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Utilities Commission

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June 30, 2020

Sent via email/eFile

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| <b>CREATIVE ENERGY CPCN TES COOLING MAIN ALLEY<br/>DEVELOPMENT EXHIBIT A-5</b> |
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Mr. Rob Gorter  
Director, Regulatory Affairs and Customer Relations  
Creative Energy Vancouver Platforms Inc.  
Suite 1 - 720 Beatty Street  
Vancouver, BC V6B 2M1  
rob@creative.energy; info@creative.energy

**Re: Creative Energy Mount Pleasant LP – Certificate of Public Convenience and Necessity (CPCN)  
Application to Acquire, Operate and Expand a Thermal Energy System for Cooling in the Main Alley  
Development – Project No. 1599077 – Information Request No. 2**

Dear Mr. Gorter:

Further to your March 10, 2020 above-noted application, enclosed please see British Columbia Utilities Commission Information Request No. 2. Please file your responses by Thursday, July 16, 2020.

Sincerely,

*Original signed by Ian Jarvis for:*

Marija Tresoglavic  
Acting Commission Secretary

/jo  
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

**INFORMATION REQUEST NO. 2 TO CREATIVE ENERGY MOUNT PLEASANT LIMITED PARTNERSHIP**

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**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) Guidelines<sup>1</sup> (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),

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<sup>1</sup> 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](https://www.bcuc.com/Documents/Guidelines/2015/DOC_25326_G-20-15_BCUC-2015-CPCN-Guidelines.pdf)

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.

...

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.

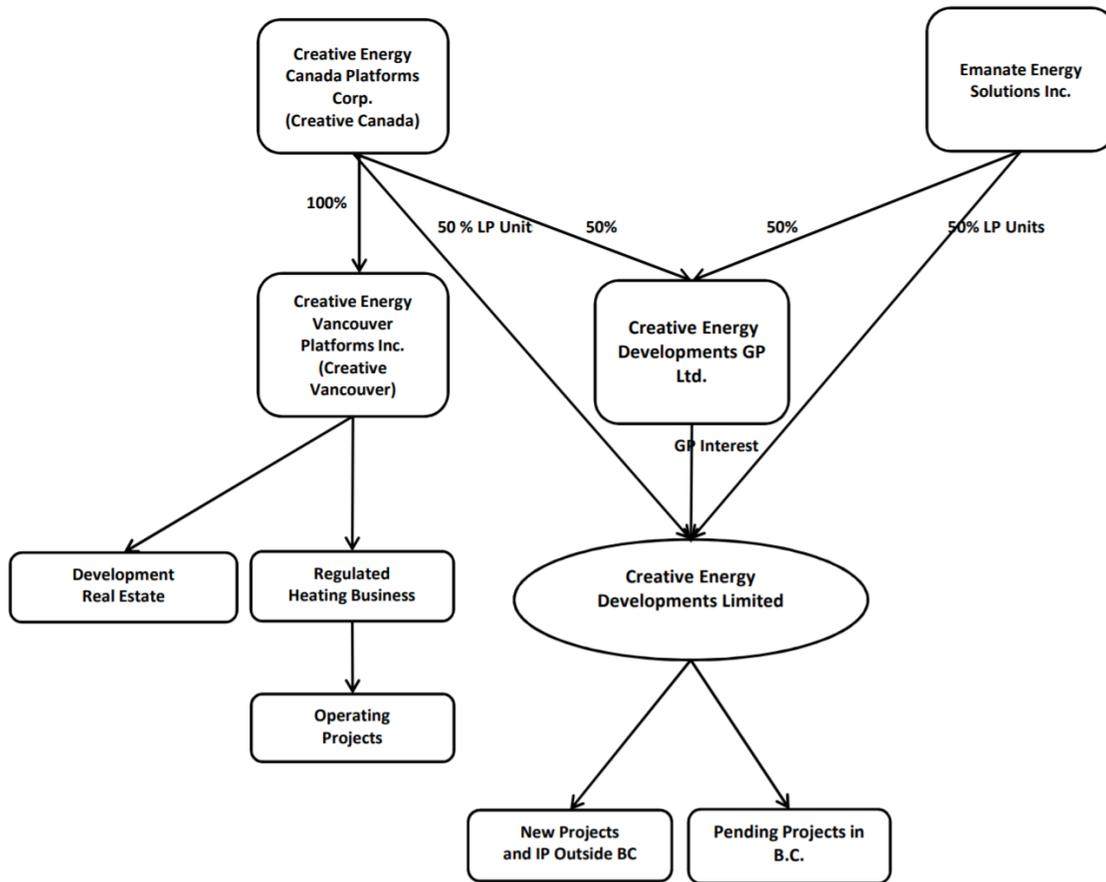
On page 1 of the Application, CEMP states:

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.
- 5<sup>th</sup> & Main Partnership
- 2000 Main Holdings Inc.
- 111 East 5<sup>th</sup> Property Inc.
- 110 East 5<sup>th</sup> Property Inc.
- 130 East 4<sup>th</sup> 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.

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.

**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.

**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.”

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

**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 4<sup>3</sup> 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*]

<sup>3</sup> 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.

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.

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.

**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 <sup>B</sup>  |             | 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.

42.1.1 If not confirmed, please complete the following table.

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

**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.

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.

**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**

| <b>Building</b> | <b>Floor Area<br/>m<sup>2</sup></b> | <b>Peak Cooling<br/>W/m<sup>2</sup></b> | <b>Peak Capacity<br/>kW</b> | <b>Annual<br/>Cooling<br/>kWh/m<sup>2</sup></b> | <b>Annual<br/>Cooling<br/>MWh</b> |
|-----------------|-------------------------------------|---|-----------------------------|---|-----------------------------------|
| 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 <sup>3</sup> | 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).

**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.

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.

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).

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.

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.

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

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

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

**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:

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<sup>2</sup> 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.

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.

**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.

47.1.1 If not, please provide a complete list.

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.

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.

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

#### 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.”

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

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.”

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

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.

**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.

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.

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.

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

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.

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.

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.

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

**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        |
|                              | <u>732,793</u> | <u>2,870,514</u> | <u>6,030,209</u> | <u>612,735</u> |

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.

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

**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.
- 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.
  - 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.

**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.

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.

**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.
- 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.
- 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<br>[Complete as necessary] |
|--------------------------------------|------|------|------|----------------------------------|
| <b>Oversight</b>                     |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |
| <b>Management</b>                    |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |
| <b>Administration</b>                |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |
| <b>Operation</b>                     |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |
| <b>Maintenance</b>                   |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |
| <b>Other [Complete as necessary]</b> |      |      |      |                                  |
|                                      |      |      |      |                                  |
|                                      |      |      |      |                                  |

- 53.4 Please confirm, or explain otherwise, that CEMP intends to enter into a service agreement with CEVP.
  - 53.4.1 If confirmed, please provide a copy of the agreement.
  - 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.

- 53.5 Please discuss whether CEMP considered retaining any other service providers for the operation and maintenance for the Mount Pleasant DCS.
- 53.5.1 If yes, please discuss the relative cost and services available from these service providers.
- 53.5.2 If CEMP did not consider retaining other companies, please explain why not.
- 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.

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.
- 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.
- 53.7.2 If not, please explain why not.

**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;

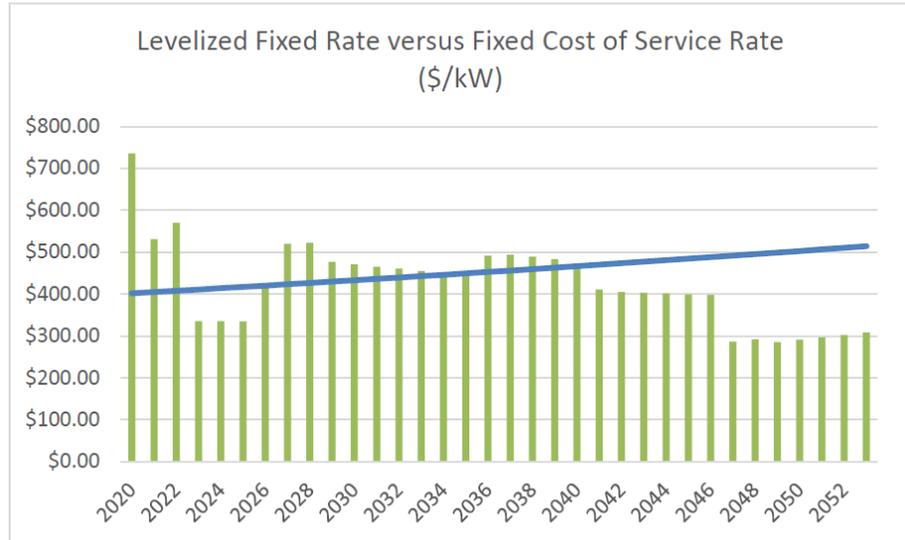
On page 19 of the Application, CEMP states:

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

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

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

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

54.4.1 If confirmed, please provide the conversion calculation.

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

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                          | MWh               | 120                 | 1,191           | 1,205     |
| Subscribed Peak                         | kW                | 263                 | 1,560           | 1,630     |
| Connected Area                          | m <sup>2</sup>    | 4,427               | 27,927          | 29,259    |
| Connected Area                          | sq.ft             | 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                      | \$/MWh            | \$968.07            | \$579.12        | \$601.36  |
| Fixed Revenue - RD                      | \$/MWh            | \$884.73            | \$530.60        | \$551.96  |
| Variable Revenue - RD                   | \$/MWh            | \$83.34             | \$48.53         | \$49.40   |
| Total Revenue - CoS                     | \$/MWh            | \$1,702.30          | \$744.87        | \$820.85  |
| Fixed Revenue - CoS                     | \$/MWh            | \$1,618.97          | \$696.34        | \$771.46  |
| Variable Revenue - CoS                  | \$/MWh            | \$83.34             | \$48.53         | \$49.40   |
| Total Revenue - RD                      | \$/kW             | \$439.86            | \$442.05        | \$444.56  |
| Fixed Revenue - RD                      | \$/kW             | \$401.99            | \$405.01        | \$408.04  |
| Variable Revenue - RD                   | \$/kW             | \$37.87             | \$37.04         | \$36.52   |
| Total Revenue - CoS                     | \$/kW             | \$773.47            | \$568.56        | \$606.83  |
| Fixed Revenue - CoS                     | \$/kW             | \$735.60            | \$531.52        | \$570.31  |
| Variable Revenue - CoS                  | \$/kW             | \$37.87             | \$37.04         | \$36.52   |
| Total Revenue - RD                      | \$/m <sup>2</sup> | \$26.17             | \$24.69         | \$24.77   |
| Fixed Revenue - RD                      | \$/m <sup>2</sup> | \$23.91             | \$22.62         | \$22.73   |
| Variable Revenue - RD                   | \$/m <sup>2</sup> | \$2.25              | \$2.07          | \$2.03    |
| Total Revenue - CoS                     | \$/m <sup>2</sup> | \$46.01             | \$31.76         | \$33.81   |
| Fixed Revenue - CoS                     | \$/m <sup>2</sup> | \$43.76             | \$29.69         | \$31.77   |
| Variable Revenue - CoS                  | \$/m <sup>2</sup> | \$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.

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.

**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       |
| <b>Year of Revenue Requirement</b> | <b>2029</b>     | <b>2027</b>     | <b>2023</b>     | <b>2022</b>     |
| 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          |
| <b>All-in Revenue \$/kW</b>        | <b>\$506.74</b> | <b>\$552.21</b> | <b>\$420.53</b> | <b>\$601.74</b> |
| <b>All-in Revenue \$/MWh</b>       | <b>\$721.24</b> | <b>\$774.51</b> | <b>\$587.06</b> | <b>\$813.97</b> |

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.

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

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.

**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**

|                                     |    | Jan-01-48  | Jan-01-49 | Jan-01-50 | Jan-01-51 | Jan-01-52  | Jan-01-53  |
|-------------------------------------|----|------------|-----------|-----------|-----------|------------|------------|
| Period Start                        |    | 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       |
| <b>Sensitivity Toggles</b>          |    |            |           |           |           |            |            |
| Circuit Breaker                     |    | 0          |           |           |           |            |            |
| Debt Scenario                       |    | Regulated  |           |           |           |            |            |
| Tax Free Cash Flows                 |    | No         |           |           |           |            |            |
| <b>Revenue Requirement - Actual</b> |    |            |           |           |           |            |            |
| 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  |
| <b>Rate Design</b>                  |    |            |           |           |           |            |            |
|                                     |    | Yes        |           |           |           |            |            |
| \$/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  |
| <b>Revenue Deferral Account</b>     |    |            |           |           |           |            |            |
| 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.

**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).

## **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.

## **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.

**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”.
- 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.

**G. MOUNT PEASANT 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.