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Utilities Commission

Marija Tresoglavic
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August 10, 2020

Sent via email/eFile

CREATIVE ENERGY CPCN TES COOLING MAIN ALLEY DEVELOPMENT	EXHIBIT A-6

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 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 – Project No. 1599077 – Panel Information Request No. 1

Dear Mr. Gorter:

Further to your March 10, 2020 above-noted application, enclosed please see British Columbia Utilities Commission Panel Information Request No. 1. Please file your responses by Monday, August 24, 2020.

Sincerely,

Original signed by:

Marija Tresoglavic
Acting Commission Secretary

/ae
Enclosure

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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

PANEL INFORMATION REQUEST NO. 1 TO CREATIVE ENERGY MOUNT PLEASANT LIMITED PARTNERSHIP

1.0 Reference: INDICATIVE COSTS AND RATES FOR SERVICE
Exhibit B-5, BCUC Information Request 48.1, 52.1
Comparison to the Vancouver House District Cooling System

In response to British Columbia Utilities Commission's (BCUC) Information Request (IR) 52.1, Creative Energy Mount Pleasant Limited Partnership's (CEMP) states:

> 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 <u>given the different characteristics, dependencies and underlying cost drivers</u>; and 2) the assessment that some specific operating cost inputs, assumptions and methods are nonetheless consistent across those projects. [*Emphasis added*]
>
> 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. [*Emphasis added*]

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:

• Maintenance: 1.14% of capital costs with inflation of 2.0%
  ◦ 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 note 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

1.1 For the Main Alley District Energy System (DCS) and the Vancouver House DCS, please provide the capacity assigned to commercial and residential customers. Please provide your response both in terms of energy capacity (MW) and percentage.

1.2 For the Main Alley DCS and the Vancouver House DCS, please provide the annual energy consumption for commercial and residential customers. Please provide your response both in terms of energy demand (MWh) and percentage.

1.3 Please provide a detailed description of each of the following differences noted in the preamble between the Mount Pleasant DCS and the Vancouver House DCS:

- Different characteristics;
- Dependencies;
- Underlying cost drivers; and
- Overall differences in load profile (cooling vs. heating, residential vs. commercial uses).

1.3.1 With reference to the Vancouver House DCS, please explain how each difference

described in IR 1.3 impacts the following for Mount Pleasant DCS:

i. Annual cooling energy and peak demand;
ii. System sizing and peak cooling capacity;
iii. Sizing and number of chillers and cooling towers;
iv. Distribution piping;
v. Capital costs, including equipment costs, construction and development costs;
vi. Annual fixed operation and maintenance costs at project buildout;
vii. Annual fuel variable costs;
viii. Annual fixed plus variable cost of service at project build out; and
ix. Indicative annual levelized fixed rate at project buildout (not including flow-through variable fuel).

In response to BCUC IR 48.1, CEMP states:

> 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 [Power Engineers, Boiler, Pressure Vessel and Refrigeration] 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 [Power Engineers, Boiler, Pressure Vessel and Refrigeration] 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.

1.4 Please explain further the basis and assumptions that CEMP used to establish that the Mount Pleasant DCS will require 2 full-time staff, including the criteria typically used by Technical Safety BC to assess refrigeration plant supervision, the differences in these criteria for the Mount Pleasant DCS and the Vancouver House DCS, and how the experience of Southeast False Creek Energy Centre heating plant was used.