative Energy is the only reasonable alternative to meet the heat and hot water needs of the Development, and that the alternatives proposed by Creative Energy are not realistic.**

Creative Energy filed this CPCN Application on November 7, 2018, and states that occupancy of Buildings 1 and 2 is expected in May, 2019. If the Panel were to find one of the proposed alternatives to be superior to the NES, there would not be sufficient time for Creative Energy to implement such an alternative prior to the occupancy of Buildings 1 and 2. Therefore, the Panel considers that the proposed alternatives are not realistic, and are merely theoretical comparisons against which to judge the NES. Notwithstanding this limitation, the Panel considers the proposed NES compared to the alternatives presented by Creative Energy in the Cobalt Study.

The Phase 1 NES is already providing heat to Buildings 1 and 2 during the construction of the two buildings. Creative Energy is applying to continue to operate the Phase 1 NES once these two buildings are occupied, at no additional capital cost and to install the necessary equipment and infrastructure to supply DHW to the buildings. All the other options analysed in the Cobalt Study would require additional cost and risk, and are therefore less reasonable than allowing the existing Phase 1 NES to continue to provide heat to Buildings 1 and 2 once they are occupied, and to extend the NES to provide DHW. Further, if any other alternative were to be adopted, there is a risk that some or all of the existing Phase 1 NES assets would become stranded and become a cost to ratepayers. The Panel is satisfied that the NES is, at this point, the only reasonable alternative to provide heat and hot water to Buildings 1 and 2.

Buildings 3 and 4 are in close proximity to the Phase 1 NES, and the cost to connect them to Phase 1 NES is a part of Creative Energy's Application. The Application seeks authorization to expand the Phase 1 NES to provide heat to Buildings 3 and 4 once they are occupied. Creative Energy estimates the cost to connect the Phase 2 NES is \$778,000, which is significantly less than the \$3.15 million estimated to connect the NES to its steam system and to install an ETS in each of Buildings 3 and 4. Creative Energy also provides evidence that constructing any of the options analyzed in the Cobalt Study, as a separate NES for Buildings 3 and 4, would also cost substantially more than \$778,000. Finally, an operating NES, with capacity to serve the demand forecast for Buildings 3 and 4, already exists for Buildings 1 and 2, as does the underground piping to connect it to Buildings 3 and 4. The work that remains for Creative Energy to complete the Phase 2 NES is primarily the installation of ETSs in Buildings 3 and 4. All other options analyzed in the Cobalt Study, or to connect to the steam system, would require additional cost and create additional risk, and are therefore less reasonable than expanding the existing Phase 1

⁸⁰ Exhibit B-1, p. 34; Exhibit B-2, BCUC IR 28.3, 28.4.1.

⁸¹ Exhibit B-2, BCUC IR 3.5, 6.2; Exhibit B-3, BCUC IR 36.1, 37.1.1.

NES to provide heat to Buildings 3 and 4 once they are occupied. The Panel is satisfied that connecting to the existing Phase 1 NES is, at this point, the only reasonable alternative to provide heat to Buildings 3 and 4.

Further, Creative Energy stated in a response to BCUC Staff Questions on February 6, 2017⁸² that it expected to file a CPCN application for the Phase 2 NES, and yet did not do so until November 2018. During this time, Creative Energy constructed portions of the Phase 2 NES, including the hot water facilities for Buildings 1 and 2 and the piping system to connect Buildings 3 and 4, without authority from the BCUC. Creative Energy also built the Phase 1 NES, a temporary facility to provide heat during construction authorized by the BCUC by Order G-28-17, with sufficient capacity to serve the entire Development. As a result, the Phase 2 NES is not merely the only realistic alternative, it is now *a fait accompli* as well.

3.3 Project Risks

Creative Energy identifies several risks relevant to the project in its Application, which it describes as follows.

Creative Energy estimates the total capital cost of constructing the Phase 2 NES to be \$778,000 including a contingency of \$63,000 based on an AACE Class 3 degree of accuracy. Creative Energy identifies a risk that the construction costs could increase beyond the Phase 2 NES contingency limit as a result of unforeseen circumstances and conflicts on-site, or changes caused by other contractors beyond Creative Energy's control. In the event that the costs were to exceed the contingency, Creative Energy states that this would have a slight impact on customer rates. The probability of this occurring is stated to be low to medium, since some of the Phase 2 NES costs have already been incurred. Since the time of application, Creative Energy confirms that it has competitively tendered a fixed price contract for the ETS for Buildings 3 and 4 within its baseline budget, which it states "provides further assurance that construction costs will remain within contingency levels."⁸³

Creative Energy states that at present natural gas prices are at near historic lows and because of this, the likelihood of gas prices increasing is considered to be highly probable. As a result, customers will see increased monthly bills. In order to mitigate the risk of increasing natural gas prices, Creative Energy states it will either purchase its natural gas directly from FortisBC on a firm basis or work with a gas marketer to secure fixed price contracts where appropriate at hedged rates to reduce price volatility. The Company also submits that the risk is mitigated by (1) the NES's high-efficiency and (2) having one NES with a common boiler plant serving the four buildings, which is more efficient than each building being served by its own boiler.⁸⁴

The performance risk relates to the risk that the NES does not perform as designed, constructed and operated and if this risk were to materialize, adjustments would need to be made to the system, which could result in additional costs. The probability of the risk arising is stated to be low given that the scope of the Phase 2 NES is "relatively simple", Creative Energy has implemented a number of similar ETSs, and its "considerable experience and expertise operating district energy systems," as well as its ability to respond quickly to any maintenance issues.⁸⁵

⁸² Exhibit B-1, Schedule 1, p. 1, Schedule 10, BCUC Staff Question 1.2.

⁸³ Exhibit B-1, pp. 25–26; Exhibit B-2, BCUC IR 8.1, 8.2, 8.4; Exhibit B-5, Attachment 1, BCUC IR 27.1.2.

⁸⁴ Exhibit B-1, p. 26; Exhibit B-2, BCUC IR 9.1, 9.2, 23.1.2; Creative Energy Final Argument, p. 15.

⁸⁵ Exhibit B-1, p. 27; Exhibit B-2, BCUC IR 8.1; Creative Energy Final Argument, p. 15.

The containerized boiler plant does not have an N+1 redundancy for its two boilers and this is identified as a potential performance risk. However, Creative Energy explains that this level of redundancy is not a requirement of TESs in Vancouver and the incremental cost is significant and would “have to be borne by a small number of customers for a temporary plant.” The boilers installed are three-burner units, which incorporate significant redundancy within the boiler package, compared to standard boilers. This, Creative Energy states, provides greater reliability and provides a redundancy that “would fall somewhere between “N” and “N+1”. The Applicant submits that this redundancy is sufficient for the NES and cost-effective for its customers.⁸⁶

In response to IRs, Creative Energy outlines its contingency plan for service to customers in the event that the City requires the TEC to be shut down for a temporary period during routine maintenance. In that event, Creative Energy has determined that it could rent a second containerized boiler plant, at a monthly cost from \$10,000 to \$15,000.⁸⁷

Creative Energy’s permit letter with the City mandates that the containerized boiler plant must be relocated by December 31, 2023. Whilst the City has not entered into an agreement or made a formal commitment for the permanent location of the containerized boiler plant, Creative Energy states that the City is committed to working with the Company to ensure customers are not left without service. Creative Energy explains that it expects to find a permanent location in close proximity to the existing location. In a leasing document issued to prospective developers for developing the Granville Loops into residential towers the City has tentatively allocated a location behind the bridge pier to Creative Energy. The proposed location is shown in Section 2.6 above, Future Strategy for Containerized Boiler Plant.⁸⁸

Creative Energy states that logistical details of the relocation remain unresolved. In order to continue to provide service to its customers during the relocation period however, Creative Energy anticipates that “either a new plant will be constructed prior to shutting down the containerized plant, or a second, short-term temporary boiler will be brought to site to provide heat”.⁸⁹

In the event that the containerized boiler plant cannot be relocated to a permanent location on City-owned land, Creative Energy states it would work with private landowners of existing and upcoming developments to find a suitable location. Creative Energy considers this scenario to be unlikely; however, it does acknowledge that if the risk was to materialize, it could entail a risk of higher cost, which could also impact customer rates.⁹⁰

Panel Determination

For the following reasons, **the Panel finds that Creative Energy’s approach to risk management for the Development is appropriate.**

Construction Risk

Creative Energy considers that the risk that construction costs are outside current contingency limits is low to medium. The Panel accepts that construction cost risk is not relevant for Buildings 1 and 2 because those costs have already been incurred. The Panel is satisfied that Creative Energy has taken steps to mitigate this risk for

⁸⁶ Exhibit B-1, p. 27; Exhibit B-2, BCUC IR 11.2; Creative Energy Final Argument, pp. 16–17.

⁸⁷ Exhibit B-3, BCUC IR 39.6.

⁸⁸ Exhibit B-1, p. 59; Exhibit B-2, BCUC IR 4.1, 4.1.2, 4.3.1, Attachment 4.1.2; Exhibit B-3, BCUC IR 42.5.

⁸⁹ Exhibit B-2, BCUC IR 30.5.

⁹⁰ Ibid., BCUC IR 31.2.

Buildings 3 and 4 by using a competitive tender process to award a fixed price contract and by preparing its capital costs estimates with a reasonable amount of contingency to account for unforeseen events.⁹¹

Operational Risks

Whereas construction cost risk impacts Buildings 3 and 4, which are still under construction, the operational risks that Creative Energy has identified impact the Development as a whole. The Panel therefore addresses these risks in terms of the Development, rather than on a building by building basis.

1. Natural gas price increase

Creative Energy acknowledges the likelihood that the price of natural gas will increase over the 25-year term of the service agreements with its customers, and that such an increase will translate into an increase in customers' monthly bills. Creative Energy explains that it will either purchase its natural gas directly from FortisBC on a firm basis or work with a gas marketer to secure fixed price contracts at hedged rates. The Panel encourages Creative Energy to explore these opportunities in order to minimize the impact of increasing natural gas prices on customer rates. Creative Energy does not consider an increase in gas prices to pose a significant risk to the benefits of the NES; the key benefits are the high efficiency of the NES and one boiler plant common to all four buildings. The Panel is satisfied that the high-efficiency of the NES will mitigate the impact to customers.⁹²

2. The NES does not perform as expected

Creative Energy identifies as a risk the possibility that the NES fails to perform as expected. It considers this risk to be immaterial for several reasons. First, the Phase 1 NES has already been operating as expected during the time that it has been supplying construction heat for Buildings 1 and 2. Second, Creative Energy has demonstrated expertise in operating district energy systems. Third, although it has not built in an "N + 1" redundancy, there is sufficient redundancy built into the containerized boiler plant, which falls somewhere between "N" and "N + 1". Finally, if required in the event the bridge needs to be shut down for routine maintenance or a City emergency, Creative Energy has a contingency plan to rent a second containerized boiler plant, the cost of which ranges from \$10,000 to \$15,000 per month.⁹³ The Panel is satisfied that Creative Energy has adequately addressed this risk.

Difficulty Identifying a Permanent Location

If Creative Energy is unable to relocate the boiler plant to a permanent location on City-owned land before December 31, 2023, Creative Energy says that it will work with private landholders of existing and upcoming developments to find a location to serve the existing load. It considers this risk to be low, because it continues to work with the City on a strategy and process for relocation.⁹⁴ The Panel accepts that Creative Energy is managing this risk by actively seeking a permanent location for the NES. The Panel will address its concerns with regard to the rate implications of this issue in Section 3.7 below.

As noted above in Section 2.6, Creative Energy and the City are committed to working together to identify a permanent location for the boiler plant to ensure that customers "are not left without service".⁹⁵ The Panel

⁹¹ Exhibit B-1, pp. 25–26; Exhibit B-2, BCUC IR 8.1, 8.2, 8.4.

⁹² Exhibit B-1, p. 26; Creative Energy Final Argument p. 15.

⁹³ Exhibit B-1, pp. 1, 9; Exhibit B-2, BUCU IR 11.2; Exhibit B-3, BCUC IR 39.6.

⁹⁴ Exhibit B-2, BCUC IR 4.3.1, 31.2.

⁹⁵ Ibid., BCUC IR 4.1.2, 4.3, 4.3.1, Attachment 4.1.2.

reminds Creative Energy that, pursuant to section 41 of the UCA, it must first obtain permission from the BCUC in order to cease operation of the NES.

3.4 Consultation

Creative Energy submits that its consultation activities are sufficient and commensurate with the size and scope of the NES. Creative Energy states that it has provided information about the NES to the Developer (its sole customer), the potential purchasers of the residential units in Building 2 and four developers active in Vancouver's development community. It will hold an open-house to provide information to the end-use customers of the Development. In addition, if it decides to expand the NES in the future, Creative Energy will hold an open-house to ensure that people living in the neighbourhood are made aware of the system and any future expansion. Finally, Creative Energy submits that to the extent that any further consultation is necessary, it would be more appropriate to engage in consultation in selecting a permanent location. Creative Energy provided evidence to the Panel of the City's support for Creative Energy's intention to assess the feasibility of locating a permanent low carbon energy centre on the City-owned land under the Granville Bridge.⁹⁶

To Creative Energy's knowledge, there have been no public complaints about the system during the year that the Phase 1 NES has been in operation. In addition, no public consultation was required during Phase 1 NES and the Phase 2 NES is only a modest expansion. In any event, (a) there are no alternative locations about which to consult with the public, and (b) there is a long-term vision where the containerized boiler plant will be moved to a location that is less visible to the public and local residents. Finally, Creative Energy states only the occupants of the Development will be directly impacted by the NES and all occupants are aware of the NES through property disclosure statements. Creative Energy confirmed, however, that although the NES is described in the property disclosure statement, the temporary nature of the boiler plant is not. Creative Energy states that it will hold a public consultation with residents of the neighbourhood to make them aware of the system and answer any questions. In summary, Creative Energy considers that the probability of public concern is low.⁹⁷

Creative Energy acknowledges that there is a risk, albeit low, of localized public concern because the temporary boiler plant is located within one block of residential apartments. Specifically, that the boiler exhaust plume may create a real or perceived disturbance to the surrounding neighbourhood or may adversely impact the Granville Street bridge. Creative Energy states that it has not had any complaints from municipal staff working on the bridge, or the public in general, regarding the exhaust plume, and nor has the City stipulated a requirement for a protective coating on the bridge. In the event of an issue with the plume, however, Creative Energy has a quote from a specialized coating contractor and submitted evidence that the cost of applying such a coating would be minimal.⁹⁸

Panel Determination

An important element of public consultation in a CPCN is to inform the public who may be directly impacted by the project⁹⁹ in order to identify, and then to address their issues or concerns. In considering the scope of consultation that is appropriate in this Application, the Panel must first determine who the "public" is that may be directly impacted by the project.

⁹⁶ Exhibit B-1, p. 36, Schedule 5; Exhibit B-2, BCUC IR 17.1, 17.2, 17.5.

⁹⁷ Exhibit B-1, p. 28; Exhibit B-2, BCUC IR 17.2, 17.3, 17.4, 17.4.1, 17.5.

⁹⁸ Exhibit B-1, p. 28; Exhibit B-2, Attachment 4.1.2; Exhibit B-3, BCUC IR 39.3, 39.5, 40.1.2; Creative Energy Final Argument, p. 16.

⁹⁹ CPCN Guidelines, Appendix A, p. 6.

In the Application, Creative Energy identifies the ‘directly impacted public’ as the residents of the neighbourhood, i.e. occupants of residential apartments within one block of the containerized boiler plant who may be concerned about the effect of boiler exhaust on health.¹⁰⁰ In responses to IRs, however, Creative Energy states that “only the occupants of the Vancouver House Development will be directly impacted by the NES”.¹⁰¹ The Panel considers that the “public” for the purpose of consultation should include the residents of the neighbourhood, as Creative Energy initially stated, as well as the occupants of the Development. The concerns of nearby residents might include the effect of boiler exhaust, as well as noise or even the unsightliness of the container.

Creative Energy acknowledges that “[t]here was no broad and general consultation with the public on this Project”¹⁰², and that “it has not conducted any general consultation with the general public relating to any real or perceived impacts as a result of the boiler exhaust plume.”¹⁰³

The Panel recognizes that Creative Energy was not required to consult the public during Phase 1 NES, because that construction was pursuant to a Stream A exemption. Nevertheless, public consultation about alternatives to the NES, the location of the boiler plant, the possible impact of the exhaust plume and the need to relocate the boiler system in future would have been helpful to the Panel. The Panel considers that Creative Energy’s reasons for not conducting public consultation, including the absence of reasonable alternatives about which to consult the public, or that this is only a modest expansion to a previously authorized project that did not require public consultation, or that only the residents of the project are impacted, are not sufficient to obviate the value of public consultation.

Accordingly, the Panel finds that Creative Energy has not adequately consulted with the public regarding the NES.

3.5 Long Term Resource Plan

There is no long-term resource plan on file that is relevant to the Application, and therefore this is not a consideration for the Panel in this proceeding.

3.6 Clean Energy Act and BC’s Energy Objectives

BC’s energy objectives are set out in section 2 of the CEA. Creative Energy states that the NES aligns with the BC energy objectives summarised in Table 1 below:

¹⁰⁰ Exhibit B-1, p. 28.

¹⁰¹ Exhibit B-2, BCUC IR 17.3.

¹⁰² Ibid., BCUC IR 17.1.

¹⁰³ Exhibit B-3, BCUC IR 40.1.

Table 1: Contribution of NES to Provincial Objectives and Policy¹⁰⁴

Provincial Energy Objectives (Section 2 of the CEA)	Contribution of the NES
(d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources	This project will support one or more innovative low carbon energy sources.
(g) to reduce BC greenhouse gas emissions	The project will reduce [greenhouse gas] emissions upwards of 4,000 tonnes per year at full build-out relative to business-as-usual
(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently	The project reduces the City's community emissions.
(k) to encourage economic development and the creation and retention of jobs	The project will support existing jobs in Creative Energy.
(o) to achieve British Columbia's energy objectives without the use of nuclear power	The project does not utilize nuclear power.

Creative Energy states that the NES will support one or more innovative energy sources as “District Energy is well accepted as an excellent platform for low-carbon energy sources and a key component of decarbonizing urban centres around the world.” However, Creative Energy explains that quite often district energy must be established with conventional sources first and grown to a scale where the low-carbon sources are favourable, and this, Creative Energy states, is the case in South Downtown. Creative Energy submits that by establishing the network, South Downtown will be able to implement low-carbon sources to provide renewable energy to the existing and future customers of the utility, subject to a future CPCN application.¹⁰⁵

During the IR process Creative Energy stated that the reduction of 4,000 tonnes per year of greenhouse gas (GHG) emissions relative to business-as-usual was misstated in the Application. Creative Energy explains that “[t]here are no significant outcomes with either Phase 1 or Phase 2 of the project. The 4,000 tonnes per year reduction is an estimate of the GHG reduction potential of the neighbourhood, once the system has built out.”¹⁰⁶

Creative Energy states that the NES creates employment opportunities in all areas of the Company and outlines the following as requiring resourcing from Creative Energy: engineering and project delivery of the initial phases and expansion phases of the project, as well as ongoing operations, maintenance, administration and customer service functions. Creative Energy states that it has “allowed for a new employee to be responsible for new NES operation with a time allocation to this project of 25 percent, i.e. a 0.25 [Full Time Employee] FTE.”¹⁰⁷

In its evidence, Creative Energy also states that its longer-term goal of creating a Low Carbon District Energy Facility would also align with the BC energy objectives summarised in Table 2 below:

¹⁰⁴ Exhibit B-1, pp. 56–58 (Table prepared by the BCUC).

¹⁰⁵ Exhibit B-2, BCUC IR 29.1.

¹⁰⁶ Ibid., BCUC IR 29.2.

¹⁰⁷ Ibid., BCUC IR 29.5, 29.5.1.

Table 2: Contribution of Low Carbon District Energy Facility to Provincial Objectives and Policy¹⁰⁸

Provincial Energy Objectives (Section 2 of the CEA)	Contribution of the NES
(d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources	This project will support one or more innovative low carbon energy sources.
(g) to reduce BC greenhouse gas emissions	District Energy is well accepted as an excellent platform for low-carbon energy sources and a key component of decarbonizing urban centres around the world. ¹⁰⁹
(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently	The project reduces the City's community emissions.

Creative Energy explains that district energy is well accepted to be a platform for low-carbon energy sources and a key component of decarbonizing urban centres. Creative Energy states that often district energy must be “established with conventional sources first, and grown to a scale where the low-carbon sources are favourable”.¹¹⁰ By establishing the network, “South Downtown will be able to, subject to a future CPCN, implement low-carbon sources to provide renewable energy to the existing and future customers of the utility.”¹¹¹ Creative Energy further states that if the NES were to be moved to a low-carbon source, it would assist in decarbonizing the South Downtown neighbourhood and would reduce overall GHG emissions, aligning with BC’s energy objective (g) to reduce BC GHG emissions.¹¹²

Creative Energy states that for all other BC energy objectives, for which the NES is not identified to provide a contribution, the Company does not expect the NES to hamper other projects or initiatives undertaken by Creative Energy, or others, from advancing these energy objectives.¹¹³

Panel Determination

For the following reasons, **the Panel finds that the NES is consistent with most of BC’s energy objectives but conflicts with objective (g), which relates to reducing GHG emissions.**

Creative Energy states that the only BC energy objectives which are applicable to the NES are (d), (g), (i), (k) and (o). The Panel agrees, and finds that the NES is consistent with all BC’s energy objectives other than (d), (g), (i), (k) and (o).

Creative Energy has allowed for a new employee to be responsible for the operation of the NES with a time allocation of 25 percent, or 0.25 FTE. The Panel agrees that this satisfies energy objective (k) related to encouraging the creation and retention of jobs. In addition, the Panel agrees with Creative Energy that objective (o) is satisfied, as the NES does not use nuclear power.

¹⁰⁸ Exhibit B-1, pp. 56–58 (Table prepared by the BCUC).

¹⁰⁹ Exhibit B-2, BCUC IR 29.1.

¹¹⁰ Ibid.

¹¹¹ Ibid.

¹¹² Creative Energy Final Argument p. 14; *Clean Energy Act*, SBC 2010, c. 22.

¹¹³ Exhibit B-2, BCUC IR 29.6.

The Panel recognizes that Creative Energy intends the NES to be a milestone in a larger plan that could eventually support more of BC's energy objectives. However, the Panel does not consider Creative Energy's future plans to be sufficiently specific to ascribe weight to them for the purposes of this Application. As a result, the Panel does not find that the Application advances BC's energy objectives (d) or (i), but neither does the Application conflict with those objectives.

BC's energy objective (g) is "to reduce BC greenhouse gas emissions", yet the proposed NES is fueled by natural gas, the burning of which emits GHG. Therefore, the NES is in conflict with the objective to reduce BC's GHG emissions, since it will add to the GHG emissions in BC. Creative Energy submits that 4,000 tonnes of GHG per year might be saved in the entire neighbourhood surrounding the NES once a district energy system is fully built out. However, the Panel considers that these savings are speculative, and cannot be ascribed weight in this application for the NES.

3.7 Capital Costs

Phase 1 NES capital cost

The Stream A application estimated the cost of Phase 1 NES to be \$1,828,000. Creative Energy states that the actual cost of Phase 1 NES was \$2,653,207, equating to a negative variance of \$825,207 or approximately a 45 percent increase. Creative Energy provides a breakdown of the variance between the Stream A estimate and the actual costs in the table below.¹¹⁴

	Stream A	Actuals	Delta
Equipment	\$ 600,000	\$ 730,061	\$ (130,061)
Materials	\$ -	\$ -	\$ -
Engineering / Design	\$ 96,000	\$ 274,235	\$ (178,235)
Construction	\$ 1,097,000	\$ 1,100,601	\$ (3,601)
Financing	\$ -	\$ -	\$ -
Fees/Overhead	\$ 5,000	\$ 259,512	\$ (254,512)
Soft costs / Predevelopment	\$ 30,000	\$ 237,577	\$ (207,577)
Contingency	\$ -	\$ 51,221	\$ (51,221)
Total	\$ 1,828,000	\$ 2,653,207	\$ (825,207)

During the IR process, Creative Energy stated that its accounting system at the time of the Stream A application did not clearly track project specific costs and the Fees/Overheads and Soft Costs/Predevelopment costs inadvertently incorporated only the expected costs of preparing and managing the application itself. Creative Energy stated that upon the reconciliation of the accounting system, a total of \$143,332 was spent on Fees/Overheads and \$198,991 on Soft Costs/Predevelopment, prior to the time of filing the Stream A application.¹¹⁵

¹¹⁴ Exhibit B-5, Attachment 1, BCUC IR 1.2.

¹¹⁵ Ibid.

Creative Energy's Stream A TES was for the provision of space heat to Buildings 1 and 2 for construction purposes only. However, during the IR process, Creative Energy confirmed that the mechanical infrastructure and equipment, such as DPS, heat exchangers and ancillary equipment, for the supply of DHW to Buildings 1 and 2 were installed during Phase 1 NES. As such, the construction of the Phase 1 NES is considered to be complete.¹¹⁶

Phase 2 NES capital cost

The Phase 2 NES capital costs are estimated to be \$778,000. A breakdown of the Phase 2 NES capital costs is provided in the table below.¹¹⁷

Table 3 – Phase 2 Capital Costs (nominal \$000s)

	2018	2019	Total
Phase 2 Network Capital Costs (Table 9¹¹⁸)			
Containerized boiler plant	0	0	0
Distribution pipe system	0	255	255
Energy transfer stations	0	252	252
Contingency	0	51	51
PST	0	18	18
Total Network Capital Costs	0	576	576
Phase 2 Development Costs (Table 10¹¹⁹)			
Creative Energy Internal Staff	16	15	31
External Consultants	78	0	78
Legal	35	0	35
Contingency	12	0	12
Total Development Costs	142	15	157
Interest During Construction (Table 11¹²⁰)	34	11	45
Total Phase 2 Capital Costs (Table 11¹²¹)	176	602	778

Minor differences due to rounding.

During the IR process, Creative Energy confirmed that the installation of all DPS for Phase 2 NES is complete and most of its Phase 2 NES costs, estimated at \$778,000, are either known or presented with at least an AACE International Class 3 degree of accuracy.¹²²

Usefulness of Assets Following Relocation and/or Introduction of a Low Carbon Option

Creative Energy must move the containerized boiler plant to a new location before the end of 2023. In response to an IR, Creative Energy explained that if the boiler plant can be relocated with its existing container, then all

¹¹⁶ Exhibit B-1, Schedule 9, p. 2; Exhibit B-3, BCUC IR 37.1.

¹¹⁷ Exhibit B-5, Attachment 1, BCUC IR 27.1.2. Table by BCUC.

¹¹⁸ Exhibit B-5, Attachment 1, BCUC IR 27.1.2.

¹¹⁹ Ibid.

¹²⁰ Ibid.

¹²¹ Ibid.

¹²² Exhibit B-2, BCUC IR 8.4; Exhibit B-3, BCUC IR 36.1; Exhibit B-5, Attachment 1, BCUC IR 27.1.2.

related equipment and piping of the containerized boiler plant would remain used and useful. If the contents need to be extracted and moved to a new location, most of the assets would remain used and useful. In that event, Creative Energy identifies as no longer useful the container and some hangers and supporting arrangements in the container, as well as some sections of piping depending on space configuration.¹²³ Further, the DPS and ETs are used and useful assets independent of the location of the containerized boiler plant.

Finally, Creative Energy stated that all three types of assets – the DPS, ETs and containerized boiler plant – would continue to be used and useful regardless of whether a low carbon plant is introduced. A new low carbon plant would still require the containerized boiler plant to serve the current Vancouver House network which does not require low carbon energy to meet the City’s rezoning requirements.¹²⁴

Panel Determination

The Panel is satisfied that Creative Energy has provided capital cost estimates in accordance with the CPCN Guidelines. In particular, for the capital costs yet to be incurred, Creative Energy has presented estimates with a stated degree of accuracy consistent with AACE International Class 3, the minimum required by the CPCN Guidelines.

However, the Panel has concerns about the capital costs of the NES and considers there to be a risk that ratepayers will incur unreasonable costs for their heat and hot water. As explained below, the issues for the Panel are the cost overruns of the Phase 1 NES and the risk of stranded assets once the City’s authorization for the temporary location of the thermal generation plant expires in 2023.

The BCUC approved a request from Creative Energy to build a temporary facility to provide construction heat to Buildings 1 and 2, with associated capital costs of \$1,828,000. Creative Energy states that its actual capital costs incurred for building the Phase 1 NES were \$2,653,207, a budget overrun of 45 percent. It explains that the majority of the cost overruns were due to “fees/overheads” and “soft costs” such as engineering and design which it failed to include in the original estimate because its accounting system “did not clearly track project specific costs”.¹²⁵ The Panel is concerned that the “fees/overheads” and “soft costs” added to the approved budget for the Phase 1 NES may not all be properly attributable to ratepayers. There is insufficient evidence on the record to determine whether the costs allocated to the Phase 1 NES after its completion were just and reasonable, and insufficient time remains before the occupancy date of the Development for the Panel to explore the issue.

For these reasons, the Panel is unable to conclude whether the capital costs for the Phase 1 NES presented by Creative Energy are reasonable.

In addition, the Panel is concerned about the future rate implications of Creative Energy having only five years’ permission to use the current location of the containerized boiler plant, and not having a specific plan for how it will serve the Development with thermal energy after its right to use the current location expires. The Panel considers there to be a risk that at least some of the NES assets may not be needed to serve the Development after five years, i.e. they would become stranded. The Panel accepts Creative Energy’s evidence that the

¹²³ Exhibit B-2, BCUC IR 4.3, Attachment 4.1.2; Exhibit B-3, BCUC IR 42.1.

¹²⁴ Exhibit B-3, BCUC IR 42.1, 42.2.

¹²⁵ Exhibit B-5, Attachment 1, BCUC IR 1.2.

majority of assets will remain used and useful. Nevertheless, there is a risk that some of the assets could become stranded, and this would be in addition to the cost of transitioning to either a new location or a low carbon solution which Creative Energy is approved to implement. While Creative Energy states that the DPS is used and useful independent of the location, the underground piping connecting the current location of the boiler plant to the Development may become useless if the new location is in a different direction. Further, although rezoning requirements do not require low carbon sources of energy,¹²⁶ the City's Near Zero Emissions Building policy¹²⁷ (or a similar policy) may require that Creative Energy implement a low-carbon energy source at the permanent location of the containerized boiler plant, in which case some of the existing NES assets may become non-compliant and hence stranded.

The BCUC granted Creative Energy the authority to construct a temporary facility to provide construction heat to Buildings 1 and 2. However the Panel has two concerns with respect to Creative Energy's prudence in its development of the NES. Firstly, the Panel notes that the actual capital expenditures for the Phase 1 NES exceeded Creative Energy's estimated costs by approximately 45 percent. This over-expenditure is in excess of the accepted -20 to +30 percent accuracy range for an AACE Class 3 estimate, the standard to which the original Stream A costs were stated to meet. Secondly, as outlined above, Creative Energy's chosen alternative has created a risk that some of the NES assets may not be needed once the containerized boiler plant is removed from its current location in 2023. Creative Energy has failed to explain or provide any clear plan for the future of the NES beyond 2023, which increases the Panel's concern regarding the possibility of stranded assets, and therefore regarding Creative Energy's prudence in its development of the NES. As a result, **the Panel recommends that the BCUC conduct a prudence review of the Phase 1 and Phase 2 NES capital expenditures prior to approving final rates for the Development.**

3.8 Looking Ahead

The Panel has already expressed its concern regarding the uncertainty over the location of the thermal generation plant after five years, the lack of proper public consultation and the lack of time the Panel was accorded to consider the Application prior to the occupancy of the Development. To ensure the security of supply of thermal energy to the Development at just and reasonable rates, Creative Energy must submit its future plans to the BCUC in sufficient time to allow proper consideration of the alternatives.

Accordingly, the Panel directs that:

- 1. Creative Energy file a CPCN application, including a description of its public consultation in accordance with the CPCN Guidelines, 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, and**
- 2. Creative Energy file with the BCUC any agreements that it enters into with the City regarding the location of the containerized boiler plant, or specifications it receives from the City regarding a low-carbon energy source for the Development.**

¹²⁶ Exhibit B-3, BCUC IR 42.2.

¹²⁷ Exhibit B-1, p. 22.

The Panel notes that Creative Energy completed some Phase 2 NES construction before applying for the CPCN, to conform to the Developer's schedule and ultimately save money.¹²⁸ The Panel acknowledges Creative Energy's rationale for doing so in this situation; however, the Panel expects that Creative Energy will comply with section 45(1) of the UCA.

4.0 CPCN Determination

The Panel finds that public convenience and necessity require the continued operation of the NES to provide heating service to Buildings 1 and 2 of the Vancouver House Development, the construction and operation of domestic hot water service to Buildings 1 and 2 and the extension and operation of the NES to Buildings 3 and 4.

The Panel has found that Creative Energy has conducted inadequate consultation, presented unrealistic alternatives and failed to justify the capital costs for the NES. Notwithstanding these findings, the Panel gives weight to the demonstrated need for heat and hot water at the Development, which has occupancy planned in May 2019.

Accordingly, the Panel grants a CPCN to Creative Energy for:

- 1. the extension of the NES to provide domestic hot water to Buildings 1 and 2;**
- 2. the operation of the NES in Buildings 1 and 2 to provide space heating and domestic hot water; and**
- 3. the extension of the NES to Buildings 3 and 4 to provide space heating and for the operation of the NES in those Buildings.**

4.1 Confidentiality

Creative Energy requests that the BCUC keep confidential Attachment 1.1 of Exhibit B-2-1 and Schedule 4 of Exhibit B-2-1 (Requested Confidential Information), stating that the disclosure of that information could "reasonably be expected to result in significant harm or prejudice to Creative Energy's competitive position with respect to its South Downtown NES and other thermal energy system projects."¹²⁹

The Panel is not persuaded by Creative Energy's arguments that the Requested Confidential Information should be kept confidential. Creative Energy has not described how the "significant harm or prejudice" might be caused, nor has it explained the "competitive position" it faces when it is the sole supplier of heat and hot water to the Development. Detailed information is required for the BCUC to assess the reasonableness of costs to be passed on to ratepayers, and such detailed information is normally fully disclosed once the costs are completely incurred and no benefit remains to be gained by a utility keeping information from suppliers or competitors.

That said, the Panel does not rely on the Requested Confidential Information in its determinations, and has not included any of the Requested Confidential Information in this decision. As a result, the Panel chooses not to pursue the matter further in this proceeding, and is satisfied that the Requested Confidential Information

¹²⁸ Exhibit B-2, BCUC IR 6.2.

¹²⁹ Exhibit B-4, pp. 1–2.

remains confidential at present. However, the question of confidentiality of this material is most likely to be raised again by the panel hearing Creative Energy's rates application and possible prudency review.

5.0 Reporting

Creative Energy is directed to:

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

DATED at the City of Vancouver, in the Province of British Columbia, this 3rd day of May 2019.

Original signed by:

R. I. Mason
Panel Chair / Commissioner

Original signed by:

E. B. Lockhart
Commissioner

Original signed by:

T. A. Loski
Commissioner



ORDER NUMBER
C-1-19

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 for a Neighbourhood
Energy System in the South Downtown area of Vancouver

BEFORE:

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

on May 3, 2019

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

WHEREAS:

- A. On November 7, 2018, 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). Creative Energy seeks to operate and expand a thermal energy system (TES) to create a Neighbourhood Energy System (NES) that provides heat to Buildings 1 to 4, and domestic hot water (DHW) to Buildings 1 and 2, of the Vancouver House Development (Development) located in the South Downtown area of Vancouver (Application);
- B. The Vancouver House Development 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.
- C. Creative Energy intends to operate the NES as one system, providing heating to the Development as a whole and DHW to Buildings 1 and 2. The NES is to be completed in two phases:
- Pursuant to Order G-28-17, Creative Energy constructed and operated a TES to provide construction heating only to Buildings 1 and 2 (Phase 1 NES); and
 - Creative Energy proposes to construct and operate additional infrastructure and equipment to provide DHW to Buildings 1 and 2 and heating services to Buildings 3 and 4 (Phase 2 NES).
- D. On March 3, 2017, the BCUC issued Order G-28-17 exempting the TES at the 1480 Howe Street location (1480 Howe Street TES) from sections 44.1, 45 and 59 to 61 of the UCA. Order G-28-17 included the following provision:

- The exemption is provided only for the duration of construction on the site, and Creative Energy is directed to file with the BCUC any changes to the temporary status, location or use of the thermal energy system, in accordance with the TES Guidelines;
- E. By Orders G-249-18 and G-23-19, dated December 21, 2018 and January 30, 2019 respectively, the BCUC established a regulatory timetable for the review of the Application which included, among other things, two rounds of BCUC information requests and submissions on further process;
- F. On March 1, 2019, Creative Energy filed its Final Argument; and
- G. The BCUC has considered the evidence and final submission and finds the NES to be in the public interest and the following determinations are warranted.

NOW THEREFORE the BCUC orders as follows:

1. Pursuant to sections 45 and 46 of the UCA, a CPCN is granted to Creative Energy authorizing the following:
 - a. the extension of the NES to provide domestic hot water to Buildings 1 and 2;
 - b. the operation of the NES in Buildings 1 and 2 to provide space heating and domestic hot water; and
 - c. the extension of the NES to Buildings 3 and 4 to provide space heating and for the operation of the NES in those Buildings.
2. Creative Energy is directed to file a CPCN application, including a description of its public consultation in accordance with the CPCN Guidelines, 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.
3. Creative Energy is directed to file with the BCUC any agreements that it enters into with the City of Vancouver regarding the location of the containerized boiler plant, or specifications it receives from the City of Vancouver regarding a low-carbon energy source for the Development.
4. Creative Energy is directed to:
 - a. file a Final Report within six months following the completion of the Phase 2 NES. The Final Report is to include a complete breakdown of the final costs of both the Phase 1 NES and the Phase 2 NES, a comparison of these costs to the estimates provided in the 1480 Howe Street TES Stream A application and this Application, and provide an explanation of all material cost variances; and
 - b. determine the form and additional content of the Final Report in consultation with BCUC staff.

DATED at the City of Vancouver, in the Province of British Columbia, this 3rd day of May 2019.

BY ORDER

Original signed by:

R. I. Mason
Commissioner

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

and

Creative Energy Vancouver Platforms Inc.
Certificate of Public Convenience and Necessity Application for a
Neighbourhood Energy System in the South Downtown area of Vancouver

EXHIBIT LIST

Exhibit No.	Description
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated December 18, 2018 - Appointing the Panel for the review of Creative Energy Vancouver Platforms Inc. Certificate of Public Convenience and Necessity Application for a Neighbourhood Energy System in the South Downtown area of Vancouver
A-2	Letter dated December 21, 2018 – Order G-249-18 establishing the regulatory timetable
A-3	Letter dated January 10, 2019 – Amending the Panel
A-4	Letter dated January 15, 2019 – BCUC Information Request No. 1
A-4-1	CONFIDENTIAL – Letter dated January 15, 2019 – Confidential BCUC Information Request No. 1
A-5	Letter dated January 30, 2019 – Order G-23-19 establishing a further regulatory timetable
A-6	Letter dated February 12, 2019 – BCUC Information Request No. 2
A-6-1	CONFIDENTIAL – Letter dated February 12, 2019 – Confidential BCUC Information Request No. 2
A-7	Letter dated February 27, 2019 – Order G-42-19 establishing a further regulatory timetable
A-8	Letter dated April 9, 2019 – BCUC request to Creative Energy to file a submission regarding confidential matter with respect to the responses to BCUC information requests
A-9	Letter dated April 24, 2019 – BCUC request to Creative Energy to file all non-confidential information contained in Exhibits B-2-1 and B-3-1 on a non-confidential basis.

APPLICANT DOCUMENTS

- B-1 **CREATIVE ENERGY VANCOUVER PLATFORMS INC. (CREATIVE ENERGY)** - Letter dated November 7, 2018 Certificate of Public Convenience and Necessity (CPCN) Application for a Neighbourhood Energy System (NES) in the South Downtown area of Vancouver

- B-1-1 **CONFIDENTIAL** – Letter dated November 7, 2018 Creative Energy Submitting **CONFIDENTIAL** Schedule 3 Financial Model

- B-1-2 Letter dated January 8, 2019 – Creative Energy submitting Customer Service Agreement

- B-2 Letter dated January 24, 2019 – Creative Energy Response to BCUC Information Request No. 1 & Submission on Further Process
- B-2-1 **CONFIDENTIAL** – Letter dated January 24, 2019 – Creative Energy Response to Confidential BCUC IR No. 1

- B-3 Letter dated February 21, 2019 – Creative Energy Response to BCUC Information Request No. 2 & Submission on Further Process
- B-3-1 **CONFIDENTIAL** – Letter dated February 21, 2019 – Creative Energy Response to Confidential BCUC IR No. 2

- B-4 Letter dated April 12, 2019 – Creative Energy Response to BCUC Request to Confirm Confidentiality

- B-5 Letter dated April 24, 2019 – Creative Energy filing of all non-confidential information contained in Exhibits B-2-1 and B-3-1 on a non-confidential basis.