

16 July 2020

Via E-filing

Ms. Marija Tresoglavic
Acting Commission Secretary
BC Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Ms. Tresoglavic:

**Re: British Columbia Utilities Commission (BCUC, Commission)
Creative Energy Mount Pleasant Limited Partnership
Application for a Certificate of Public Convenience and Necessity (CPCN) to
Acquire, Operate and Expand a Thermal Energy System for Cooling in the
Main Alley Development (Application)**

Creative Energy Mount Pleasant LP (**CEMP**) files its response to BCUC Information Request (**IR**) No. 2 in the above noted proceeding and in accordance with the Regulatory Schedule established by Order G-149-20.

For further information, please contact the undersigned.

Yours sincerely,



Rob Gorter
Director, Regulatory Affairs and Customer Relations

Enclosure.

Creative Energy Mount Pleasant Limited Partnership
Certificate of Public Convenience and Necessity Application to Acquire, Operate and Expand a Thermal
Energy System for Cooling in the Main Alley Development

CEMP Response to BCUC IR No. 2

Table of Contents	Page no.
A. Applicant.....	1
B. Project Need, Alternatives and Justification	7
C. Project Description.....	14
D. Project Cost Estimate and Indicative Rates.....	23
E. Customer Service Agreements	47
F. Contribution Agreement	48
G. Mount Pleasant DCS – Indicative Cost of Service	49

A. APPLICANT

38.0 Reference: APPLICATION OVERVIEW
BCUC 2015 Certificate of Public Convenience and Necessity Application Guidelines (CPCN Guidelines), p. 1; Exhibit B-1, Application, Section 1.1, p. 1; Section 1.3, p. 3; Section 2.2, p. 11; Exhibit B-3, BCUC IR 1.5; Creative Energy Vancouver Platforms Inc. Application for a Certificate of Public Convenience and Necessity for the Beatty-Expo Plants and Reorganization, Exhibit B-1, Appendix M, p. 1
Corporate Structure and Affiliated Parties

Page 1 of the British Columbia Utilities Commission’s (BCUC) Certificate of Public Convenience and Necessity (CPCN) Guidelines¹ (CPCN Guidelines) states:

The guidelines do not alter the fundamental regulatory relationship between utilities and the Commission. They provides [*sic*] general guidance regarding the Commission’s expectations of the information that should be included in CPCN applications while providing the flexibility for an application to reflect the specific circumstances of the applicant, the size and nature of the project, and the issues raised by the application ... The Commission may issue further directions relating to the information to be included in specific CPCN applications and may require applicants to provide further information to supplement material in filed applications. [*Emphasis added*]

On page 3 of Creative Energy Mount Pleasant Limited Partnership’s (CEMP) application for a CPCN to acquire, operate and expand a thermal energy system (TES) for cooling in the Main Alley Development, referred to as the Mount Pleasant District Cooling System (Mount Pleasant DCS or Project) (Application), CEMP states:

Creative Energy Mount Pleasant LP is a separate affiliate of Creative Energy Developments LP, a privately held energy infrastructure business with a focus on district energy system service in urban areas.

...

¹ Order G-20-15, dated February 12, 2015, https://www.bcuc.com/Documents/Guidelines/2015/DOC_25326_G-20-15_BCUC-2015-CPCN-Guidelines.pdf

Creative Energy Vancouver [Platforms Inc] staff are providing expert services to Creative Energy Mount Pleasant LP and the costs of those services are and will be directly assigned to the Mount Pleasant DCS project.

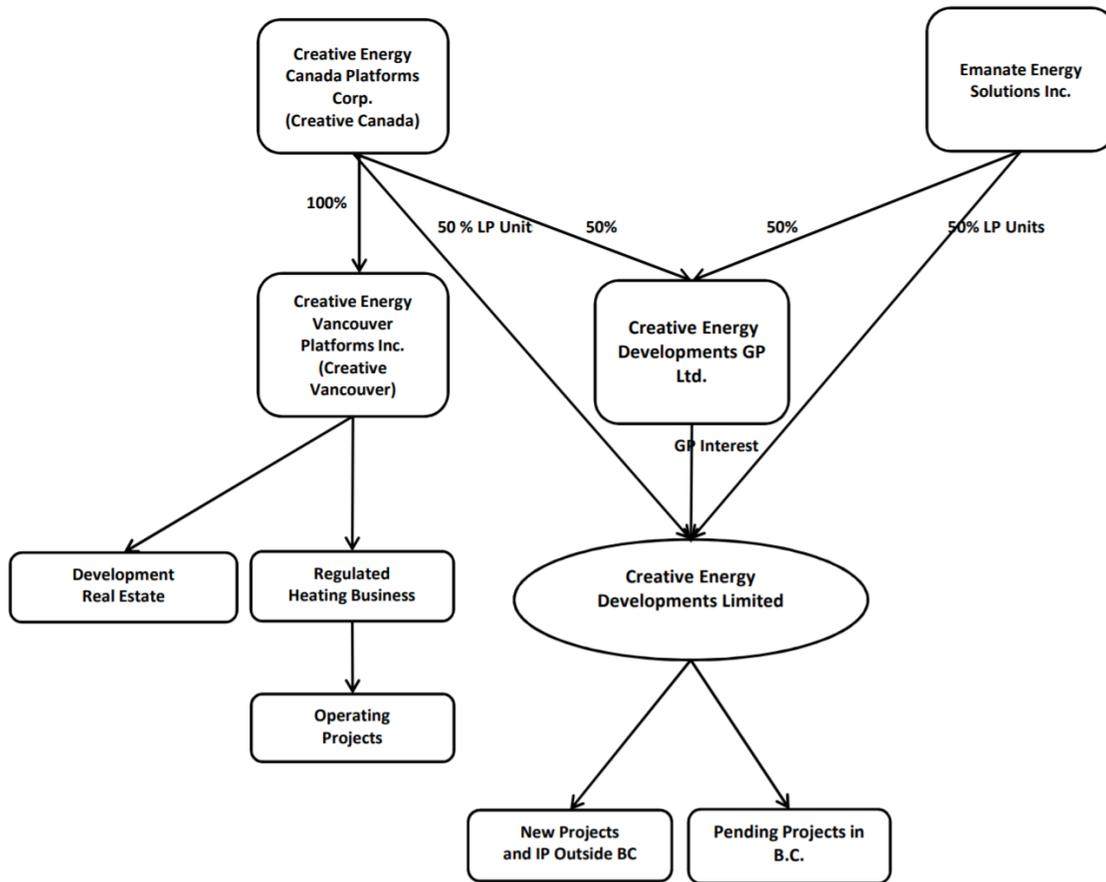
On page 1 of the Application, CEMP states:

Westbank Projects Corp. has partnered with Mount Pixel Projects Limited Partnership (together, the **5th & Main Partnership**) to construct the Main Alley Development, which is planned to consist of five buildings as summarized in section 2.1 below. The 5th & Main Partnership is the beneficial owner of all of the lands comprising the Development. The entities 111 East 5th Property Inc., 110 East 5th Property Inc., 130 East 4th Property Inc., and 2015 Main Property Inc. are the registered owners of the various lands that comprise the Development, and which hold registered title in trust for the beneficial owner, the 5th & Main Partnership. Each of the registered owners is owned through the 5th & Main Partnership and as such the same ownership group owns the entirety of the development site and is collectively the sole **Owner** of the Development.

On June 29, 2018, Creative Energy Vancouver Platforms Inc. (CEVP) applied for a CPCN to construct and operate new and renovated steam plant works and related facilities at CEVP's existing site at 720 Beatty Street and at an adjacent site within BC Place Stadium, including a proposed corporate reorganization involving CEVP, Westbank Projects Corp., Emanate Energy Solutions Inc. and Creative Energy Developments Limited Partnership (Expo-Beatty Plant Application).

By Order C-1-20, dated March 5, 2020, the BCUC approved the Expo-Beatty Plant Application, including the corporate restructuring and amalgamation, subject to approval by the Lieutenant Governor in Council (LGIC).

On page 1 of Appendix M to the Expo-Beatty Plant Application, CEVP provides the following organizational chart showing the anticipated structure at the time of application:



38.1 Please provide an organizational chart, similar to the one provided in the preamble above, to show the corporate structure of CEMP, including the following:

- Creative Energy Mount Pleasant Limited Partnership
- Creative Energy Mount Pleasant G.P. Inc.
- Creative Energy Vancouver Platforms Inc.
- Westbank Projects Corp.
- Emanate Energy Solutions Inc.
- Creative Energy Canada Platforms Corp.
- Creative Energy Developments GP Ltd.
- Creative Energy Developments Limited Partnership
- Mount Pixel Projects Limited Partnership
- 1038324 B.C. Ltd.
- 5th & Main Partnership
- 2000 Main Holdings Inc.
- 111 East 5th Property Inc.
- 110 East 5th Property Inc.
- 130 East 4th Property Inc.
- 2015 Main Property Inc.
- any affiliate, associate, subsidiary or parent companies not identified above that have direct or indirect interests in public utilities (CEMP, CEVP or other as applicable)

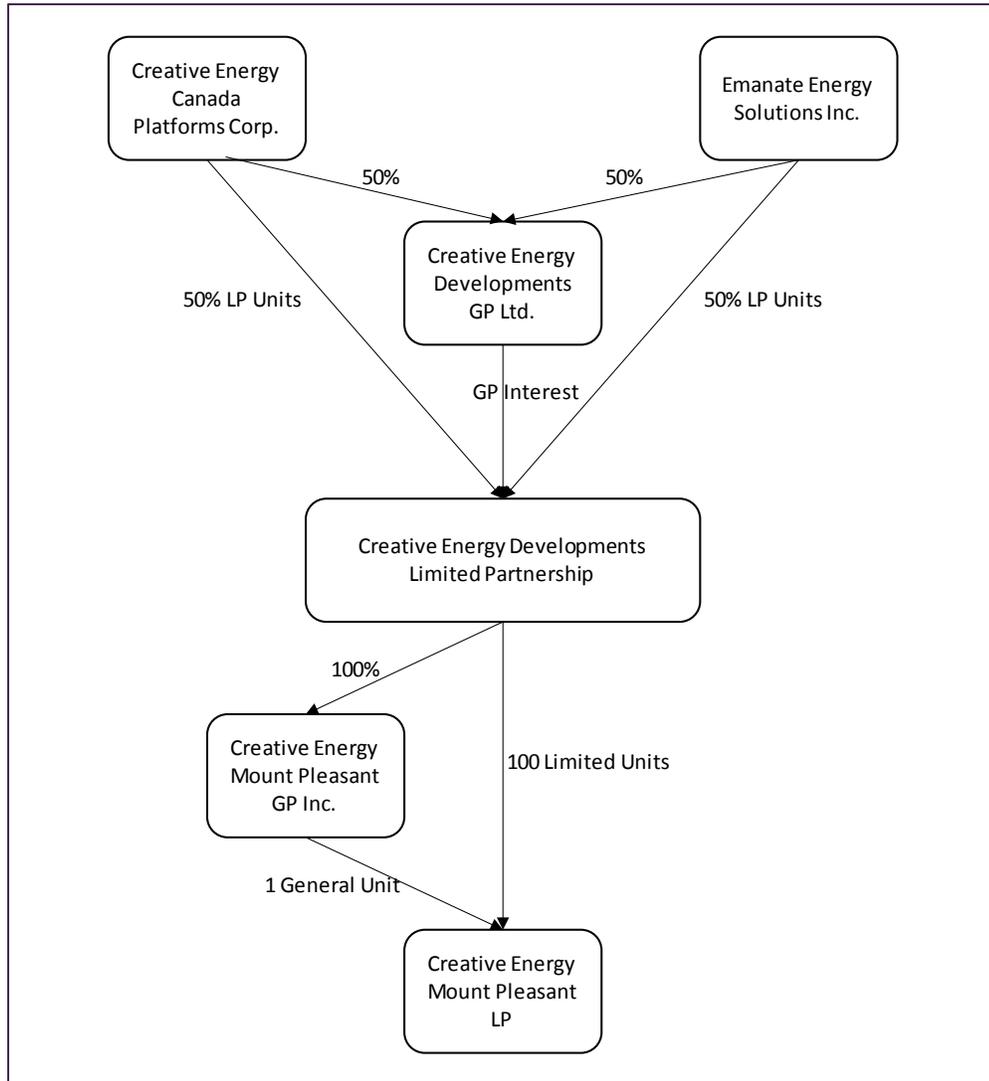
Please clearly identify the following:

- public utilities (current or proposed);
- all General Partners and Limited Partners; and

- the “Owner” as defined in the Application.

RESPONSE:

Please refer to the following chart.



CEMP provides additional context below, as referred to also in the response to BCUC IR 1.1.

Creative Energy Developments LP (CEDLP) is the sole shareholder of Creative Energy Mount Pleasant GP Inc. and holds 100 Common shares.

- **The ownership of Creative Energy Mount Pleasant LP (CEMP) is split into two classes of Units, the Class A (Limited) Units of which 100 are issued and held by Creative Energy Developments LP (CEDLP), and the Class A (General) Units of which 1 is issued and held by Creative Energy Mount Pleasant GP Inc.**
- **Creative Energy Mount Pleasant GP Inc. is the general partner of CEMP and CEDLP is the sole limited partner of CEMP.**
- **All of the shares of Creative Energy Mount Pleasant GP Inc. are held by CEDLP.**

- As such, CEMP is a wholly owned subsidiary of CEDLP, as illustrated in the chart, and was set up that way in order to insulate the assets and liabilities associated with this particular project, so that they are not exposed to liabilities from other operations.

Creative Energy Vancouver Platforms Inc. (CEVP) is a separate entity and at this time is affiliated to CEDLP through Creative Energy Canada Corp., which is CEVP's parent company and also a 50 percent interest holder in CEDLP.

On June 29, 2020, the Lieutenant Governor in Council (LGIC), by Order in Council No. 367, provided consent to the amalgamation of CEVP as reviewed in the Order C-1-20 proceeding and recommended by the Commission. Upon completion of the transactions approved by the Commission pursuant to Order C-1-20, CEVP will become a subsidiary of CEDLP. Those transactions are planned to occur July 31, 2020.

Westbank Projects Corp. is not applicable nor relevant to the organizational chart for CEMP. Westbank Projects Corp. is affiliated with Creative Energy Canada Platforms Corp. in that both entities are ultimately indirectly owned 100% by Westbank Holdings Ltd.

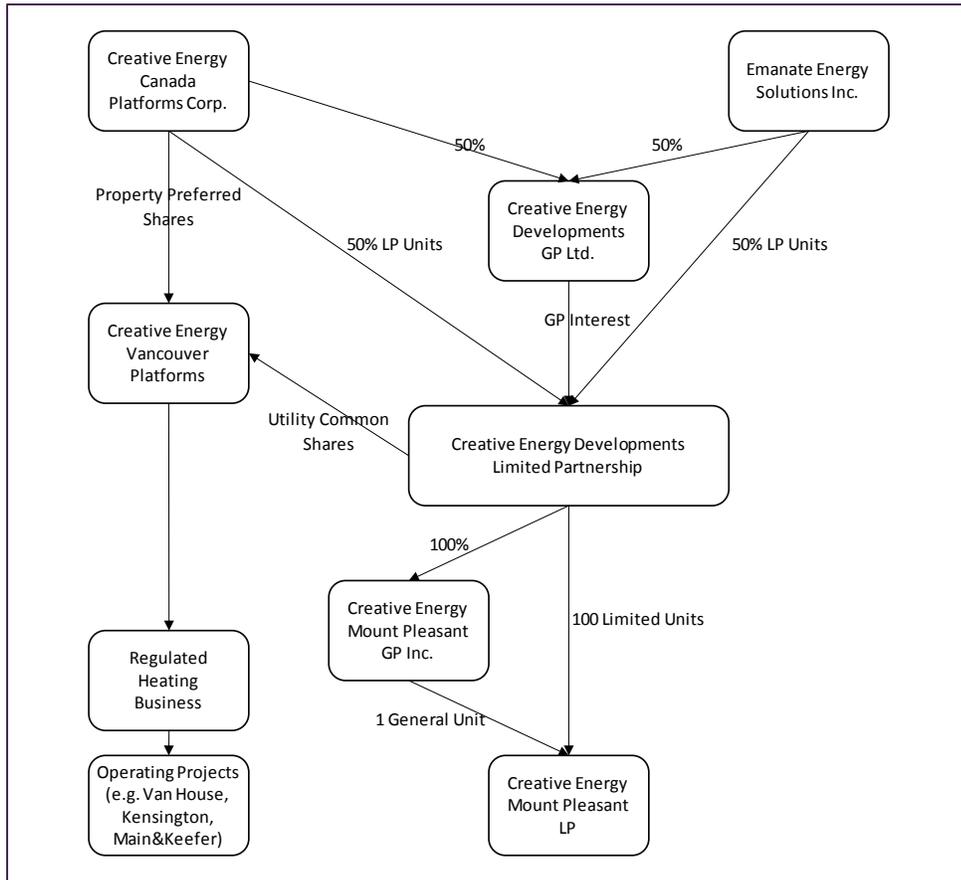
Westbank Projects Corp. (through its affiliate 2000 Main Holdings) together with Mount Pixel Projects Limited Partnership (and its General Partner 1038324 B.C. Ltd.) – together, the 5th & Main Partnership – have partnered to construct the Main Alley Development and this entity is not applicable nor relevant to the organizational chart for CEMP.

The 5th & Main Partnership is the beneficial owner of all of the lands comprising the Development. The entities 111 East 5th Property Inc., 110 East 5th Property Inc., 130 East 4th Property Inc., and 2015 Main Property Inc. are the registered owners of the various lands that comprise the Development, and which hold registered title in trust for the beneficial owner, the 5th & Main Partnership. Each of the registered owners is owned through the 5th & Main Partnership and as such the same ownership group owns the entirety of the development site and is collectively the sole Owner of the Development. These entities are not applicable nor relevant to the organizational chart for CEMP.

38.2 Please update the organizational chart provided in response to information request (IR) 38.1 to show the corporate structure of CEMP and all affiliated companies following the corporate restructuring approved by Order C-1-20, and assuming the amalgamation is approved by LGIC.

RESPONSE:

Please refer to the following chart. The corporate structure of CEMP is unchanged following the reorganization of CEVP, as illustrated in the chart. Please refer also to the final slide of Appendix M of the Application for a Certificate of Public Convenience and Necessity for the Beatty-Expo Plants and Reorganization (Exhibit B-1 in that proceeding), which shows the corporate structure of CEVP following the reorganization approved by Order C-1-20. The approved reorganization of CEVP is planned to occur July 31, 2020.



39.0 Reference: APPLICATION OVERVIEW
Exhibit B-3, BCUC IR 1.5; Creative Energy Vancouver Platforms Inc. Application for a Certificate of Public Convenience and Necessity to Acquire and Operate a Thermal Energy System for Cooling at the Vancouver House Development, Exhibit B-6, BCUC IR 19.1
Acquisition and operation of the Mount Pleasant DCS

In response to BCUC IR 1.5 and in reference to whether CEVP considered purchasing and operating the Mount Pleasant DCS, CEMP stated:

No. CEVP owns and operates the steam utility and connected NEFC hot water system in downtown Vancouver. The Mount Pleasant DCS will not be connected to the steam utility system and will be a separate TES and separate utility. CEMP was formed by CEDLP for the purpose of acquiring, operating and expanding the Mount Pleasant DCS to serve the cooling demand of the Main Alley Development.

Pursuant to Order C-2-20, dated April 1, 2020, CEVP was granted a CPCN to acquire and operate the Vancouver House DCS.

In Exhibit B-6 in the CEVP Application for a CPCN to Acquire and Operate a Thermal Energy System for Cooling at the Vancouver House Development, CEVP states:

The DCS will not connect to Creative Energy's existing customer core, North East False Creek, or other service areas.

39.1 Given that the Vancouver House DCS is not connected to the steam utility system or North East False Creek (NEFC) but was nonetheless acquired by CEVP, please discuss the factors that led to the formation of CEMP to own and operate the Mount Pleasant DCS. Please discuss any differences between the Mount Pleasant DCS and the Vancouver House DCS.

RESPONSE:

The difference between the structure of the legal entity proposed to own the Mount Pleasant DCS versus the entity that owns the Vancouver House TES and DCS is due to the timing of the respective projects.

Creative Energy Developments LP (CEDLP) is a limited partnership of Creative Energy Canada Corp. and Emanate Energy Solutions Inc. It was formed in January 2018 to develop, finance and manage urban energy infrastructure projects in North America including in British Columbia. The plan is for CEDLP to identify, develop and finance potential project opportunities. For those projects that will proceed forward to construction and/or applications for regulatory approvals as required, a separate wholly-owned subsidiary limited partnership or company will be established to pursue the individual project. The intent is that each individual energy project is constructed, owned and operated by a separate wholly-owned subsidiary of CEDLP.

Creative Energy Mount Pleasant LP (CEMP) is an example of such a separate wholly-owned subsidiary of CEDLP. CEMP was formed by CEDLP for the purpose of acquiring, operating and expanding the Mount Pleasant DCS to serve the cooling demand of the Main Alley Development. The acquisition of the Mount Pleasant DCS was negotiated in 2019-2020 in the context of CEDLP and its plans (as outlined above), resulting in the Construction and Purchase Agreement dated as of March 5, 2020 between CEMP and the Owner.

The acquisition of the Vancouver House DCS by Creative Energy Vancouver Platforms Inc. (CEVP) was negotiated in 2015/16 resulting in the Construction and Purchase Agreement in relation to that project dated as of February 12, 2016. That agreement predates the formation of CEDLP by nearly two years. Following the formation of CEDLP in 2018, CEVP is no longer in the business of developing new TES unrelated to the Core Steam and NEFC systems.

B. PROJECT NEED, ALTERNATIVES AND JUSTIFICATION

**40.0 Reference: INTRODUCTION
Exhibit B-3, BCUC IR 4.1
Requested Approvals**

In response to BCUC IR 4.1, CEMP stated:

CEMP seeks approval to construct and operate all four phases under a single CPCN because all four phases are necessary in respect of the design of all buildings in the Main Alley Development.

40.1 Please explain why CEMP considers all four phases to be "...necessary in respect of the design of all buildings in the Main Alley Development."

RESPONSE:

CEMP and the Owner each require certainty that required regulatory approvals are in place for CEMP to provide cooling service from a district energy system to all buildings of the development. The Owner requires certainty that CEMP has all approvals required to provide such scope of service so

that the Owner can design the Main Alley Development buildings without their own on-site cooling equipment. The design work for a commercial building typically commences 4-5 years before occupancy. CEMP requires regulatory certainty so that it can commit unconditionally to the transactions contemplated by the Construction and Purchase Agreement.

Regulatory certainty is required at this time, in the form of CPCN approval for all phases, so that CEMP can declare satisfied the conditions precedent in the Construction and Purchase Agreement, thereby committing unconditionally to the transactions contemplated therein. CEMP's unconditional commitment will in turn allow the Owner to move forward with designing and building the Main Alley Development as contemplated.

For clarity, the capital expenditure to serve the later phases of the development with cooling will not be implemented until those phases are under construction, so there is no load risk specific to the later phases.

40.1.1 Please identify all terms in the Construction and Purchase Agreement related to this necessity.

RESPONSE:

Please refer to the conditions precedent in sections 2.2 and 2.3 of the Construction and Purchase Agreement.

**41.0 Reference: BUSINESS CONTEXT
Exhibit B-3, BCUC IR 5.3; CPCN Guidelines, pp. 4–5
Alternative to Creative Energy Mount Pleasant LP acquiring the Mount Pleasant DCS**

The BCUC's CPCN Guidelines outline the minimum requirement for an application submitted under sections 45 and 46 of the *Utilities Commission Act* (UCA). Section 2 on pages 4 and 5 of the CPCN Guidelines includes items specific to Project Need, Alternatives and Justification. Items (i) through (v) of that section state:

- (i) Studies or summary statements identifying the need for the project and confirming the technical, economic and financial feasibility of the project, identifying assumptions, sources of data, and feasible alternatives considered. The applicant should identify alternatives that it deemed to be not feasible at an early screening stage, and provide the reason(s) why it did not consider them further;
- (ii) A comparison of the costs, benefits and associated risks of the project and feasible alternatives, including estimates of the value of all of the costs and benefits of each alternative or, where these costs and benefits are not quantifiable, identification of the cost area or benefit that cannot be quantified. Cost estimates used in the economic comparison should have, at a minimum, a Class 4³ degree of accuracy as defined in the most recent revision of the applicable AACE International Cost Estimate Classification System Recommended Practices;
- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates;
- (iv) A schedule calculating the net present values of the incremental cost and

benefit cash flows of the project and feasible alternatives, and justification of the length of the term and discount rate used for the calculation;

- (v) A schedule and supporting discussion comparing the project and feasible alternatives in terms of social and environmental factors, and the applicant's assessment regarding the overall social and environmental impact of the project relative to the overall impact of the feasible alternatives; *[Emphasis added]*

³ Class 4 estimates are generally prepared based on limited information and subsequently have fairly wide accuracy ranges. They are typically used for project screening, determination of feasibility, concept evaluation, and preliminary budget approval.

Regarding the alternatives considered for the centralized approach, CEMP stated the following in response to BCUC IR 5.3:

The parties have agreed that CEMP will acquire the existing operating cooling equipment and that the value of the existing assets will be maximized through expansion to serve the additional buildings in the Main Alley Development. No other options were identified nor considered given the unique circumstances.

- 41.1 Please describe the "unique circumstances" CEMP refers to in response to BCUC IR 5.3, as noted above.

RESPONSE:

The unique circumstances are those set forth in sections 1.1 and 2 of the Application. In summary and as stated in section 2.3 of the Application,

"The Mount Pleasant DCS is a very specific and localized project, Owner-driven and designed to serve an identified cooling load at five specific buildings being developed over time. It is not planned to be built with excess capacity in the hopes of serving as yet unidentified future growth opportunities. The DCS will cross a road and will serve multiple sites, but those sites are all controlled by the same entity, the Owner, and the need and desirability of the agreement to transfer and upgrade the Mount Pleasant DCS stems directly from the commercial and competitive interests of the Owner.

The Owner is designing and constructing the Main Alley Development to be served by a centralized TES for cooling and through the Construction and Purchase Agreement it indicates its preference for Creative Energy Mount Pleasant LP to own, design, build and operate the TES."

- 41.2 Please explain why CEMP has considered no alternatives to the Project, other than a decentralized approach where CEMP would not own the equipment or be involved.

RESPONSE:

CEMP has not put forward any alternatives to the proposal to acquire the existing Mount Pleasant DCS, and operate, modernize and expand it to serve the Main Alley Development, as specified by the Owner through the terms of the Construction and Purchase Agreement, because there are no feasible alternatives for CEMP. Any alternative would necessarily be hypothetical and not feasible for CEMP to undertake because CEMP could not pursue it either under the Construction and Purchase Agreement or otherwise.

The alternatives, whether or not feasible, are as follows:

1. The proposed project where CEMP acquires the existing cooling equipment and premises from the Owner and modernizes and expands it to serve the needs of the Owner pursuant to the terms of the Construction and Purchase Agreement as stipulated and agreed to by the Owner in its prerogative. This alternative is the Owner's preferred project and is feasible.
2. The alternative where the Owner retains its cooling equipment, and builds and operates its own cooling equipment to serve the needs of its development. This alternative might be feasible, but it would not involve CEMP and therefore is not an alternative for CEMP. It is assessed in the Application to demonstrate the benefit to the Owner/Customer of the proposed project. The Owner has determined that the proposed project is a better option, and has entered into the Construction and Purchase Agreement.
3. An alternative where CEMP does not acquire the existing cooling equipment and instead CEMP acquires premises and builds a brand new DCS nearby to serve the Main Alley Development. This alternative would forgo the benefit of leveraging existing on-site cooling equipment and the available premises enclosing it in favour of new equipment and new premises, which would be much more expensive. The Owner would not agree. This alternative is hypothetical and not feasible.

The Owner is designing and constructing the Main Alley Development to be served by a centralized DCS for cooling and through the Construction and Purchase Agreement it indicates its preference for CEMP to own, design, expand and operate the DCS. If the BCUC does not approve the Application, the acquisition by CEMP will not proceed in accordance with the Construction and Purchase Agreement, and the Owner will have to consider its alternatives (per item 2, above). CEMP is not aware of any feasible alternatives that could involve CEMP providing public utility service to the Owner and hence CEMP is not aware of any feasible alternatives involving CEMP.

Section 2.3 of the Application outlines indicative alternatives that were available to the Owner (again not involving CEMP) for benchmark comparison purposes. To the extent the purpose of this proceeding is to ensure that the Owner will be adequately protected if the BCUC approves the Application, section 3.3.6 of the Application provides the evidence that the Owner is better off than it would be under its alternative of a distributed approach where CEMP would not own the equipment. Be that as it may, it was the Owner's ultimate decision to pursue a DCS for the Main Alley Development in full view of the Owner's alternatives, as reviewed in advance through a Feasibility Study.

- 41.2.1 Please discuss, in CEMP's view, how the BCUC can determine if the Project is in the public interest in absence of any consideration of alternatives.

RESPONSE:

Except for the fact that the Mount Pleasant DCS - assuming the BCUC approves this Application and it is owned by CEMP - will serve customer load across a public street to different sites all controlled by the same entity, the DCS would be deemed a Stream A TES under the BCUC's TES Regulatory Framework Guidelines and CEMP would be exempt from the need for a CPCN to acquire and operate the Mount Pleasant DCS. As noted in section 4.1 of the Application, because the Mount Pleasant DCS will serve load across a public street CEMP assumed that the Commission would deem it a Stream B TES by default. The Application was therefore prepared in accordance with the TES Guidelines for a Stream B TES and with regard also to the CPCN Guidelines to the extent applicable.

The fact that the CPCN Guidelines contemplate that there will typically be feasible alternatives to a proposed project and that in this case there are no feasible alternatives for CEMP does not impede a determination that the actions contemplated by the Application are in the public interest. Given that the Owner/Customer wishes to design the Main Alley Development buildings with space cooling and to establish a district cooling system to provide the cooling, leveraging existing cooling equipment and owned and operated by CEMP, under the Owner/Customer's own commercial and competitive interest, and that there is consequently no alternative for CEMP under the Construction and Purchase Agreement put in place to achieve that outcome, in our submission this necessarily means that the Mount Pleasant DCS serves the public interest. In view of the unique circumstances of the Mount Pleasant DCS, this observation runs parallel to the corollary if the project was deemed to be a Stream A TES, in which case it would be exempt from requiring a CPCN, meaning that the public interest is necessarily presumed to be served through long-term commercial agreements with the customer in response to localized and competitive considerations, as we have here.

Through this second round of IRs, CEMP has been requested to address potential issues arising from various references to the CPCN Guidelines (underlined and with emphasis added, as noted), which may be suggestive of an unduly prescriptive approach in view of the unique circumstances of the Mount Pleasant DCS. It is important to note that the CPCN Guidelines, on page 1, state as follows:

"The guidelines do not alter the fundamental regulatory relationship between utilities and the Commission. They provides general guidance regarding the Commission's expectations of the information that should be included in CPCN applications 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. An applicant is expected to apply the guidelines in a flexible and reasonable manner that reflects the spirit and intent of the guidelines."

The above reference is quoted in the preamble of BCUC IR 38.1. Of note is the statement that the guidelines provide general guidance while also providing 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.

CEMP confirms its view that its proposed acquisition of the Mount Pleasant DCS as set forth in the Application is not amenable to the BCUC's traditional approach to reviewing CPCN applications. CEMP submits that the BCUC's review of the Application should consider the flexibility noted in the guidelines for the specific circumstances of the size and nature of this project, and the issues raised by the application.

A typical application for a CPCN involves an established public utility proposing to construct and operate an extension to its existing utility system to serve forecast load growth. CEMP understands that the BCUC's CPCN Guidelines are focused on that paradigm; with new service areas getting only fleeting mention at the end of the CPCN Guidelines in section 7.

In contrast,

- CEMP would be a new utility providing a new service (cooling) in a new localized district service area;
- CEMP is not choosing a preferred project among feasible alternatives to serve a need identified by CEMP. The Mount Pleasant DCS project plan is driven by the Owner's prerogative and commercial interest to construct buildings at the Main Alley Development, have the buildings served with space cooling, and design the buildings to connect to a DCS. The parties

agree that CEMP should acquire the existing non-utility cooling system, and operate, modernize and expand it as public utility equipment serving the need specified by the one and only customer; and

- Any alternative would necessarily be hypothetical and not feasible for CEMP to undertake because CEMP could not pursue it either under the Construction and Purchase Agreement or otherwise.

For all the reasons summarized above, CEMP proposed in section 4 of the Application that the Commission can reasonably apply an efficient review process to review the Application and grant the requested CPCN without a public hearing process and with due regard also to the foundational principles and guidelines for regulatory efficiency as set out in the Alternative Energy Services (AES) Inquiry Report and the flexibility contemplated within the CPCN Guidelines.

**42.0 Reference: INTRODUCTION
CPCN Guidelines, p. 4; Exhibit B-1, Section 3.3.6, p. 21; Exhibit B-3, BCUC IR 12.4
Project Alternatives**

Page 4 of the BCUC’s CPCN Guidelines states:

An application under sections 45 and 46 of the UCA should contain the following information: ...

- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates [*Emphasis added*]

On page 21 of the Application, CEMP provides the following table:

Table 7: Centralized versus Distributed Cooling of the Main Alley Development

	Centralized	Distributed			
	DCS	M1 & M3	M2	M4	M5
Soft Cost & Contingency		25.0%	25.0%	25.0%	25.0%
WACC		6.63%	6.63%	6.63%	6.63%
Depreciation Period		20 years	20 years	20 years	20 years
Maintenance		1.00%	1.00%	1.00%	1.00%
Insurance		0.12%	0.12%	0.12%	0.12%
Capital		3,510,000	3,000,000	2,900,000	1,500,000
Total Capital		4,387,500	3,750,000	3,625,000	1,875,000
Capital Charge		402,156	343,723	332,266	171,862
Maintenance		43,875	37,500	36,250	18,750
Insurance		5,265	4,500	4,350	2,250
Operators ⁸		300,000	66,667	66,667	66,667
Total Fixed Charge		751,296	452,390	439,532	259,528
Subscribed Peak (kW)		1,280	840	1,155	390
Load (MWh)		890	655	790	240
\$/MWh		\$48.53	\$48.53	\$48.53	\$48.53
Variable Charge		43,189	31,785	38,336	11,646
All-in \$/kW	\$442	\$621	\$576	\$414	\$695
All-in \$/MWh	\$579	\$893	\$739	\$605	\$1,130

42.1 Please confirm, or explain otherwise, whether the All-in \$/kW for Distributed and Centralized DCS are based on a levelized rate design.

RESPONSE:

The cost of service model attached to the Application presents indicative rates of the CEMP (Centralized) DCS on both a levelized and cost of service basis. The All-in \$/kW indicative rate for the CEMP Centralized DCS reported in the table above is the rate in 2021 based on a levelized rate design.

As discussed in the responses to BCUC IR 5.4 and BCUC IR 41.2, under a distributed approach where each of the buildings in the Main Alley Development is supplied cooling energy by its own on-site cooling equipment, CEMP would not own the equipment nor be involved. A person that owns equipment to provide energy only to itself is not a public utility under the *Utilities Commission Act*. Thus, Creative Energy has not developed separate cost of service models of the indicative rates under a levelized rate design for each building based on the distributed approach. To facilitate the indicative comparison, the All-in \$/kW rates for each distributed option are effectively the initial year cost of service rates for each option based on the simplified estimation calculations presented on the 'Distributed Comparison' worksheet of the model. It is reasonable to compare these rates to the levelized rate in 2021 of the Centralized DCS, as that would be the form of rate design that CEMP will bring forward as part of a final rates application and we have no basis to present any rates for the distributed alternative other than a high-level cost of service estimate based on the assumptions presented in Table 7.

As a concluding comment, and as noted in the narrative supporting the presentation of Table 7 in the Application, while a distributed approach is not an alternative for CEMP, the assessment was presented to offer a reasonable comparison to the higher overall costs that would be expected under a distributed approach, consistent with the inputs to the Mount Pleasant DCS cost of service model.

42.1.1 If not confirmed, please complete the following table.

As of Year 2030 in \$/kW:	Centralized DCS	Distributed DCS			
		M1 & M3	M2	M4	M5
Levelized Rate Design					
Cost of Service Rate Design					

RESPONSE:

As of Year 2030 in \$/kW:	Centralized DCS	Distributed DCS			
		M1 & M3	M2	M4	M5
Levelized Rate in 2030	\$464	Unable to provide and not applicable. Please refer to the responses to BCUC IR 41.2, 41.2.1 and 42.1.			
Unit Cost of Service in 2030	\$502	\$640	\$564	\$399	\$709

C. PROJECT DESCRIPTION

43.0 Reference: THE MOUNT PLEASANT DCS PROJECT AND PUBLIC INTEREST CONSIDERATIONS Exhibit B-1, p. 9; Appendix B, Schedule J, KWL Report; Exhibit B-3, BCUC IR 7.5, 7.5.3 Acquisition of the Existing Cooling Plant

On page 9 of the Application, CEMP states:

Creative Energy Mount Pleasant LP retained Kerr Wood Leidal Consulting Engineers (KWL), to provide a third-party review of the existing DCS assets and to provide recommendations on the phasing of capital expenditures for upgrades, improvements and connections to buildings of the Development as they come online.

Schedule J of Appendix B (Construction and Purchase Agreement) of Exhibit B-1 contains a Purchased Assets Report by Kerr Wood Leidal (KWL Report).

In response to BCUC IR 7.5, CEMP stated:

CEMP is taking responsibility for the 150-ton chiller with respect to removal and replacement and is therefore included in the Description of Purchased Assets. As there will be no useful life for CEMP, the purchase price is \$0 (as agreed during purchase negotiations with the Owner).

In response to BCUC IR 7.5.3, CEMP stated, "The KWL report assumes correctly that the 150-ton chiller is purchased for \$0."

43.1 Please confirm if the KWL Report assumes that the 150-ton chiller will be both purchased and used by CEMP in the operation of the Mount Pleasant DCS.

RESPONSE:

The KWL Report correctly assumes that the 150-ton chiller will be purchased for \$0 and taken out of service in the first phase of construction. It will not be used by CEMP in the operation of the Mount Pleasant DCS.

43.1.1 If confirmed, please describe the impacts to KWL's recommendations on the phasing of the capital expenditures and the design of system redundancy.

RESPONSE:

There is no impact on KWL's recommendations of the phasing of the capital expenditures and the design of system redundancy. KWL and CEMP are aligned in this regard.

**44.0 Reference: THE MOUNT PLEASANT DCS PROJECT AND PUBLIC INTEREST CONSIDERATIONS
Exhibit B-1, Section 3.1, p. 13; Appendix B, Schedule J
Peak Load Capacity and Annual Cooling Demand**

On page 13 of the Application, CEMP provides a summary of Peak and Annual Cooling Load in Table 3. Table 3 is reproduced below:

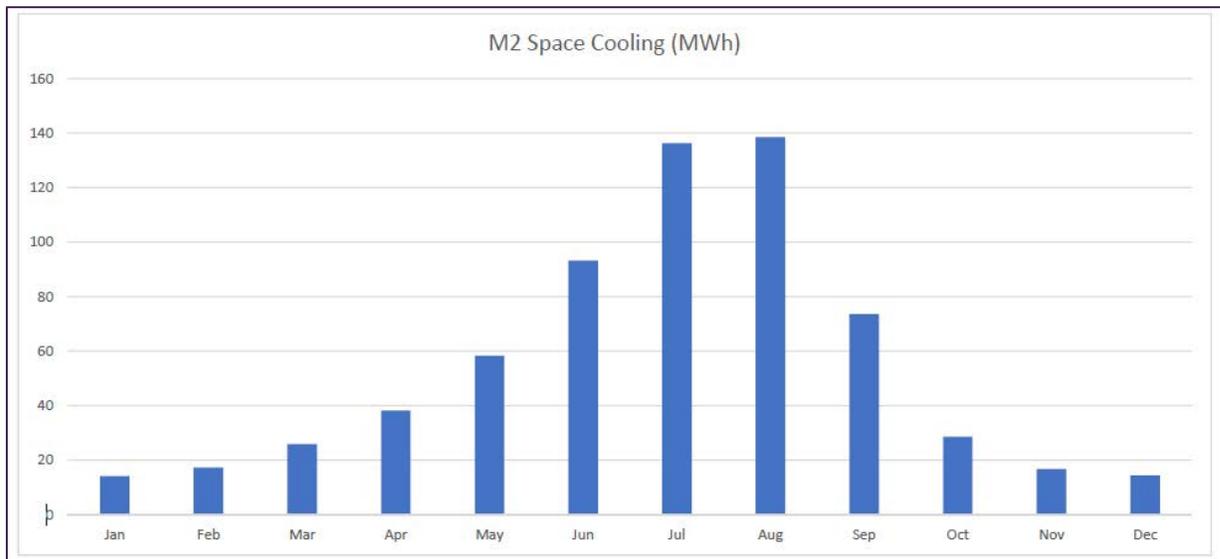
Table 3: Summary of Peak and Annual Cooling Load

Building	Floor Area m ²	Peak Cooling W/m ²	Peak Capacity kW	Annual Cooling kWh/m ²	Annual Cooling MWh
M1	5,400	60	320	41	220
M3 – existing	7,880	60	470	41	330
M2	15,979	53	840	41	655
M4	19,250	60	1155	41	790
M3 – expanded	16,070	60	960	41	670
M5 ³	11,519	34	390	21	240

44.1 Please provide a graph depicting the expected DCS cooling energy demand (in MWh) by month by building (assuming full build-out of all phases).

RESPONSE:

Energy demand is provided to CEMP by the developer’s mechanical consultant when their design is at a stage when this process is appropriate. CEMP has only received the cooling energy demand by month for M2, as shown in the following graph. These estimates are from 2018 and are based on core and shell design – base building only – and do not factor in specific tenant information and demand assumptions.



45.0 Reference: THE MOUNT PLEASANT DCS PROJECT AND PUBLIC INTEREST CONSIDERATIONS Exhibit B-3, BCUC IR 8.9, IR 11.8, Attachment 7.8; Exhibit B-1, Appendix B, Schedule J, KWL Report, p. 5 System Design

Attachment 7.8 of CEMP’s responses to BCUC IR No. 1 is a 111 East 5th Cooling Plant Existing Equipment List, a portion of which is reproduced below:

Chiller	Description
Chiller # 1	Chiller, to be maintained. Currently capped at 70% operation.
Chiller # 2	Chiller, to be maintained. Currently capped at 70% operation.
Chiller # 3	Small Chiller, to be replaced.

45.1 Please discuss the operational implications of Chillers #1 and #2 being currently capped at 70 percent operation.

RESPONSE:

This is a soft cap at 70% implemented by the current operators as there is currently very little load compared to the capacity of the system. However, we have discovered since the previous filing through discussions with Trane and further testing of the chillers that the chillers have been de-rated to 80% of the original capacity due to the change in refrigerant from R-11 to R-123.

In response to BCUC IR 11.8, CEMP described the system redundancy for each phase of the Project. For Initial Acquisition and Operation, CEMP stated that “...only one of the two chillers is required to serve the peak demand through this phase and the second chiller supplies complete redundancy.”

For Phase 1, CEMP stated that “...two of the three chillers are required to serve the total peak demand and one of the original 350-ton chillers will continue to supply complete redundancy.”

For phase 2, CEMP stated that “...90% of the peak load can be served with the 400-ton chiller and one of the 350-ton chillers.”

For phase 3, CEMP stated that “...83% of the peak load can be served with 2 400-ton chillers.”

For phase 4, CEMP stated that “...74% of the peak load can be served with 2 400-ton chillers.”

45.2 Please confirm that CEMP’s statements and calculations above regarding system redundancy for Initial Acquisition and Operation, Phase 1 and Phase 2 factor in, if necessary, that Chillers #1 and #2 are being capped at 70 percent operation.

RESPONSE:

As per the response to BCUC IR 45.1, the chillers can operate up to 80% of the original capacity. This was not factored into the response to BCUC IR 11.8. This does not change the recommendations in the KWL Report nor the strategy for executing the project and phasing the DCS build over time.

45.2.1 If not, please provide updated statements and calculations regarding system redundancy for each affected phase of the Project (Initial Acquisition and Operation, Phase 1 and Phase 2).

RESPONSE:

Initial Acquisition and Operation:	No change in redundancy
Phase 1:	No change in redundancy
Phase 2:	The statement should read 86% instead of 90%

45.3 The above preamble discusses the system redundancy with regard to the chiller units. Please discuss whether the same level of system redundancy is in place for other major equipment items, such as the cooling towers.

RESPONSE:

The chiller units are discussed in detail with regards to redundancy as they are the most complex piece of equipment in the cooling plant. The cooling towers in comparison are quite simple and repairs are limited to the fan and piping. Thorough preventative maintenance on the cooling towers will reduce risk of failure to negligible.

45.3.1 If not, please explain why not. Please also explain:

- i. The system redundancy in place for each phase of the Project (Initial Acquisition and Operation, Phase 1, Phase 2, Phase 3 and Phase 4) for each major equipment item noted;
- ii. Risks identified with the level of system redundancy; and
- iii. How CEMP intends to mitigate those risks.

RESPONSE:

Redundancy has not been considered for the other major equipment; infrequent, short-term emergency repairs for this equipment is in line with the curtailment clause in the Customer Service Agreement. Redundancy on each major system would be outside the norm for a commercial cooling plant. This approach would increase the capital cost and eliminate the value proposition of the project.

Page 5 of the KWL Report states, "KWL recommends that a detailed design for the future system is completed to allow the replacement of any of the chillers in case one goes out of service."

45.4 Please confirm whether the KWL recommendation noted above is referring to all phases of the future system, or just the phases where the existing 350-ton chillers are in operation (i.e., Initial Acquisition and Operation, Phase 1 and Phase 2).

RESPONSE:

The KWL recommendation refers to all phases.

45.4.1 If referring to all phases, please explain why the Mount Pleasant DCS is not designed for N-1 system redundancy² for Phases 2, 3, 4 and beyond.

RESPONSE:

There is no requirement for N+1 redundancy (we refer to the industry standard reference to “N+1”, with the same meaning as the definition the Commission has referred to below in footnote 2 in reference to “N-1”) for cooling service generally in BC as it is not a life-safety service, and in this case the customer does not require N+1 redundancy. Increasing the plant equipment to reach this level of redundancy would be expected to have a material impact on rates due to the cost of the additional equipment, which CEMP and the Owner do not feel is warranted. CEMP did have discussions with the Owner around redundancy, and they agreed that N+1 redundancy is not required.

45.4.2 If referring to Initial Acquisition and Operation, Phase 1 and Phase 2, please explain why the Mount Pleasant DCS is not designed for N-1 system redundancy for Phase 2.

RESPONSE:

Please refer to the responses to BCUC IRs 45.4 and 45.4.1.

In response to BCUC IR 8.9, CEMP stated:

The development is largely purposed as commercial office space for digital and technology companies. Typically, these uses require quite high levels of cooling compared to typical office uses, and certainly higher than residential uses.

45.5 Please discuss how the use of the buildings (i.e., predominantly commercial office space for digital and technology companies) impacted the system redundancy design.

RESPONSE:

Please refer to the response to BCUC IR 45.4.1. Further, a customer’s need for certainty of supply of cooling service dictates the decisions around redundancy of equipment to supply this service. In this case CEMP and the Owner/Customer agreed that N+1 redundancy is not needed.

45.6 Please discuss how CEMP determined the level of system redundancy designed for this Project to be appropriate.

RESPONSE:

Please refer to the responses to BCUC IRs 45.4.1 and 45.5.

45.7 Please discuss what industry standards or codes CEMP utilizes in determining the appropriate level of system redundancy. Please include specific references for any standards or codes noted.

RESPONSE:

Please refer to the responses to BCUC IRs 45.4.1 and 45.5. CEMP is not aware of any industry

² N-1 system redundancy is referring to a design where any one unit can be out of service while still maintaining 100% service to the peak load.

standards or codes specifying design redundancy for space cooling equipment to serve these types of buildings in the BC lower mainland. Hotter climate zones may have codes and standards, but such would not be applicable in BC.

45.8 Please provide a comparison of the system redundancy in place for this Project to cooling systems for similar building uses in the lower mainland. Please provide specific examples and explain where and why differences occur.

RESPONSE:

CEMP is not aware of any industry standards or codes specifying design redundancy for space cooling equipment to serve these types of buildings in the B.C. lower mainland. CEMP does not have any data which meets the criteria of this question. CEMP confirms that the Vancouver House District Cooling System serves multiple residential and commercial buildings and does not have N+1 redundancy.

In response to BCUC IR 11.8, CEMP stated the following regarding system redundancy and risk mitigation for Phase 2.

There are 2 scenarios for mitigation; depending on how Phase 3 has progressed: i) if there is certainty of increased demand from Phase 3 going ahead, then failure of one of the 350-ton chillers would trigger early replacement with a new 400-ton unit, ii) if there is uncertainty in Phase 3 progressing, emergency repair would take place for the 350-ton chiller. In both of these scenarios, delivering 90% of the peak load for an emergency interim period would have minimal impact on the ratepayer.

45.9 Please describe the typical lead time to procure a new 400-ton chiller unit.

RESPONSE:

The typical lead time to procure a new chiller is 10 to 12 weeks.

45.10 Please describe what CEMP considers to be a typical length of time for emergency repairs.

RESPONSE:

This depends on the failure mode; according to Trane, a worst-case scenario repair would be a motor rewind which would be about 3 weeks.

45.11 Please elaborate on CEMP's statement that "...delivering 90% of the peak load for an emergency interim period would have minimal impact on the ratepayer." Specifically, please describe how and why CEMP has assessed this to have minimal impact on the ratepayer.

RESPONSE:

The CEMP chiller plant is designed to meet the peak demand for the environment of Vancouver. Some years this peak will not be reached, while in other years Vancouver may hit the peak for a few days and within those days only a few hours per day. The probability of coinciding emergency periods with peak demand is very low.

The time of year of an emergency failure will be a key factor in decision making. For the majority of

the year, there will be ample time to prepare for repair or replacement. If the unlikely scenario occurred, where an emergency shutdown happened at the same time as Vancouver experienced a design peak summer temperature, CEMP would still deliver 90% of the demand through the peak hours of the day, resulting in a slightly warmer temperature than desired for a few hours of the day.

45.12 Please discuss CEMP's contractual ability to curtail load to its customers. Please identify the related sections of the Customer Service Agreement (CSA), if relevant.

RESPONSE:

CEMP will have the contractual ability to curtail load to customers as per section 23, page 18 of Schedule C-1 Customer Service Agreement [Non M3 Lands] and section 26, page 22 of Schedule C-2 Customer Service Agreement [M3 Lands].

46.0 Reference THE MOUNT PLEASANT DCS PROJECT AND PUBLIC INTEREST CONSIDERATIONS Exhibit B-3, BCUC IR 9.2, Attachment 9.2 Project Schedule

In response to BCUC IR 9.2, CEMP stated:

Please refer to Attachment 9.2, which reflects the schedule as set out in Table 4 of the Application relative to the September 1, 2020 date, which was initially targeted as the date for CPCN approval to support providing service to M2 by the end of the 2020. Creative Energy acknowledges that the dates set out in Schedule F of the Construction and Purchase Agreement govern, and that the January 5, 2021 is the contractual milestone for CEMP to assume operation of the cooling plant, as clarified in the response to BCUC IR 9.4.

...

For further clarity, in Attachment 9.2 the CEMP tasks beginning at Task #8 would not begin until the CPCN has been granted. The schedule in Attachment 9.2 would then proceed in relative sequence from that point.

46.1 Please update Attachment 9.2 to reflect the January 5, 2021 contractual milestone for CEMP to assume operation of the cooling plant.

RESPONSE:

Attachment 9.2 did not show the contractual milestone date as this is considered a worst-case scenario with all schedule float depleted. Please see Attachment 46.1 for the requested view.

47.0 Reference: THE MOUNT PLEASANT DCS PROJECT AND PUBLIC INTEREST CONSIDERATIONS CPCN Guidelines, pp. 6–7; Exhibit B-3, BCUC IR 9.1, IR 12.2, Attachment 9.3 Risk Analysis

Section 4 on pages 6 to 7 of the CPCN Guidelines includes items specific to the Project Description. Item (v) of that section is as follows:

(v) Risk analysis identifying all significant risks to successful completion of the

project, including an assessment of the probability of each risk occurring, and the consequences and the cost to mitigate the risk. The applicant should provide a summary description of significant project risks, including an assessment of the impact of each risk, the proposed risk mitigation strategy, and to the extent known, the financial and schedule impacts if the risk is realized. The risk evaluation should incorporate a risk assessment matrix with appropriate levels of severity and probability, a risk register and risk treatment as recommended in the latest revision of AACE International Recommended Practices.

In response to BCUC IR 9.1 (ii), CEMP described various risks associated with the Project.

47.1 Please confirm that the list provided in response to BCUC IR 9.1 (ii) identifies, in CEMP's view, all significant risks to successful completion of the Project.

RESPONSE:

Confirmed. The list in response to BCUC IR 9.1 (ii) identifies all significant risks to successful completion of the Project and in relation to phased implementation. The CEMP Risk Register provided at Attachment 47.2 includes also the assessment of regulatory approval risk.

47.1.1 If not, please provide a complete list.

RESPONSE:

Not applicable. Please refer to the response to BCUC IR 47.1.

47.2 For each risk identified in BCUC IR 9.1 (ii) and any additional risks identified above in IR 47.1.1 please tabularise into a risk register and include the full set of items required by the CPCN Guidelines as identified in the above preamble, or explain why any of these items should not apply.

RESPONSE:

Please refer to Attachment 47.2 – CEMP Risk Register.

In response to BCUC IR 9.1 (ii), CEMP stated the following regarding a project risk:

Project is cancelled from the developer side (Initial Acquisition and Operation Phase) – this risk has been mitigated in the terms of the Construction and Purchase Agreement with a make whole provision upon termination.

47.3 Please provide a reference for the specific terms in the Construction and Purchase Agreement referred to in the above preamble.

RESPONSE:

The Owner does not have any rights of termination in respect of the Construction and Purchase Agreement other than pursuant to Section 5.3 relating to conditions imposed by the BCUC on any "Fundamental Term" in connection with the Customer Service Agreement. This risk to CEMP is mitigated by the make whole provisions in respect of the termination of the Construction and Purchase Agreement pursuant to that section.

Further in response to BCUC IR 9.1 (ii), CEMP stated the following regarding a project risk:

Project is cancelled from the developer side (Phase 1-4) – this risk has been mitigated in the terms of the Construction and Purchase Agreement with variable milestones based on actual construction start dates for each phase so CEMP does not expend any capital prior to the Owner committing to the construction of each phase.

Regarding safeguards CEMP has in place to ensure capital is not deployed before there is certainty of load growth with each new building connection, CEMP stated the following in response to BCUC IR 12.2:

The construction cycle for M4 and M5 are 22 months and for M3 expansion is 24 months. The forecast construction cycle for Phases 2, 3 and 4 is 12 months. The buildings will be well under construction prior to capital deployment for these phases of the project.

Attachment 9.3 of CEMP responses to BCUC IR No. 1 includes a project schedule for Phases 2-4. A portion of the project schedule pertaining to Phase 3 is reproduced below:

12		CEMP Phase 3	1141 days	Fri 9/1/23	Fri 10/16/26	
13		MS16 - Consultation w/Developer	2 mons	Fri 9/1/23	Tue 10/31/23	
14		MS17 - Construct Temp. DCS equipment	6 mons	Tue 4/30/24	Sun 10/27/24	20FS-183 days
15		MS19 - Detailed Design of DCS upgrades	8 mons	Sun 10/27/24	Tue 6/24/25	14
16		MS20 - Construction of DCS upgrades	22 mons	Wed 10/30/24	Fri 8/21/26	20
17		Commissioning of M4 ETS	1 wk	Fri 10/9/26	Fri 10/16/26	15,21SF
18		5th & Main Partnership - M3 Expansion	730.04 days	Wed 10/30/24	Fri 10/30/26	
19		Construction of M3 - Expansion	730 days	Wed 10/30/24	Fri 10/30/26	13FS+365 days
20		MS18 - M3 Expansion Breaks Ground	1 hr	Wed 10/30/24	Wed 10/30/24	19SS
21		Commissioning of M2 (Building side)	2 wks	Fri 10/16/26	Fri 10/30/26	19FF
22		MS21 - Service Re-Commencement Date	1 hr	Fri 10/30/26	Fri 10/30/26	20SS+730 days

47.4 Please discuss the construction cycle for M3-expansion (i.e., building construction work by the Owner) and the Phase 3 DCS upgrades (i.e., construction work by CEMP), which based on the above schedule appear to have the same construction start dates and last 24 and 22 months respectively.

RESPONSE:

The 22-month duration for the DCS upgrades includes design and procurement. CEMP will start the design and procurement when the developer breaks ground, assuring CEMP that the project will proceed as planned, and targeting completion two months prior to building completion to support commissioning the system on time.

47.4.1 Please identify, to the best of CEMP’s knowledge at this point in time, how far in advance of the start of construction of the Phase 3 DCS upgrades will material procurement begin.

RESPONSE:

There will be no CEMP procurement in advance of the developer’s construction start date.

47.4.2 Given the timing of construction and material procurement identified above, please confirm what safeguards are in place to ensure CEMP does not expend any capital before there is certainty of load growth with the M3-expansion building. Please include specific references to any relevant terms in the Construction and Purchase Agreement.

RESPONSE:

Please refer to the response to BCUC IR 47.4.1, which effectively means that no additional safeguards are necessary.

47.5 Please explain why detailed design of Phase 3 DCS upgrades starts at approximately the same time as construction of Phase 3 DCS upgrades.

RESPONSE:

Please refer to the response to BCUC IR 47.4, which clarifies that the indicated timing includes design, procurement and construction.

47.6 Please confirm, or otherwise explain, whether line 17 of the above schedule intended to read “Commissioning of M3 ETS.”

RESPONSE:

Confirmed.

D. PROJECT COST ESTIMATE AND INDICATIVE RATES

**48.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
Exhibit B-3, BCUC IR 20.3, IR 20.5
Non-Fuel Operating Costs – Employees and Operators**

In response to BCUC IR 20.3, CEMP stated:

The Mount Pleasant DCS fits in the category of plants requiring ‘General Supervision’, which broadly implies a requirement for two full-time operators, on site 5 days a week. We see no reason that this project would require a different level of supervision, although in the early months, when commissioning and expansion is underway, slightly higher levels of supervision may be prudent.

CEMP expects to have 3 operators in total to operate the DCS.

In response to BCUC IR 20.5, CEMP stated the following regarding operator requirements for the Vancouver House Development: “The South Downtown Thermal Energy system is considered an unsupervised plant by Technical Safety BC and accordingly it does not need staff on site.”

48.1 Please explain how CEMP determined that the Mount Pleasant DCS fits in the category of plants requiring “general supervision.”

RESPONSE:

For clarity, as the response to BCUC IR 20.5 may be misconstrued, staffing requirements are determined by the Provincial Safety Manager of Technical Safety BC. The pertinent regulation is the Power Engineers, Boiler, Pressure Vessel and Refrigeration (“PEBPVR”) Regulation, which may be viewed at this link: https://www.bclaws.ca/civix/document/id/complete/statreg/17_104_2004.

CEMP does not determine staffing requirements, but as Technical Safety BC does not give advance determinations of staffing requirements – this is only done at the time of issuance of an operating permit – CEMP must make estimates of likely staffing requirements in advance.

The key input for staffing for a cooling plant is the prime mover nameplate rating of the refrigeration equipment, or in lay-terms, the size of the motors which drive the chillers. Reference section 55 of the PEBPVR Regulation.

While chiller vendors and models will be finalized only near construction, CEMP expects the total nameplate rating of the Mount Pleasant DCS to be about 675kW, which is well below the 1000kW limit established in section 55(1) of the PEBPVR Regulation.

For comparison, Vancouver House DCS will have a total nameplate rating of about 525kW.

While the nameplate ratings are close, the material difference is that the Vancouver House DCS is serving a largely residential load, which will require cooling for about half of the year, and the plant will be on standby for the remainder of the year.

The Mount Pleasant load already requires year-round cooling, due to the intense commercial nature of the end-uses.

CEMP expects that the year-round operational needs of the Mount Pleasant DCS will result in Technical Safety BC placing a staffing requirement on the project of 2 full-time staff, in-line with other plants with a General Supervision status, such as the Southeast False Creek Energy Centre.

48.1.1 Please identify the specific regulation or other guidance that specifies plant supervision requirements, if relevant.

RESPONSE:

Please refer to the response to BCUC IR 48.1.

48.2 Please explain how CEMP determined that plants requiring ‘General Supervision’ “...broadly implies a requirement for two full-time operators, on site 5 days a week.”

RESPONSE:

Please refer to the response to BCUC IR 48.1.

48.2.1 Please identify specific regulation or other guidance that specifies these requirements, if relevant.

RESPONSE:

Please refer to the response to BCUC IR 48.1.

48.3 Please describe in detail the differences between the Vancouver House DCS and the Mount Pleasant DCS that result in each system having different supervision and operator requirements.

RESPONSE:

Please refer to the response to BCUC IR 48.1.

**49.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, p. 4; Exhibit B-1, Attachment B-1 (Excel Model); Exhibit B-3, BCUC IR 3.1.1, 3.1.2, 3.1.2.1, 24.1.1
Financing capability**

Page 4 of the BCUC's CPCN Guidelines states:

An application under sections 45 and 46 of the UCA should contain the following information: ...

- (ii) Evidence of the financial and technical capacity of the applicant and other persons involved, if any, to undertake and operate the project; ...
- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates;

In response to BCUC IR 3.1.1, CEMP stated:

CEMP will not receive equity and debt financing directly for the construction of the Mount Pleasant DCS. CEMP will receive advances from CEDLP to fund the construction of the Mount Pleasant DCS.

49.1 Please discuss and provide evidence of CEDLP's ability to raise equity and debt financing.

RESPONSE:

All equity and debt for CEMP will be financed through CEDLP. To date, CEDLP's partners have contributed over \$10 million to CEDLP to support the development of new projects, including the CEMP Mount Pleasant DCS.

CEMLP's ability to raise equity for new projects is based on the appetite of its partners to fund its investments in such projects. The partners of CEDLP continue to be supportive of funding the development and construction of new district energy projects to completion. CEDLP has the ability to raise debt financing but has not raised any debt financing at this time.

In response to BCUC IR 3.1.2, CEMP stated:

The interest charged to CEMP will be equivalent to the interest charge that CEDLP is charged for the proportion of debt that CEMP requires for the project.

In response to BCUC IR 3.1.2.1, CEMP stated:

The model reflects an interest rate of 4.5% in the estimation of the Cost of Service.

49.2 Please provide the interest rate charged by the lender to CEDLP.

RESPONSE:

CEDLP has not raised any debt financing at this time and therefore there is no current applicable actual debt interest rate to factor into the model of indicative rates. As referred to in the responses to BCUC IR series 49.3 and BCUC IR 49.4, CEDLP is currently wholly financed through equity and further discussions with lenders have been deferred at this time due to COVID-19.

CEMP has assumed an interest rate of 4.5% for the purpose of modelling indicative rates based on:

- 1) Indications that the cost of financing debt would be approximately 4.5%; for example, as consistent with the terms that Creative Energy Vancouver Platforms has recently negotiated with lenders for refinancing existing debt; and**
- 2) the need to present indicative rates consistent with setting rates upon a deemed capital structure for both debt and equity as established through the GCOC Stage 2 Decision, and as further confirmed through Order G-52-15 (Please refer also to the response to BCUC IR 24.2).**

At the time that CEMP brings forward a final rates application, it will incorporate an actual cost of debt for CEDLP into forecast rates as applicable. If there is no applicable CEDLP financing on which to establish a cost of debt for rate setting purposes, CEMP may need to propose a 'deemed' cost of debt for rate setting purposes based on other market and utility comparisons at that time.

49.2.1 If the interest rate charged by the lender to CEDLP is greater than the 4.5 percent interest rate included in the Mount Pleasant DCS - Indicative Cost of Service Model (Excel Model), provided as an attachment to Exhibit B-1, please explain if these cost differences will be recovered from ratepayers.

RESPONSE:

Yes. As a Stream B TES CEMP is subject to the rate setting provisions of the *Utilities Commission Act* and the BCUC can set CEMP's rates to recover cost increases such as increased debt interest rates. The rates application will set forth the cost of service for approval to recover from ratepayers, including in respect of the cost of debt.

49.2.1.1 If these costs are to be recovered, please identify where in the Excel Model they are included.

RESPONSE:

The excel model includes an assumed debt interest rate of 4.5% for the purpose of modelling indicative rates. The future rates application will set forth the cost of service for recovery, including in respect of the cost of debt proposed to be recovered in actual rates.

In response to BCUC IR 24.1.1, CEMP stated:

CEVP and CEMP has recently been in discussions with lenders to receive new, incremental debt financing including to support the acquisition and construction of the Mount Pleasant DCS assets. These discussions indicated that, at the time of filing this Application, the cost of debt for this financing would be approximately 4.50%.

49.3 Please clarify who the lender is in the above preamble.

RESPONSE:

Preliminary discussions have been undertaken with HSBC and TD but discussions were delayed due to COVID-19.

49.3.1 If CEDLP is not the lender, please explain when and how CEMP plans to change its financing from CEDLP to the lender identified in IR 49.3.

RESPONSE:

CEMP will be funded by its limited partner, CEDLP. All equity and debt for CEMP will be financed through CEDLP. CEDLP is currently wholly financed through equity.

49.3.1.1 If a change in financing is to occur, please identify and explain any switching costs, such as application and legal fees, and identify where in the Excel Model these items have been accounted for.

RESPONSE:

No change in financing is expected.

49.4 Please provide an update on the discussions for the cost of debt for the financing of the Project.

RESPONSE:

Further discussions with lenders have been deferred due to COVID-19.

**50.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, p. 8; Exhibit B-3, BCUC IR 18.8, 18.9, 18.10
Interest on Construction Costs**

Page 8 of the BCUC's CPCN Guidelines states:

(iv) The cost estimate should provide: (e) Interest during construction or allowance for funds during construction and corporate overhead. [*Emphasis added*]

In response to BCUC IR 18.8, CEMP provided the following table:

The above referenced figures include Interest Costs and AFUDC during construction periods. A specific reconciliation is provided below:

	Acquisition	Phase 1	Phase 2	Phase 3
Capital	732,793	2,619,744	5,764,322	436,605
Interest During Construction	0	0	115,168	10,050
AFUDC	0	250,771	150,719	166,080
	732,793	2,870,514	6,030,209	612,735

50.1 Please provide detailed step by step calculations for: (i) Interest during Construction; and (ii) Allowance for Funds Used During Construction (AFUDC) provided in response to BCUC IR 18.8.

RESPONSE:

Upon reviewing the calculations, Creative Energy has discovered a formula error in the calculation of AFUDC/Return on Equity during construction that resulted in a figure higher than necessary. Revised figures are calculated below.

Phase 1																
	Sep-01-20	Oct-01-20	Nov-01-20	Dec-01-20	Jan-01-21	Feb-01-21	Mar-01-21	Apr-01-21	May-01-21	Jun-01-21	Jul-01-21	Aug-01-21	Sep-01-21	Oct-01-21	Nov-01-21	Dec-01-21
Opening Equity	732,793	896,527	1,060,261	1,223,995	1,387,729	1,551,463	1,715,197	1,878,931	2,042,665	2,206,399	2,370,133	2,533,867	2,697,601	2,861,335	3,025,069	3,188,803
Closing Equity	896,527	1,060,261	1,223,995	1,387,729	1,551,463	1,715,197	1,878,931	2,042,665	2,206,399	2,370,133	2,533,867	2,697,601	2,861,335	3,025,069	3,188,803	3,352,537
Period Average Equity (O+C/2) (1)	814,660	978,394	1,142,128	1,305,862	1,469,596	1,633,330	1,797,064	1,960,798	2,124,532	2,288,266	2,452,000	2,615,734	2,779,468	2,943,202	3,106,936	3,270,670
Return On Equity	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%	9.50%
Periodic RoE (2)	0.75%	0.78%	0.75%	0.78%	0.78%	0.70%	0.78%	0.75%	0.78%	0.75%	0.78%	0.78%	0.75%	0.78%	0.75%	0.78%
Periodic AFUDC (1x2)	6,149	7,640	8,621	10,196	11,475	11,478	14,032	14,800	16,589	17,272	19,146	20,424	20,979	22,981	23,451	25,538
Total AFUDC - Phase 1	250,771															

Phase 2				Phase 3			
		Jan-01-26	Dec-31-26			Jan-01-28	Dec-31-28
Opening Equity		0		Opening Equity		0	
Incremental Equity - Phase 2		760,903		Incremental Equity - Phase 3		0	
Period Average Equity (O+C/2) (1)		380,451		Period Average Equity (O+C/2) (1)		0	
Return On Equity		9.50%		Return On Equity		9.50%	
Period AFUDC		36,143		Period AFUDC		0	
Opening Debt		0		Opening Debt		0	
Closing Debt		5,118,587		Closing Debt		446,655	
Period Average Debt (O+C/2)		2,559,294		Period Average Debt (O+C/2)		223,327	
Cost of Debt		4.50%		Cost of Debt		4.50%	
Periodic Interest During Construction		115,168		Periodic Interest During Construction		10,050	

Further, CEMP advises that the variance between the revised figures are applicable only to 'AFUDC' as labelled, and confirms that the figures for Interest During Construction are correct. In addition, as the project contemplates a levelized rate design, correcting for the lower Return on Equity during construction would not result in any change to the indicative levelized rates presented with the Application. CEMP has therefore not revised the model at this time.

In response to BCUC IR 18.9, CEMP stated: "The rate of interest being charged is 4.5%."

In response to BCUC IR 18.10, CEMP stated: "The ROE [Return on Equity] being used during construction is 9.5%."

50.2 Please explain why charging both interest at 4.5 percent and ROE at 9.5 percent is appropriate as opposed to charging the weighted average cost of capital (WACC).

RESPONSE:

CEMP has calculated both the interest and ROE amounts to reflect the individual amounts of equity and debt as contributed to the project on an actual basis. For example, CEMP anticipates that the acquisition and Phase 1 of construction will be funded entirely by equity, and therefore has calculated 'AFUDC' as a 9.5% return on the deployed equity only. For greater clarity, however, CEMP acknowledges that reference to AFUDC as presented is confusing; AFUDC as discussed in this context is more accurately described as interest during construction plus return on Equity during construction. In Creative Energy's response to 50.1, greater detail is provided on the build-up of equity and debt deployed during the various phases of the project.

50.3 Please explain whether the CPCN requirement outlined in the preamble above was considered when charging both interest and ROE as opposed to the WACC.

RESPONSE:

As discussed and shown in the responses to BCUC IRs 50.1 and 50.2, the reference to AFUDC was effectively mislabelled and is more accurately described as interest during construction plus return on equity during construction.

50.3.1 If it was considered, please explain why it should not apply in this case.

RESPONSE:

Please refer to the response to BCUC IR 50.3.

**51.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, pp. 4–5; Exhibit B-3, BCUC IR 1.5, 24.1, 24.2, 26.1
Deemed Capital Structure**

Pages 4 and 5 of the BCUC's CPCN Guidelines state:

An application under sections 45 and 46 of the UCA should contain the following information: ...

- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates; ...
- (iv) A schedule calculating the net present values of the incremental cost and benefit cash flows of the project and feasible alternatives, and justification of the length of the term and discount rate used for the calculation;

In response to BCUC IR 24.1 CEMP confirmed that it is using the same regulatory deemed capital structure as CEVP. CEMP stated:

- The Order G-52-15 confirmation that the return on equity and deemed equity thickness for Creative Energy rate setting for its existing system of core customers will continue to be based on the default equity thickness of 42.5 percent and an equity risk premium of 75 basis points for regulated thermal

energy systems; and comparable to Other TES that have an approved capital structure and approved equity risk premium of at least 75 basis points as approved for regulated thermal energy systems under the [Generic Cost Of Capital] Stage 2 Decision.

In addition, as noted above in the response to BCUC IR 22.1, the [BCUC] Panel, in its Order C-2-20 Decision approving a CPCN for [CEVP] to acquire and operate a TES for Cooling at the Vancouver House Development, found that the indicative revenue requirements and rates were reasonable for the purposes of that Application, which CEMP notes included the same assumptions on ROE and capital structure to the purpose used in this Application.

In response to BCUC IR 26.1, CEMP stated:

CEMP considers that there is little value provided by comparing the indicative rates for the Mount Pleasant DCS to the indicative rates for the Vancouver House DCS given the fact that it is not an option for the Main Alley Development to obtain cooling service from the Vancouver House DCS and also given the different characteristics, dependencies and underlying cost drivers of each system.

In response to BCUC IR 1.5, CEMP stated:

CEVP owns and operates the steam utility and connected [North East False Creek] hot water system in downtown Vancouver. The Mount Pleasant DCS will not be connected to the steam utility system and will be a separate TES and separate utility. CEMP was formed by CEDLP for the purpose of acquiring, operating and expanding the Mount Pleasant DCS to serve the cooling demand of the Main Alley Development.

51.1 Given that Vancouver House DCS has different underlying cost drivers and CEMP will not be connected to the steam utility system and therefore will be a separate TES and utility, please explain why CEMP considers it appropriate to use CEVP's regulatory deemed capital structure.

RESPONSE:

As explained in the response to BCUC IR 24.1, CEMP is not applying for approval of rates at this time and believes that for the purpose of presenting indicative rates in this CPCN Application, it is reasonable to use the default deemed capital structure and ROE consistent with the Commission's direction through the GCOC Stage 2 Decision on the default equity thickness of 42.5 percent and an equity risk premium of 75 basis points for regulated thermal energy systems, of which the Mount Pleasant DCS is an example. Further, as the Commission referenced in the preamble to BCUC IR 24.1, the Commission has recommended that the small [TES] utilities use the established risk matrix to justify any request for approval of a capital structure and risk premium over and above the benchmark. CEMP intends to prepare such a risk matrix to support its case for the use of the default equity thickness of 42.5 percent and an equity risk premium of 75 basis points for regulated thermal energy systems when it brings forward a final rates application following CPCN approval as applicable.

CEMP clarifies further that the discussion as referenced in the preamble to this question was set in the context of explaining why a comparison of the indicative rates for the Mount Pleasant DCS to the indicative rates of the Vancouver House DCS has little value, in particular because it is not an option for the Main Alley Development customer to obtain cooling service from the Vancouver House DCS and the scale of the systems and overall energy demand is different (the "different characteristics, dependencies and underlying cost drivers of each system" broadly speaking). That general commentary was not intended to reflect a specific opinion on the comparative financial and business risk inherent in developing, operating and maintaining relatively small TES utilities.

51.2 Please identify and compare the deemed capital structure and equity risk premium of other comparable TES by Creative Energy or other TES providers approved by the BCUC, against CEMP's proposed deemed capital structure and equity risk premium.

RESPONSE:

Please refer to the following table.

CEMP offers no commentary on whether or which of these heating utilities are comparable, and in which respects, to the CEMP cooling utility in terms of overall design, development, operation, cost of service, risk, etc. but it provides this information to highlight the general applicability of the established deemed capital structure and equity risk premium for small TES utilities to further its view that its approach to estimating indicative rates for the purpose of this CPCN Application is appropriate.

Risk Factor	FEI Natural Gas Class of Service - Benchmark	UniverCity	Dockside Green Energy	River District Energy
Capital Structure	<i>60/40 Actual</i>	<i>57.5/42.5 Deemed – Approved</i>	<i>57.5/42.5 Deemed – Approved</i>	<i>57.5/42.5 Deemed – Approved</i>
Equity Risk Premium		<i>75 bps - Approved</i>	<i>100 bps - Approved</i>	<i>75 bps - Approved</i>
Technology risk / system performance risk associated with chosen technologies	<i>Natural Gas Proven Technology</i>	<i>Natural Gas boilers proven Technology</i>	<i>Biomass gasification initiative technology ...</i>	<i>Natural Gas boiler proven Technology</i>
Fuel Cost Risk and Availability	<i>Natural Gas: Low-medium</i>	<i>Natural gas fueled energy centre: low-medium.</i>	<i>Biomass: medium-high; natural gas: low-medium</i>	<i>Natural gas fueled energy centre: low-medium.</i>
Customer Base (e.g., diversity, certainty, growing, declining)	<i>Established and diverse customer base but very slow growth</i>	<i>Greenfield utility; uncertainty related to timing of full buildout</i>	<i>Greenfield utility; uncertainty related to timing of full buildout</i>	<i>Greenfield utility; uncertainty related to timing of full buildout</i>
Default risk of customer	<i>Minimal</i>	<i>Minimal</i>	<i>Minimal</i>	<i>Minimal</i>
Property development risk	<i>Medium to high: there are competing energy options</i>	<i>Low: phased approach to capital deployment</i>	<i>High: phased approach to capital deployment</i>	<i>Low: phased approach to capital deployment</i>
Developer / customer connection risk	<i>Medium to high: due to building stock changes and competitive energy sources</i>	<i>Low: mandatory connection</i>	<i>Low: mandatory connection</i>	<i>Low: mandatory connection</i>
Load forecast uncertainty	<i>Minimal in the short term as mature utility with deferral account; somewhat higher in the long term</i>	<i>Inherent uncertainty in load forecast</i>	<i>Inherent uncertainty in load forecast</i>	<i>Inherent uncertainty in load forecast</i>
Utility size	<i>Large and mature</i>	<i>Small development specific utility</i>	<i>Small development specific utility</i>	<i>Small development specific utility</i>
Initial construction risk	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>
Future construction cost risk	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>	<i>Depends on the nature of the individual project</i>
Operating cost risk	<i>Minimal as revenue requirement application to recover costs</i>	<i>Minimal as mechanism in place to recover costs</i>	<i>Minimal as mechanism in place to recover costs</i>	<i>Minimal as mechanism in place to recover costs</i>
Public acceptance risk	<i>Medium and natural gas is an established and widely used technology,</i>	<i>Low as seen as a green alternative</i>	<i>Low as gasification technology part of approval process for the</i>	<i>Low as seen as a green alternative</i>

Risk Factor	<i>FEI Natural Gas Class of Service - Benchmark</i>	<i>UniverCity</i>	<i>Dockside Green Energy</i>	<i>River District Energy</i>
	<i>but public perceives it as less than clean</i>		<i>development ...</i>	
Fixed/variable rate design	<i>15% fixed / 85% variable</i>	<i>60% fixed / 40% variable</i>	<i>50% fixed / 50% variable</i>	<i>66% fixed / 34% variable</i>
Levelized approach to rates	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Financial risk	<i>Low-medium: appropriate standalone financing structure for capital markets</i>	<i>Low-medium: subsidiary of parent utility</i>	<i>Low-medium: subsidiary of parent utility</i>	<i>Low-medium: subsidiary of parent utility</i>
Competitive challenges	<i>Competitive with electricity and competition from alternative energy providers</i>	<i>Other utilities and electricity</i>	<i>Other utilities and electricity</i>	<i>Other utilities and electricity</i>
Provincial climate change and energy policies	<i>Encourage reduction of fossil fuels to reduce GHG emissions and lower energy use</i>	<i>Favourable government policies</i>	<i>Favourable government policies</i>	<i>Favourable government policies</i>
Regulatory uncertainty	<i>Low to medium: uncertainty exists for service offerings within the natural gas class of service</i>	<i>Medium risk: new, uncertainty, scrutiny ...</i>	<i>Medium risk: new, uncertainty, scrutiny</i>	<i>Medium risk: new, uncertainty, scrutiny</i>
Business development risk	<i>Minimal</i>	<i>High as part of overhead costs</i>	<i>High as part of overhead costs</i>	<i>High as part of overhead costs</i>

51.2.1 If none are comparable, please explain why not and discuss why CEMP's proposed deemed capital structure and equity risk premium are appropriate.

RESPONSE:

CEMP has not applied for approval of a deemed capital structure and equity risk premium at this time and proposes that this will be considered as part of a future rates application. Please refer to the responses to BCUC IR 51.1, 51.2 and 24.1 for a discussion of why CEMP considers that the established deemed capital structure and equity risk premium for small TES utilities is a reasonable assumption for the purpose of estimating indicative rates in support of this CPCN Application.

**52.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
Exhibit B-3, BCUC IR 19.1, 19.2, 19.3, 26.1
Non-Fuel Operating Costs – Maintenance**

In response to BCUC IR 19.1, CEMP stated:

CEMP has estimated maintenance costs at 1.0 percent of plant in service costs per annum, escalated at inflation. This approach is consistent with other recent projects including in respect of the indicative cost of service supporting recent Commission approvals of the CPCNs for the Vancouver House Heating TES and Cooling TES.
[Emphasis added]

In response to BCUC IR 19.2, CEMP stated:

A capital reserve fund will not be maintained. CEMP believes that its estimate of maintenance expense is sufficient to cover any normal wear-and-tear of the DCS assets. This approach is consistent with other recent projects including in respect of the indicative cost of service supporting recent Commission approvals of the CPCNs for the Vancouver House Heating TES and Cooling TES. [*Emphasis added*]

In response to BCUC IR 19.3, CEMP stated:

As the magnitude and timing of emergency repair costs cannot be predicted, we have refrained from forecasting them. Should extraordinary events require maintenance costs that exceed our estimate of recurring maintenance costs, Creative Energy will apply for recovery of those costs at that time as applicable and necessary. This approach is consistent with other recent projects including in respect of the indicative cost of service supporting recent Commission approvals of the CPCNs for the Vancouver House Heating TES and Cooling TES. [*Emphasis added*]

In response to BCUC IR 26.1, CEMP stated:

CEMP considers that there is little value provided by comparing the indicative rates for the Mount Pleasant DCS to the indicative rates for the Vancouver House DCS given the fact that it is not an option for the Main Alley Development to obtain cooling service from the Vancouver House DCS and also given the different characteristics, dependencies and underlying cost drivers of each system.

52.1 Given that Vancouver House DCS is stated to have has different characteristics, dependencies and underlying cost drivers, please provide the names of the other recent projects referenced in the preambles above.

RESPONSE:

CEMP clarifies that the first three preamble references above clearly note that the reference to other recent projects includes the Vancouver House Heating TES and Cooling TES.

CEMP provides the following additional clarity into the context that supports both: 1) the assessment that the benchmark indicative rates of the Mount Pleasant DCS are not especially useful to compare to the indicative rates of the Vancouver House DCS given the different characteristics, dependencies and underlying cost drivers; and 2) the assessment that some specific operating cost inputs, assumptions and methods are nonetheless consistent across those projects.

The Vancouver House DCS cooling load and equipment will be driven primarily by residential demand due to the nature of the unique residential building design at the Vancouver House Development. A high-level snapshot of the system is as follows, based on indicative estimates:

- **Total capital and development costs: ~\$2.6 million**
- **Annual fixed O&M at project buildout: ~\$118,000**
- **Annual fuel (electricity) variable cost: ~\$60,000**
- **Annual fixed plus variable cost of service at project build out: ~\$480,000**
- **Annual Cooling Energy: 2,010 MWh**
- **Peak Cooling Capacity: 2,489 kW**
- **Indicative annual levelized fixed rate at project buildout (not including flow-through variable fuel) (2021): \$131/kW (Projected fixed rate revenues at project build out: ~\$326,000)**

The Mount Pleasant DCS cooling load and equipment will be driven primarily by the demand of commercial tenants with a technological heavy focus as a key driver of that demand. A high-level snapshot of the system is as follows, based on indicative estimates:

- Total capital and development costs: ~\$9.5 million
- Annual fixed O&M at project buildout: ~\$710,000
- Annual fuel (electricity) variable cost: ~\$111,000
- Annual fixed plus variable cost of service at project build out: ~\$1.9 million
- Annual Cooling Energy at project build out: 2,575 MWh
- Peak Cooling Demand: 3,665 kW
- Indicative annual levelized fixed rate at project buildout (not including flow-through variable fuel) (2029): ~\$430/kW (Projected fixed rate revenues at project at build out: ~\$1.6 million)

As referred to in the table below there are certain cost inputs to total forecast O&M that are consistent between the Mount Pleasant DCS and other recent TES projects in the Creative Energy family: Vancouver House Heating TES, Vancouver House Cooling DCS, Horseshoe Bay Stream A TES. However, the overall differences in load profile (cooling vs. heating, residential vs. commercial uses), capital costs and energy input costs highlighted above demonstrate that the indicative rates of a TES project cannot be meaningfully compared against those for another TES project. In addition, the construction of the Mount Pleasant DCS is phased in over a longer period than other projects.

<p>CEMP assumptions and methods that are consistent with other recent projects including in respect of the indicative cost of service supporting recent Commission approvals of the CPCNs for the Vancouver House Heating TES and Cooling TES:</p>
<ul style="list-style-type: none"> • Maintenance: 1.14% of capital costs with inflation of 2.0% <ul style="list-style-type: none"> ○ The estimate of maintenance expense is sufficient to cover any normal wear-and-tear of the TES assets and that a separate emergency fund is not required. ○ It is on this basis also that it is expected that sufficient capital reserves will be met, although a specific capital reserve fund will not be maintained • Operator cost requirements based on FTE at \$100,000 base salary with inflation of 2.0% annually • Owner's insurance of 0.123% of net book value and general liability insurance of 0.25% of revenues with inflation of 2.0% annually • Expected fees equivalent to Municipal Access Fees of 1.25% of revenues with inflation of 2.0% annually • Residual general and administration costs allocated on the basis of Massachusetts formula

52.1.1 With respect to the estimated maintenance costs, capital reserve fund, and emergency repair costs, please explain how other recent projects are consistent with the approach taken in this Application.

RESPONSE:

Please refer to the response to BCUC IR 52.1.

**53.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
Exhibit B-3, BCUC IR 1.4, 1.5, 1.6, 2.1.1, 3.2, 3.3, 20.3
Administration Costs**

In response to BCUC IR 1.5, CEMP stated:

CEVP owns and operates the steam utility and connected NEFC hot water system in downtown Vancouver. The Mount Pleasant DCS will not be connected to the steam utility system and will be a separate TES and separate utility. CEMP was formed by CEDLP for the purpose of acquiring, operating and expanding the Mount Pleasant DCS to serve the cooling demand of the Main Alley Development.

In response to BCUC IR 1.6, CEMP stated:

CEMP is established as a single purpose entity for the sole purpose of undertaking this Project. This structure is beneficial in that it allows for the assets and liabilities associated with the Mount Pleasant DCS to be segregated from the assets and liabilities of other operating entities, for example within the Creative Energy family of companies, and allows for more efficient and transparent accounting for the operations of the Mount Pleasant DCS.

In response to BCUC 2.1.1 and with reference to whether CEMP intends to enter into any agreements with CEVP for the ongoing operation, maintenance, administration and regulation of the Mount Pleasant DCS, CEMP stated:

Yes, CEMP intends to have CEVP provide ongoing operation, maintenance, administration and regulation of the Mount Pleasant DCS. The term will be as long as CEMP is providing service.

In response to BCUC IR 3.2, CEMP stated:

CEVP staff will directly assign and capitalize their time to the project for activities related to project development and regulatory approval and would also directly assign their time to the project for directly attributable operations and maintenance activities. Residual general and administration expense, which includes the wages of CEVP employees not directly assigned to projects, are allocated through the Massachusetts Formula in proportion to the ratio for such assignment for all such allocable costs across all applicable projects.

In response to BCUC IR 3.3, CEMP stated:

Residual general and administration costs are shared across all projects in the Creative Energy family through the allocation of such costs using the Commission-approved Massachusetts Formula. All other operations and maintenance costs are project specific and will only be recovered through Commission-approved rates for service charged to the customers of this project once it is operational. Overall, therefore, there is no risk to ratepayers of the Core Steam system associated with development of the CEMP DCS. There is also no risk to the ratepayers of CEVP if the project is approved because when the project is placed into service, recovery of residual general and administration costs will be fairly allocated to the ratepayers of all projects in the Creative Energy family in accordance with the Commission-approved Massachusetts formula.

53.1 Please provide the entities that are included in the “Creative Energy family” and identify which ones are subject to the Massachusetts Formula.

RESPONSE:

The Massachusetts formula is applicable to operating and regulated projects in BC and is used to determine in a simple and transparent manner the appropriate allocation of residual general and administration costs to the following projects in the Creative Energy family:

- Creative Energy Vancouver Platforms – Core Steam system
- Creative Energy Vancouver Platforms – Northeast False Creek system
- Creative Energy Vancouver Platforms – Vancouver House Heating TES
- Creative Energy Vancouver Platforms – Vancouver House Cooling TES
- Creative Energy Vancouver Platforms – Kensington TES
- Creative Energy Vancouver Platforms – Main & Keefer TES
- Creative Energy Pendrell Limited Partnership – Pendrell Street TES
- Creative Energy Horseshoe Bay Limited Partnership – Horseshoe Bay TES
- Creative Energy Mount Pleasant Limited Partnership – Mount Pleasant DCS

53.2 As CEMP is a separate utility formed by CEDLP and it will not be connected to CEVP’s steam system, please explain why CEMP considers the Massachusetts Formula to be appropriate for allocating residual general and administration costs. In your response, please include a discussion on whether the allocation is just and reasonable for the ratepayers of CEMP and CEVP.

RESPONSE:

As a general overall comment that is applicable to all entities in the Creative Energy family in BC, operations and management functions are provided across the utilities by shared staff with their costs allocated to each utility either directly or through the Commission-approved Massachusetts Formula.

Commission Order G-205-18 approved for Creative Energy the use of the Massachusetts Formula methodology to allocate residual general and administration costs between Creative Energy Vancouver Platforms’ (CEVP) Core steam service and its other regulated Vancouver projects, including the NEFC. The Panel in the 2018-2022 RRA proceeding agreed with Creative Energy’s assessment that the methodology is used by many utilities and is a valid methodology commonly used to allocate costs to outside projects or other entities. The Panel approved the methodology for application in future revenue requirements. All salaries and benefits that are not directly assigned and capitalized to projects (that is, the “residual”) are included in the category of General and Administrative costs for allocation as per the Massachusetts Formula methodology. It must necessarily be the case that a single Massachusetts Formula is applicable in order to provide a consistent basis on which to determine allocation ratios across all relevant projects. The Panel in CEVP’s 2019-2020 RRA proceeding is considering matters related to the mechanics of the Massachusetts Formula, and not its overall applicable use as currently approved.

The costs to operate and administer the Mount Pleasant DCS will be directly assigned where possible. The residual administrative and overhead costs that comprise the total costs for allocation through the Massachusetts formula will thus necessarily include the residual costs incurred by Creative Energy Vancouver Platforms to otherwise support the operation of the Mount Pleasant DCS. The Massachusetts Formula is the approved mechanism by which it can be established that each of the entities noted in the response to BCUC IR 53.1 – and including the Mount Pleasant DCS once in operation – are each allocated a fair proportion of the total allocable residual general and administration costs, in a simple, transparent and readily verified manner. The approach is fair and cost-effective to all ratepayers, across all systems.

53.3 Please complete the following table listing all roles required for the general oversight, management, administration, operation, maintenance, or other as appropriate, of the Mount Pleasant DCS. For each role identified, please include whether the person will be employed by CEMP, CEVP or other (for example, Creative Energy Mount Pleasant GP Inc.).

Department	Role	CEMP	CEVP	Other [Complete as necessary]
Oversight				
Management				
Administration				
Operation				
Maintenance				
Other [Complete as necessary]				

RESPONSE:

Department	Role	CEMP	CEVP	Other [Complete as necessary]
Oversight				
	CEO		Employed	
	VP Projects & Engineering		Employed	
	CFO		Employed	
Management				
	Director, Operations		Employed	
Administration				
	Controller		Employed	
	Accountant		Employed	
	Office Coordinator		Employed	

Department	Role	CEMP	CEVP	Other [Complete as necessary]
Operation				
	Plant Crew	TBD		
	Distribution Lead and Distribution Crew		Employed	
Maintenance				
	Plant Crew	TBD		
	Distribution Lead		Employed	
	Distribution Crew		Employed	
Other (Growth and new customer connections)				
VP, Projects & Engineering			Employed	
Construction Manager/Project Engineer			Employed	

53.4 Please confirm, or explain otherwise, that CEMP intends to enter into a service agreement with CEVP.

RESPONSE:

The direct operations and maintenance requirements of the Mount Pleasant DCS are expected to require additional operations personnel within CEVP's 'Service Line' group. Accordingly, CEMP and CEVP will put into place the resources required to operate and maintain the Mount Pleasant DCS as determined by Technical Safety BC and use expert vendors and third-party resources as appropriate. A service agreement may or may not be required, and the form of any agreement has not yet been finalized at this time.

As described above, CEVP currently has management and administration resources and systems in place and operates a number of systems in the lower mainland. The addition of the Mount Pleasant DCS to the operating portfolio will be achieved without any net-new resources, largely by virtue of the robust systems already in place. Similarly, the precise form of a service agreement will not induce any risks to either CEVP or CEMP.

53.4.1 If confirmed, please provide a copy of the agreement.

RESPONSE:

Please refer to the response to BCUC IR 53.4.

53.4.2 If not confirmed, please explain why not, and discuss what risks this poses to the ongoing operation and maintenance of the Mount Pleasant DCS.

RESPONSE:

Please refer to the response to BCUC IR 53.4

53.5 Please discuss whether CEMP considered retaining any other service providers for the operation and maintenance for the Mount Pleasant DCS.

RESPONSE:

Please refer to the response to BCUC IR 53.4. CEMP did not consider another service provider as that approach would not be cost effective due to the additional overhead that a 3rd-party service provider would need to account for as compared to leveraging CEVP resources and allocating residual shared costs through the Massachusetts formula.

53.5.1 If yes, please discuss the relative cost and services available from these service providers.

RESPONSE:

Not applicable. Please refer to the response to BCUC IR 53.5.

53.5.2 If CEMP did not consider retaining other companies, please explain why not.

RESPONSE:

Please refer to the responses to BCUC IR 53.4 and 53.5.

53.6 Considering CEVP's role in the operation and maintenance of the Mount Pleasant DCS, please discuss whether CEVP has sufficient staff and resources to provide the aforementioned services to CEMP.

RESPONSE:

Please refer to the responses to BCUC IR 53.4 and 53.5.

In response to BCUC IR 1.4, CEMP stated:

CEVP is a separate entity affiliated to CEMP. CEVP staff have extensive experience in the development, design, implementation, operation and maintenance of district thermal energy systems, (TES), which include TES for cooling that are regulated public utilities. Certain CEVP staff and project managers directly charge time to CEMP project development and their time is budgeted to such purpose and not included in CEVP revenue requirements. Once the Mount Pleasant DCS is operational, certain residual general and administrative expenses will be allocated to the cost of service of the Mount Pleasant DCS in accordance with the Commission-approved Massachusetts formula for the assignment of such costs from the total of all such allocable costs for Creative Energy projects.

53.7 Please discuss whether a Transfer Pricing Policy and a Code of Conduct should be filed with the BCUC.

RESPONSE:

Yes, a Transfer Pricing Policy (TPP) and Code of Conduct should be filed with the BCUC.

At the time of the filing of CEVP's 2019-2020 RRA for the Core steam and NEFC hot water system, a decision on Creative Energy's Application for a CPCN for Beatty-Expo Plants and Approval of Corporate Reorganization was pending. Creative Energy addressed this point directly in the CEVP 2019-2020 RRA

in setting out its view that a TPP ought to be properly informed by the Commission's decision in the matter of the proposed corporate reorganization that forms part of that application.

Thus, through CEVP's 2019-2020 RRA for the Core steam and NEFC hot water systems, Creative Energy provided a transparent accounting of the allocation of its costs to its non-regulated and regulated thermal energy systems to demonstrate that concerns about cross-subsidization between customers of the different systems are properly addressed in practice, and in the absence of a governing TPP.

As noted in the CEVP 2019-2020 RRA, Creative Energy has intended in the next CEVP RRA to file a TPP for Commission review and approval.

53.7.1 If so, please explain who would be responsible for the filing and when the Transfer Pricing Policy and a Code of Conduct would be filed with the BCUC.

RESPONSE:

Please refer to the response to BCUC IR 53.7.

53.7.2 If not, please explain why not.

RESPONSE:

Please refer to the response to BCUC IR 53.7.

**54.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, pp. 4–5; Exhibit B-1, Section 3.3.5, pp. 19–20; Exhibit B-3, BCUC IR 25.1; Excel Model, 'Monthly', 'Annual'
Indicative Rates**

Pages 4 and 5 of the BCUC's CPCN Guidelines state:

An application under sections 45 and 46 of the UCA should contain the following information:

- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates;
- (iv) A schedule calculating the net present values of the incremental cost and benefit cash flows of the project and feasible alternatives, and justification of the length of the term and discount rate used for the calculation;
- (v) A schedule and supporting discussion comparing the project and feasible alternatives in terms of social and environmental factors, and the applicant's assessment regarding the overall social and environmental impact of the project relative to the overall impact of the feasible alternatives;

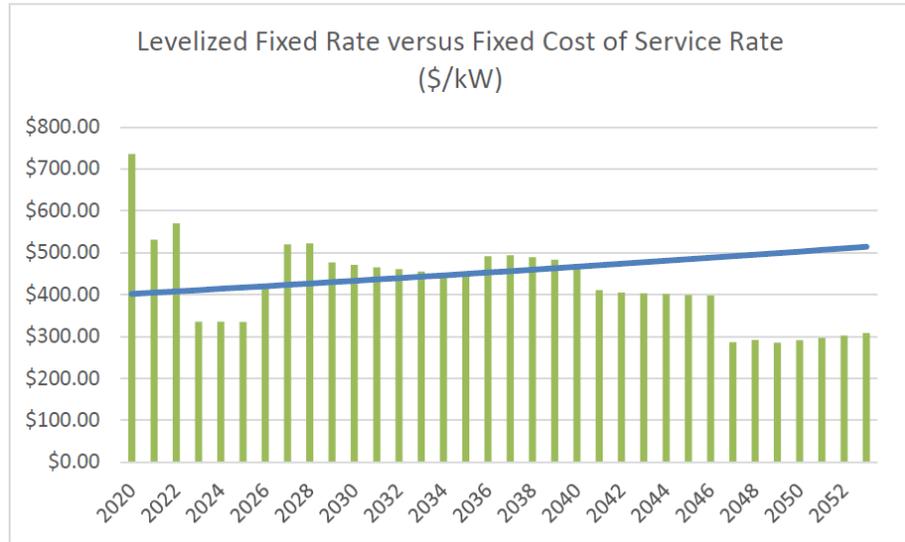
On page 19 of the Application, CEMP states:

Creative Energy will seek to recover its cost of service through a fixed charge and a variable charge.

The purpose of the fixed charge will be to fairly recover from each building the cost of service that does not vary with cooling energy consumption. Figure 5 illustrates an indicative rate on a dollar per kilowatt (\$/kW) of total subscribed peak capacity, levelized over the contract term. Under this rate each building will pay a proportion of the fixed cost of service based on each building’s respective amount of subscribed peak cooling demand that the DCS must be able to serve at any point in time.

Figure 5 on page 20 of the Application shows:

Figure 5: Indicative levelized fixed rate



The ‘Monthly’ tab in the Excel Model shows:

<u>Rate Design</u>		Yes
\$/kW		\$399.00
Subscribed Capacity	kW	
Fixed Revenue	\$	51,971,851

In response to BCUC IR 25.1, CEMP stated:

The billing determinants in kW are the total peak capacity of the system and the initial rate of \$399/kW under the indicative levelized rate design is solved to recover the cost of service over the duration of the contract while assuming a 2 percent cost escalation factor in the fixed charge for inflation.

54.1 Please provide a detailed, step by step explanation, including a functional Excel spreadsheet, of how the net present value of \$399/kW was calculated, including discount rate and cash flows used.

RESPONSE:

CEMP clarifies that the \$399/kW figure cited above is not a net present value, but is rather the starting levelized capacity rate in 2019. This starting point rate result is solved through the “goal seek” function in excel to produce a levelized rate design that escalates on a smooth and predictable basis and that recovers the cost of service over the duration of the contract (including the RDDA balance). The solution therefore accounts for all cost of service inputs in the model, including an assumed 9.5%

ROE for the project based on the economics over the entire project.

54.2 Please confirm, or explain otherwise, that \$399/kW is the rate design used to evaluate the Project.

RESPONSE:

Please refer to the response to BCUC IR 54.1 and to the Figure 5 reproduced in the preamble above, which confirm the overall levelized rate design and the result that the indicative starting point levelized rate is \$399/kW.

54.3 Please discuss how the rate design used to evaluate the Project distributes costs among current and future ratepayers and discuss why CEMP considers it to be fair and reasonable.

RESPONSE:

With the important caveat that a rate design proposal has not been developed nor applied for at this time, CEMP can offer the following considerations for why the indicative rate design is a reasonable assumption for the purposes of considering this CPCN Application. The indicative levelized rates are stable, smooth and predictable over time and are modelled to fully recover revenue requirements over contract duration. In view of the lumpy and phased nature of the Main Alley Development, such rates are expected to also be more readily understood and acceptable to the customer as compared to a cost of service rate, which could change dramatically year to year. The reference to Figure 5 copied in the preamble to this question highlights these differences. In addition, CEMP notes that the fixed versus variable components of the rate design are fairly aligned with cost causation principles. Fixed capital and operating costs that do not vary with consumption will be recovered from the building customers through a fixed charge in proportion to the capacity of the system to meet each building’s peak demand. A variable charge will only recover costs that vary in proportion with energy consumption.

In the ‘Monthly’ tab of the Excel Model, CEMP provides the following pricing analysis:

268	Fixed Revenue	51,971,851
269	Cost/MWh	
270	Cost/m2	
271	Cost/sq.ft	
272	Cost/MWh - Levelized	\$626.89
273	Cost/m2 - Levelized	\$24.36
274	Cost/sq.ft - Levelized	\$2.26
275		
276	Variable Revenue	4,227,877
277	Cost/MWh	
278	Cost/m2	
279	Cost/sq.ft	
280	Cost/MWh - Levelized	\$49.49
281	Cost/m2 - Levelized	\$1.92
282	Cost/sq.ft - Levelized	\$0.18

54.4 Please confirm, or explain otherwise, whether \$399/kW is equivalent to \$626.89/MWh.

RESPONSE:

Not confirmed. As discussed in CEMP response to IR 54.1, \$399/kW is the levelized capacity rate at a single point-in-time (2019), whereas the \$626.89/MWh is a levelized cost per unit of energy for the entire lifetime of the project based on projected revenues.

54.4.1 If confirmed, please provide the conversion calculation.

RESPONSE:

Not applicable. Please see the response to BCUC IR 54.4.

54.4.2 If not confirmed, please explain the difference between these two rates designs.

RESPONSE:

The figure of \$626.89/MWh is not a rate design but an expression of the levelized cost per unit of energy over the life of the project based on projected revenues.

In the 'Annual' tab of the Excel Model, CEMP provides the rate setting mechanisms considered:

		Jan-01-20	Jan-01-21	Jan-01-22
Period Start		Jan-01-20	Jan-01-21	Jan-01-22
Period End		Dec-31-20	Dec-31-21	Dec-31-22
Year		2020	2021	2022
Pricing Analysis				
Cooling Demand	<i>MWh</i>	120	1,191	1,205
Subscribed Peak	<i>kW</i>	263	1,560	1,630
Connected Area	<i>m²</i>	4,427	27,927	29,259
Connected Area	<i>sq.ft</i>	47,649	300,611	314,944
Total Revenue	\$	115,829	689,596	724,636
Fixed Revenue	\$	105,858	631,812	665,113
Variable Revenue	\$	9,971	57,784	59,522
Total Revenue - RD	<i>\$/MWh</i>	\$968.07	\$579.12	\$601.36
Fixed Revenue - RD	<i>\$/MWh</i>	\$884.73	\$530.60	\$551.96
Variable Revenue - RD	<i>\$/MWh</i>	\$83.34	\$48.53	\$49.40
Total Revenue - CoS	<i>\$/MWh</i>	\$1,702.30	\$744.87	\$820.85
Fixed Revenue - CoS	<i>\$/MWh</i>	\$1,618.97	\$696.34	\$771.46
Variable Revenue - CoS	<i>\$/MWh</i>	\$83.34	\$48.53	\$49.40
Total Revenue - RD	<i>\$/kW</i>	\$439.86	\$442.05	\$444.56
Fixed Revenue - RD	<i>\$/kW</i>	\$401.99	\$405.01	\$408.04
Variable Revenue - RD	<i>\$/kW</i>	\$37.87	\$37.04	\$36.52
Total Revenue - CoS	<i>\$/kW</i>	\$773.47	\$568.56	\$606.83
Fixed Revenue - CoS	<i>\$/kW</i>	\$735.60	\$531.52	\$570.31
Variable Revenue - CoS	<i>\$/kW</i>	\$37.87	\$37.04	\$36.52
Total Revenue - RD	<i>\$/m²</i>	\$26.17	\$24.69	\$24.77
Fixed Revenue - RD	<i>\$/m²</i>	\$23.91	\$22.62	\$22.73
Variable Revenue - RD	<i>\$/m²</i>	\$2.25	\$2.07	\$2.03
Total Revenue - CoS	<i>\$/m²</i>	\$46.01	\$31.76	\$33.81
Fixed Revenue - CoS	<i>\$/m²</i>	\$43.76	\$29.69	\$31.77
Variable Revenue - CoS	<i>\$/m²</i>	\$2.25	\$2.07	\$2.03
Capital Revenue	\$	35,136	322,622	400,359
Operations Revenue	\$	168,544	564,334	588,769
		<u>Project Life</u>	<u>20 Years</u>	
Total Revenue - Levelized - \$/sq.ft		2.44	2.38	
Fixed Revenue - Levelized - \$/sq.ft		2.27	2.22	
Variable Revenue - Levelized - \$/sq.ft		0.18	0.17	

54.5 Please explain the difference between the Fixed Revenue Cost/\$MWh - Levelized rate of \$626.89 and the Fixed Revenue – RD \$/MWh rates highlighted in orange in the preamble above.

RESPONSE:

The figure of \$626.89/MWh is not a rate design but an expression of the levelized cost per unit of energy over the life of the project based on projected revenues.

The orange highlighted rows are the costs per unit of energy applicable to one annual period; that is, based on projected revenues in the period.

The red highlighted figures are the indicative levelized rates on a \$/kW basis in the applicable period.

54.6 Please explain the difference between the \$399/kW rate and the Fixed Revenue – RD \$/kW rates highlighted in red in the preamble above.

RESPONSE:

The levelized rates highlighted in red are an escalation of the starting point \$399/kW rate (2019) as solved for in the model, as explained further above. Please refer to the response to BCUC IR 54.1.

**55.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, p. 4; Exhibit B-3, BCUC IR 12.4
Risk Analysis for Indicative Rates**

Page 4 of the BCUC’s CPCN Guidelines states:

An application under sections 45 and 46 of the UCA should contain the following information: ...

- (iii) A schedule calculating the revenue requirements of the project and feasible alternatives, and the resulting impacts on customer rates

In response to BCUC IR 12.4, CEMP provided the following chart:

The indicative response is provided in the table below.

	All Buildings	No M5	No M5/M3	No M5/M3/M4
Project Cost	9,553,463	9,116,858	4,657,302	3,352,537
Year of Revenue Requirement	2029	2027	2023	2022
Capital Charge (Dep+CoD+RoE)	1,037,260	1,030,861	525,973	390,623
Maintenance	124,901	112,878	52,775	37,311
Insurance	16,235	14,856	7,283	5,059
Corporate Overhead	134,089	128,883	119,068	116,733
Municipal Access Fee	19,697	18,166	13,451	10,773
Property Tax	0	0	0	0
Rent	48,760	46,866	43,297	42,448
Operators	365,698	351,498	324,730	318,362
Total Fixed Charge	1,746,641	1,704,007	1,086,576	921,310
Subscribed Peak (kW)	3,665	3,275	2,785	1,630
Load (MWh)	2,575	2,335	1,995	1,205
\$/MWh	\$42.93	\$44.74	\$42.41	\$49.40
Variable Charge	110,548	104,468	84,600	59,522
All-in Revenue \$/kW	\$506.74	\$552.21	\$420.53	\$601.74
All-in Revenue \$/MWh	\$721.24	\$774.51	\$587.06	\$813.97

55.1 Please confirm, or explain otherwise, whether the All-in Revenue \$/kW and \$/MWh figures are based on a Cost of Service rate design.

RESPONSE:

The figures referenced in the table compare the indicative total fixed and variable cost of service of each scenario in the reference year noted and express those totals also on an all-in unit basis, in terms of both kW and MWh, given that these units vary by scenario. This high-level indicative summary does not reflect a model of the rate design of each scenario. Please refer to the response to BCUC IR 55.2.

55.1.1 If confirmed, please provide which cell numbers in the Excel Model where these rates are referenced from.

RESPONSE:

The costs of the scenarios presented in the table are expressed on a unit basis to make the scenarios comparable. These results were calculated separately for the purpose of responding to the scenarios presented in BCUC IR 12.4 and are not reflective of an indicative rate design or project alternative and cannot be referenced in the model for the Mount Pleasant DCS.

55.2 Please provide the levelized rates for each scenario provided above and provide the cell numbers in the Excel Model where these rates are referenced from.

RESPONSE:

The preamble to this question, in reference to both the extract from the CPCN Guidelines and to the response to BCUC IR 12.4, may be suggesting that: 1) all four phases may not be necessary in respect of the design of all buildings in the Main Alley Development and 2) that some form of CPCN approval may then be applicable insofar as some partial development or phasing of the project could represent an available, feasible alternative for evaluation. That is not case, as emphasized in the responses to BCUC IR Series 40 and 41 above. Regulatory certainty is required at this time in the form of CPCN approval for all phases so that CEMP can declare satisfied the conditions precedent in the Construction and Purchase Agreement, thereby committing unconditionally to the transactions contemplated therein, which will in turn allow the Owner to move forward with designing and building the Main Alley Development as contemplated. Please also refer to the responses to BCUC IR Series 4.0 also, for example.

CEMP provided a high-level indicative response to the scenarios that the Commission presented in BCUC IR 12.4, and as summarized in the referenced table as requested. Those scenarios do not represent alternatives to the project and this BCUC IR Series 55 may now misconstrue that CEMP has undertaken to model a rate design in respect of these scenarios as if they represent feasible project alternatives. These scenarios are not feasible alternatives for CEMP and CEMP does not have a rate design model in respect of them; accordingly, it does not have the requested rate design information. Please refer to the response to BCUC IR 41.2.

**56.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
Excel Model, 'Monthly'
Revenue Deferral Account**

In the 'Monthly' tab of the Excel Model, CEMP provides the Revenue Deferral Account Balance, shown below.

Monthly Model for Main Alley							
Period Start		Jan-01-48	Jan-01-49	Jan-01-50	Jan-01-51	Jan-01-52	Jan-01-53
Period End		Dec-31-48	Dec-31-49	Dec-31-50	Dec-31-51	Dec-31-52	Dec-31-53
Year		2048	2049	2050	2051	2052	2053
Sensitivity Toggles							
Circuit Breaker		0					
Debt Scenario		Regulated					
Tax Free Cash Flows		No					
Revenue Requirement - Actual							
Depreciation	\$	10,246,251	30,637	0	0	0	0
Return on Equity	\$	4,229,016	618	0	0	0	0
Cost of Debt	\$	2,710,236	396	0	0	0	0
O&M	\$	27,460,954	1,026,303	1,046,491	1,067,081	1,088,080	1,109,497
Income Taxes	\$	1,851,273	11,072	0	0	0	0
Revenue Requirement	\$	46,497,730	1,069,027	1,046,491	1,067,081	1,088,080	1,109,497
Rate Design							
\$/kW		\$399.00	\$495.54	\$499.26	\$503.00	\$506.77	\$510.58
Subscribed Capacity	kW		3,665	3,665	3,665	3,665	3,665
Fixed Revenue	\$	51,971,851	1,816,157	1,829,778	1,843,502	1,857,328	1,871,258
Revenue Deferral Account							
Opening			1,716,636	1,054,343	312,037	-470,770	-1,296,322
Under/(Over) Recovery		-5,474,121	-747,131	-783,287	-776,421	-769,248	-761,761
Closing			969,506	271,056	-464,384	-1,240,019	-2,058,083
AFUDC on Deferral		2,387,420	84,838	40,981	-6,386	-56,304	-109,250
Closing RDDA w/ AFUDC		-3,086,701	1,054,343	312,037	-470,770	-1,296,322	-2,167,333

56.1 Please explain why the revenue deferral account will remain open after costs have been recovered.

RESPONSE:

The revenue deferral account will not remain open after deferred costs have been recovered. As described in the response to BCUC IR 54.1, the levelized rate design is based on recovering all deferred costs over the contract duration. The report of a negative closing RDDA in the model at the reference noted is only a construct of the model. Rates will not be proposed nor set at a level that would over-recover the cost of service at such time that the RDDA balance is extinguished.

**57.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
CPCN Guidelines, p. 7; Exhibit B-3, p. 70
Benchmark Rates**

Page 7 of the BCUC’s CPCN Guidelines states:

- (ii) The project cost estimate should include the basis of estimate, the preparation effort (level of effort used to develop the cost estimate), as defined in the latest revision of the AACE International Recommended Practices, along with a description of the method of estimating used, the percentage of project definition and design complete at the time of the estimate based on the judgment of the utility’s management, identification and justification of all assumptions, exclusions, inflation and discount factors, and sources of benchmarks and other data including lessons learned from relevant past projects. *[Emphasis added]*

Page 70 of Exhibit B-3 states:

On page 20 of the Application, CEMP states:

Creative Energy Mount Pleasant LP can offer no comparable benchmark rates to other cooling TES that would put the indicative rates into context due to the unique characteristics of the Mount Pleasant DCS, the expected load and the phasing of capital expenditures over time.

26.1 Please compare Mount Pleasant DSC's indicative rates to the indicative rates used in the Vancouver House Application.

RESPONSE:

CEMP considers that there is little value provided by comparing the indicative rates for the Mount Pleasant DCS to the indicative rates for the Vancouver House DCS given the fact that it is not an option for the Main Alley Development to obtain cooling service from the Vancouver House DCS and also given the different characteristics, dependencies and underlying cost drivers of each system. Please refer also to the response to BCUC IR 8.9.

57.1 Please compare Mount Pleasant DSC's indicative rates to cooling services either offered by CEVP or by another TES, explaining all differences between indicative rates for the Mount Pleasant DCS and the rates for the chosen comparison(s).

RESPONSE:

Please refer to the response to BCUC IR 57.1 for the requested comparison to the indicative rates for the Vancouver House Cooling TES.

E. CUSTOMER SERVICE AGREEMENTS

**58.0 Reference: CUSTOMER SERVICE AGREEMENT
Exhibit B-3, BCUC IR 16.1, 31.1
Updates to Customer Service Agreements**

In response to BCUC IR 16.1 and with reference to the CSAs, CEMP stated: "The definition of sub-meter in CSA agreements contains a typo; the meters would be owned and operated by the Owner. The CSA's will be amended to correct this mistake."

In response to BCUC IR 31.1, CEMP stated: "The rates will be appended to the Customer Service Agreement (CSA); CEMP will amend the CSA to correct and make the reference clear."

58.1 Please update the CSAs to reflect the amendments noted in the above preambles.

RESPONSE:

Please refer to the Attachment 58.1 – M3 and Attachment 58.1 – Non-M3.

F. CONTRIBUTION AGREEMENT

**59.0 Reference: CONTRIBUTION AGREEMENT
Exhibit B-3, BCUC IR 36.5
Costs**

In response to BCUC IR 36.5, CEMP stated:

The costs for which Creative Energy is responsible include:

- Water for the chiller plant & cooling towers
- Electricity for the chiller plant
- Internet to the chiller plant

59.1 Please confirm, or otherwise explain, that “Creative Energy” in the preamble above refers to CEMP.

RESPONSE:

Confirmed.

**60.0 Reference: CONTRIBUTION AGREEMENT
Exhibit B-1, Appendix C, pp. 7–8; Exhibit B-3, BCUC IR 36.7
Assignments**

Section 24 (b) on pages 7 to 8 of the Contribution Agreement states:

- (b) *Assignment by Creative Energy* - Creative Energy may assign this Agreement without the consent of the Owner to any of Creative Energy’s Affiliates, or to any lender(s) providing financing for any assets of Creative Energy, which include the Cooling Plant, for collateral security purposes, or to another person providing the Energy Services in the place and stead of Creative Energy, provided that any such Affiliate, lender or other person agrees in writing with the Owner to be bound by the terms and conditions of this Agreement effective as of the date of such transfer, and any such assignment shall not release Creative Energy from any of its obligations hereunder without the written consent of the Owner, which consent shall not be unreasonably withheld.

In response to BCUC IR 36.7, CEMP stated:

Creative Energy considers that BCUC approval would not be required for the assignment specified in section 24(b) of the Contribution Agreement because such assignment is in ordinary course of business as provided for in section 52 of the *Utilities Commission Act*.

60.1 Please explain the circumstances under which “Creative Energy may assign this Agreement ...to another person providing the Energy Services in the place and stead of Creative Energy”.

RESPONSE:

CEMP would assign its rights under the Contribution Agreement to a purchaser of the Mount Pleasant DCS in the event a sale of the Mount Pleasant DCS was proposed and approved by the BCUC.

60.2 If the agreement is assigned to another person, please discuss any impacts on CEMP's ownership, rights or access to the Mount Pleasant DCS.

RESPONSE:

As referenced in the response to BCUC IR 60.1, an assignment of this agreement would only take place in the event of the sale of the Mount Pleasant DCS with the approval of the BCUC.

G. MOUNT PLEASANT DCS – INDICATIVE COST OF SERVICE

**61.0 Reference: MOUNT PLEASANT DCS – INDICATIVE COST OF SERVICE MODEL
Exhibit B-1, Attachment B-1
Updates to the Excel Model**

61.1 If responses to any of the IRs above result in changes to the Excel Model, please provide an updated version of the Excel Model and note all revisions made.

RESPONSE:

CEMP corrected a calculation in regards to AFUDC, as explained in the response to BCUC IR 50.1, and accordingly attaches an updated version of the model.