IN THE MATTER OF

RIVER DISTRICT ENERGY LIMITED PARTNERSHIP

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
TO CONSTRUCT AND OPERATE A DISTRICT ENERGY SYSTEM
FOR THE RIVER DISTRICT DEVELOPMENT IN SOUTHEAST VANCOUVER

AND

PROPOSED REVENUE REQUIREMENT, RATE DESIGN, LEVELIZED RATES
AND REVENUE DEFICIENCY DEFERRAL ACCOUNT FOR THE
FIRST FIVE YEARS OF OPERATION

DECISION

December 19, 2011

Before:

L.A. O'Hara, Commissioner/Panel Chair
A.W.K. Anderson, Commissioner
M.R. Harle, Commissioner

TABLE OF CONTENTS

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

In this Decision the Commission Panel grants River District Energy Limited Partnership (RDE) a Certificate of Public Convenience and Necessity (CPCN) to construct and operate a district energy utility system to serve the River District located in southeast Vancouver adjacent to the Fraser River. The forecast capital costs of the Phase I of the project (first five years ending 2016), subject of the CPCN, amount to $10.9 Million. While the initial energy source is natural gas, the long-term plan beyond 2016, which is expected to span more than 20 years, is to use waste heat from the Burnaby Waste to Energy Facility (WTEF) as the primary energy source. This application, as a further illustration of the evolving energy environment, follows in the footsteps of the Neighbourhood Utility Service for UniverCity at Burnaby Mountain by Corix, and the Dockside Green Energy project in Victoria.

The Vancouver City Council approved the East Fraserlands (now River District) Official Development Plan in November 2006. This plan included the district energy utility concept as a key element in the community sustainability strategy. The District Energy Utility (DEU) is expected to provide space heating and domestic hot water services required in the River District community, which will include offices, shops and restaurants, schools, day care facilities, a community centre and homes for some 15,000 residents. Key stakeholders include the future strata owners of the River District development, Metro Vancouver, City of Vancouver, and City of Burnaby.

Some of the fundamental public interest considerations before the Commission Panel included the following:

- Would the Project be in the public interest even without the prospect of a renewable heat source?
- Should the test of public interest be limited to the benefits in the first five years?
- Does the Commission need to satisfy itself that waste heat or some other non-fossil heat source is a reasonably available source of energy?

Key determinations and findings of the Commission Panel are summarized below:

- The need for the project has been established and the alternatives have been adequately assessed to justify the future potential benefits, including environmental, as being in the public interest.
- The proposed deemed capital structure comprising 60 percent debt and 40 percent of equity is approved for rate setting purposes. A deemed cost of debt rate of 5.5 percent is approved. For a rate of return on equity, a risk premium of 50 basis points over the benchmark Return on Equity (ROE) is approved.
- A rate design which will recover 66 percent of forecast revenues through a fixed monthly charge and 34 percent through a variable charge is approved. A twenty-year levelized rate structure in which RDE defers a portion of its annual revenue requirement during the initial years is also approved. Furthermore, the Panel approves establishment of a Revenue Deferral Deficiency Account to record shortfalls in the recovery of revenue requirements in the early years.
- Regarding the initial rates, the Panel accepts that a premium of up to 10 percent above benchmark electricity rate may be justified when establishing the rates for the DEU. However, the Panel is reluctant to determine a final 2012 rate greater than that requested by RDE without giving the Applicant and Interveners an opportunity for further input. Accordingly, RDE is directed to file three additional options with the Commission. With the round of submissions concluding on January 12, 2012, the Commission Panel will then be in a position to establish the final rate for 2012.
- Public and First Nations consultation has been adequate.
- While the only real GHG benefit will be realized when the DEU is supplied with a renewable energy heat source, the Panel finds that the implementation of the DEU creates the conditions for adopting low-carbon energy sources in the future, thus aligning with the Government's energy objectives.
- Even without a renewable heat source there are sufficient reasons to find the project in the public interest as long as the source of energy costs is sufficiently cost-competitive with electricity.
- It would be inappropriate to limit the test of the public interest to the benefits derived only in the first five years of the project. The Panel finds that RDE has sufficiently explored a variety of alternative non-fossil heat sources and the waste heat option is a reasonably available strategy at this time for this CPCN.

2.0 INTRODUCTION

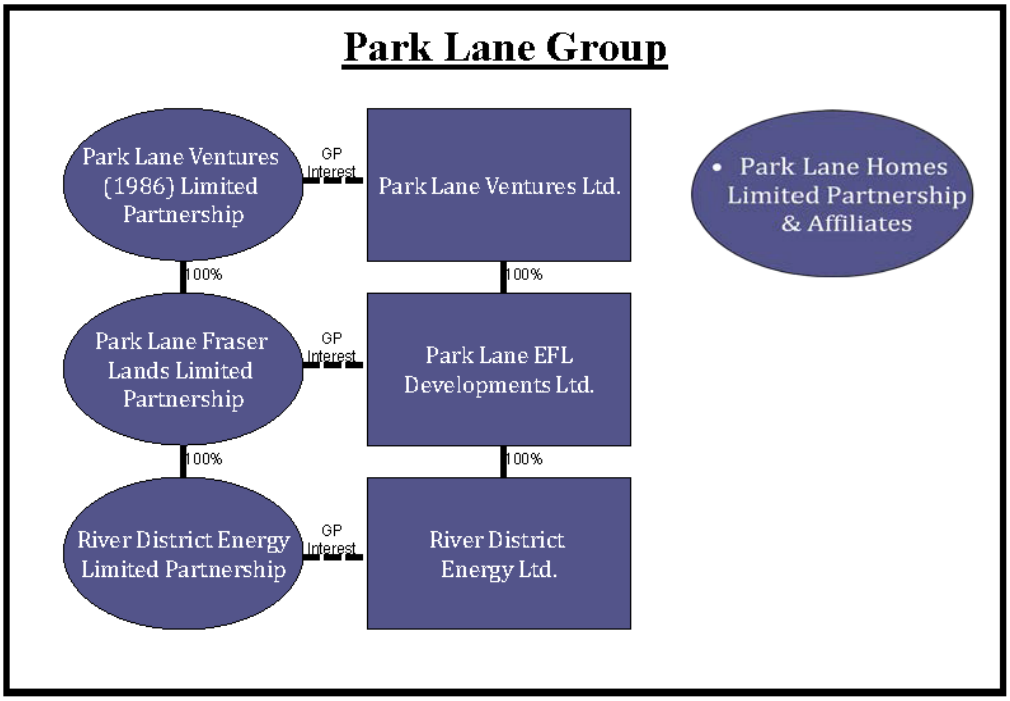
This Decision deals with an application by River District Energy Limited Partnership for a Certificate of Public Convenience and Necessity to construct and operate a district energy system to serve the River District in Vancouver (the Application). The River District, previously called East Fraserlands, which is located in southeast Vancouver on 130 acres, is a new community being developed on former industrial lands. The district energy utility is expected to provide space heating and domestic hot water services required in the community, which will include offices, shops and restaurants, schools, day care facilities, a community centre and homes for some 15,000 residents.

In November 2006, the Vancouver City Council approved the East Fraserlands Official Development Plan (ODP), which included the DEU concept as a key element in the community sustainability strategy. The long-term business plan included in the Application provides for the build-out of the DEU infrastructure and connection to Metro Vancouver's Waste to Energy Facility in Burnaby for the alternative energy heat source. The CPCN, however, only seeks approvals of a plan to provide thermal energy to serve the initial development parcels using natural gas as the energy source. This plan involves construction of gas-fired temporary and permanent energy centres, a related distribution piping system and energy transfer stations.

2.1 The Applicant

The River District Energy Limited Partnership has been formed to develop, own and operate the DEU to provide energy for space heating and domestic hot water for the River District. RDE has as its general partner River District Energy Ltd., which is a company incorporated under the laws of the Province of British Columbia and is a Parklane company. Collectively the various Parklane companies are known as the Parklane Group (Parklane). The ownership structure of RDE within Parklane is depicted in Figure 1 below. In its application RDE often refers to Parklane. In this decision the Commission generally uses 'RDE' to collectively refer to the various members of the Parklane Group.

Figure 1 - RDE Ownership Structure



Source: Exhibit B-1, p. 8

2.2 Key Stakeholders

The proposed project will impact different groups of individuals, which should be considered from the public interest perspective. The primary group naturally will consist of the future residents of the River District as the ratepayers of RDE. Specifically, the DEU will serve a pre-identified group of customers: the future strata owners of the River District development. The second group is made up of those individuals in the surrounding area who may be affected by the project. The third group comprises the general public who may stand to gain because of anticipated reduction in Greenhouse Gases emissions (GHG). First Nations were also included in the consultation process as potential stakeholders. The Musqueum band was the only First Nation to participate.

The developer of the first buildings to be served by RDE, Polygon Homes, will require construction heat commencing February 2012. Other stakeholders include City of Vancouver, Metro Vancouver, and City of Burnaby.

2.3 Orders Sought

RDE's Application seeks the following:

1. A CPCN under sections 45 of the *Utilities Commission Act* (*Act*) for the construction and operation of RDE's proposed community-based DEU at the River District, Vancouver, BC.
2. Approval under sections 56, 60 and 61 of the Act of the proposed rate base, revenue requirements, rate design and rates for the initial five-year period as described in the Application and reflecting the following:
   a. The rate base described in Section 3.14 of the Application, as subsequently amended;
   b. The revenue requirements described in Section 3.9, as subsequently amended, which reflect:
      i. A deemed capital structure of 60 percent debt and 40 percent equity;
      ii. Debt financing costs estimated at 6 percent;
      iii. A rate of Return on Equity (ROE) of 10 percent, based on the current FortisBC Energy Inc. ROE that serves as a benchmark for public utilities, plus a premium of 50 basis points;
      iv. Operating costs as provided in Section 3.5.3; and
      v. A 20-year levelized rate structure in which RDE defers a portion of its annual revenue requirements during the initial years, to be recovered in later years in order to provide affordable and stable customer rates.
   c. Approval of the accounting treatment of:
      i. A rate stabilization account, which serves to record shortfalls in the recovery of revenue requirements in the early years with the goal of complete recovery over a 20-year levelization period; and
      ii. The rate design in Section 3.11 of the Application, as subsequently amended.

   (RDE Final Submission, pp. 5-6)

2.4 Regulatory Process

The review of the Application was conducted by way of a written proceeding. Registered Interveners were Metro Vancouver, the British Columbia Sustainable Energy Association (BCSEA), and FortisBC Energy Utilities. BCSEA was the only Intervener who filed a Final Submission. The

New Westminster Electric Utility Commission registered as an Interested Party. The Regulatory Timetable is summarized in Appendix A.

2.5 Evolving Energy Environment

This Application is a further illustration of the evolving energy environment driven by society at large, the initiatives by the City of Vancouver and other municipalities, as well as the legislation introduced by the Provincial Government in recent years. The Application follows in the footsteps of the Neighbourhood Utility Service (NUS) for UniverCity at Burnaby, which was proposed by Corix Multi-Utility Services Inc. (Corix). The Commission granted Corix a CPCN in May 2011 by Order C-7-11. One earlier similar example is the Dockside Green Energy (DGE) Project in Victoria, BC, which was granted a CPCN in April 2008 by Order C-1-08.

3.0 PROJECT DESCRIPTION

3.1 Project History and Need

The approved City of Vancouver ODP for the River District calls for specific environmental initiatives in order to contribute to sustainable community objectives. The ODP states that "subject to investigating technical feasibility and financial viability at the time of re-zoning, implementing a community-wide heat source and system strategy such as ground source, biomass, sanitary sewer heat recovery, solar hot water and waste heat recovery is to occur."

RDE proposes establishing a DEU consistent with the City's ODP that will initially utilize natural gas boilers to produce hot water that will be distributed to each building for space heating and domestic hot water use. The infrastructure for the DEU will expand with demand as buildings are constructed over the twenty plus years of the build-out schedule. RDE and the City's ODP support switching to a renewable/waste energy source in the near future when demand reaches certain economic thresholds. RDE has assessed multiple alternative energy source options and identified waste heat from the Burnaby WTEF as the preferred longer-term energy source alternative. (Exhibit B-1, pp. 15, 22-25)

3.2 Project Build-Out Schedule, Load Analysis and Energy Demand Forecast

Based on the development schedule and anticipated energy use intensities of the expected type of buildings planned for the River District, RDE estimates the peak heating load at 25.71 MW with annual energy sales of 65,666 MWh occurring at year 2034 for primarily residential space and domestic hot water heating. The annual energy demand forecast for the River District corresponding to the first five years of construction is shown in Table 1.

Table 1 - Annual Demand Forecast

	2012	2013	2014	2015	2016
Peak Load (MW)	**0.5**	**1.1**	**2.1**	**2.7**	**3.5**
Energy Demand (MWh)	1,335	2,904	5,802	7,201	9,538

Source: Exhibit B-3-1, Appendix 1

3.3 Screening of Alternative Technologies

Alternatives that were evaluated by RDE were limited to a DEU model and included energy sources referenced in the ODP, namely;

1) Sewer heat recovery
2) Geothermal
    a) Ground water with heat pump
    b) Ground source with heat pump
3) Biomass
4) Metro Vancouver WTEF in Burnaby

In all cases the initial load and eventual peaking load would be supplied by natural gas boilers. RDE comments that the lower capital cost of natural gas boilers is always favoured for peaking and back-up purposes, which also makes for the most economical choice for initial capacity since natural gas boilers will be required in any event. RDE references Corix UniverCity as an example of other successful DEU systems that pursued this same strategy. (Exhibit B-3, BCUC 1.6.2)

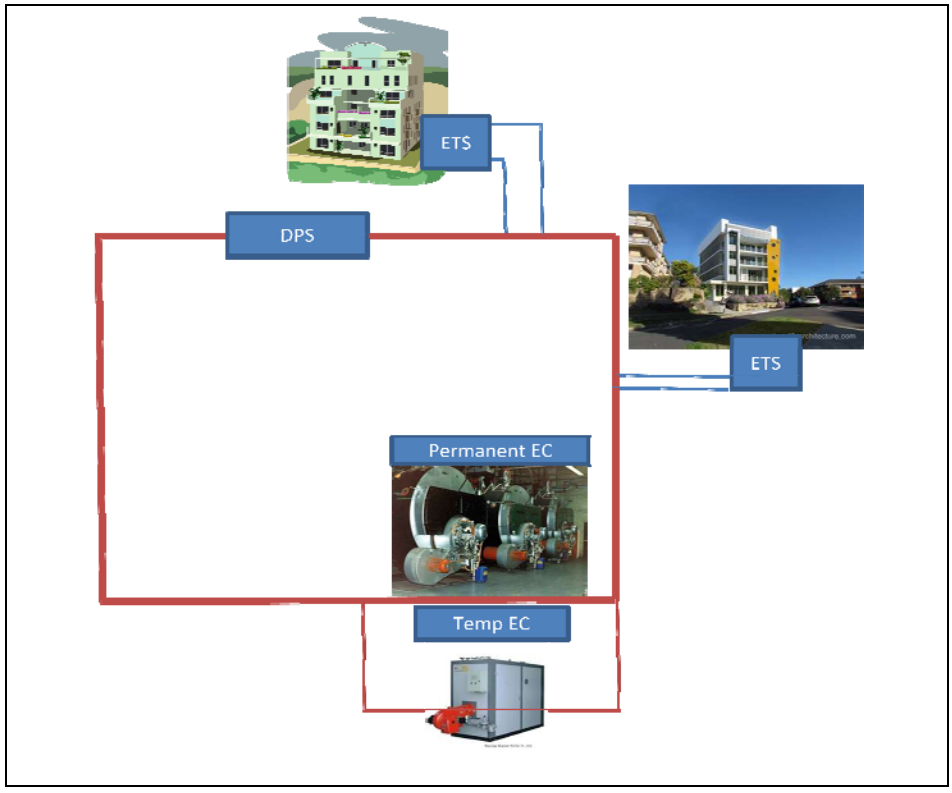
Initial feasibility results for the alternative energy sources favoured the WTEF waste heat option and biomass option. More detailed analysis was confined to these two alternatives with the WTEF being selected as the preferable alternative over biomass based on cost, availability of waste heat and Metro Vancouver's support. RDE notes that biomass is still considered viable in the event the WTEF option became un-workable. (Exhibit B-1, p. 22)

3.4 Project Scope and Description for the Current CPCN Filing (2012-2016)

The current CPCN Application considers only the Phase 1 infrastructure (Phase 1), comprising the initial temporary and permanent gas-fired boilers and related distribution piping and equipment for the DEU to meet the initial load through the first five years of the development build-out.

RDE plans to construct and operate a DEU system that includes Energy Transfer Stations (ETS) in each building, a hot water Distribution Piping System (DPS) and an Energy Centre (EC) equipped with gas-fired boilers. A temporary EC will supply heat to the first buildings to be constructed then will be replaced by a permanent EC as load develops. The gas-fired boilers in the EC heat water, which is pumped through the underground DPS to each building where heat is transferred via the ETS to each building and metered. Each building developer is responsible for the hot water space and domestic hot water systems within each building. Figure 2 illustrates the proposed plan for 2012-2016.

Figure 2 - Current Application DEU System



Source: Adapted from description in Exhibit B-1, Application, p.5

The temporary containerized EC will be constructed in 2012 and will use natural gas boilers to serve the first buildings connected to the system. The temporary EC will be able to meet forecast loads through to 2015 or 2016 depending on actual demand load. The permanent EC will be constructed in 2016 and will use natural gas boilers housed within one of the planned building developments. The Phase 1 capital is staged to meet demand and to minimize costs and rates over the life of the project.

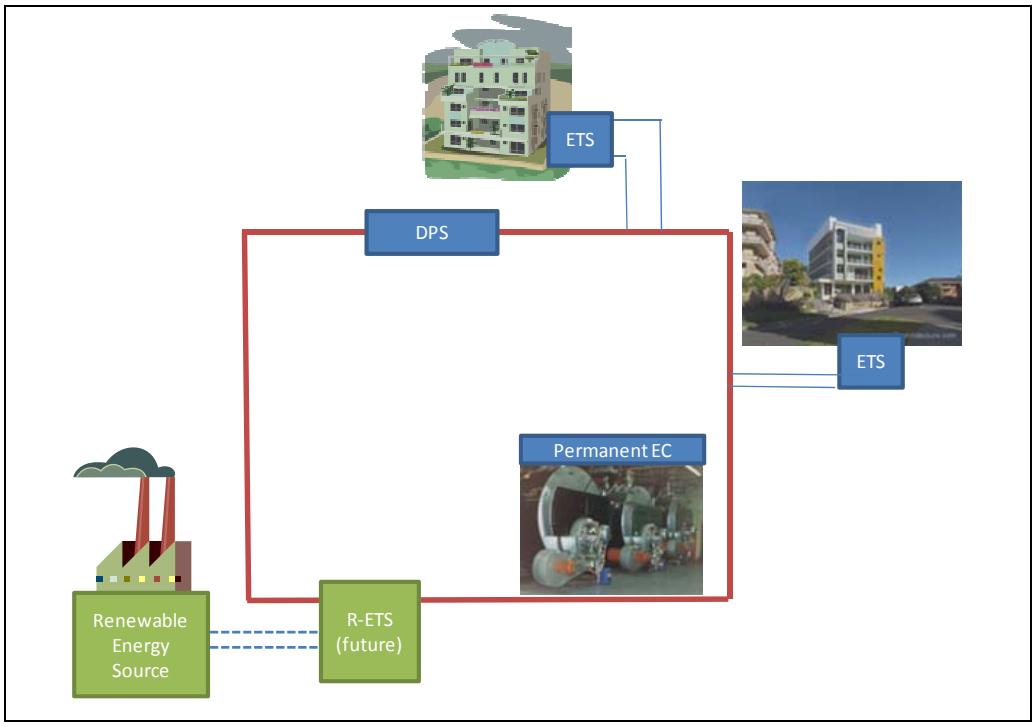
3.5 Long-term Plan (Beyond 2016) and Its Viability

In the long-term plan, a Renewable Energy Transfer Station (R-ETS) will be added as the load develops and economics permits. The R-ETS is anticipated to use waste heat from Metro Vancouver's WTEF to supply approximately 87 percent of the River District's annual heat energy demand with the gas-fired boilers re-purposed as a peaking and back-up supply. The WTEF concept would involve installing equipment at Metro Vancouver's existing WTEF, located approximately 4.5 km from the eastern edge of the River District, to extract an estimated 10 MW of heat capacity. A heat exchanger would transfer the extracted energy to a separate closed hot water loop that would transport hot water from the WTEF to a second heat exchanger located in the R-ETS at the eastern edge of the River District for distribution within the River District. The pipeline connecting the WTEF and R-ETS would consist of a buried 200 mm diameter two-pipe closed loop. (Exhibit B-1, p. 23)

RDE is not seeking approval of the R-ETS or WTEF component in this Application, which would be the subject of a future application. The ultimate alternative energy source selection does not affect the capital expenditures or rates requested by RDE for this CPCN. (Exhibit B-3, BCUC 1.6.7)

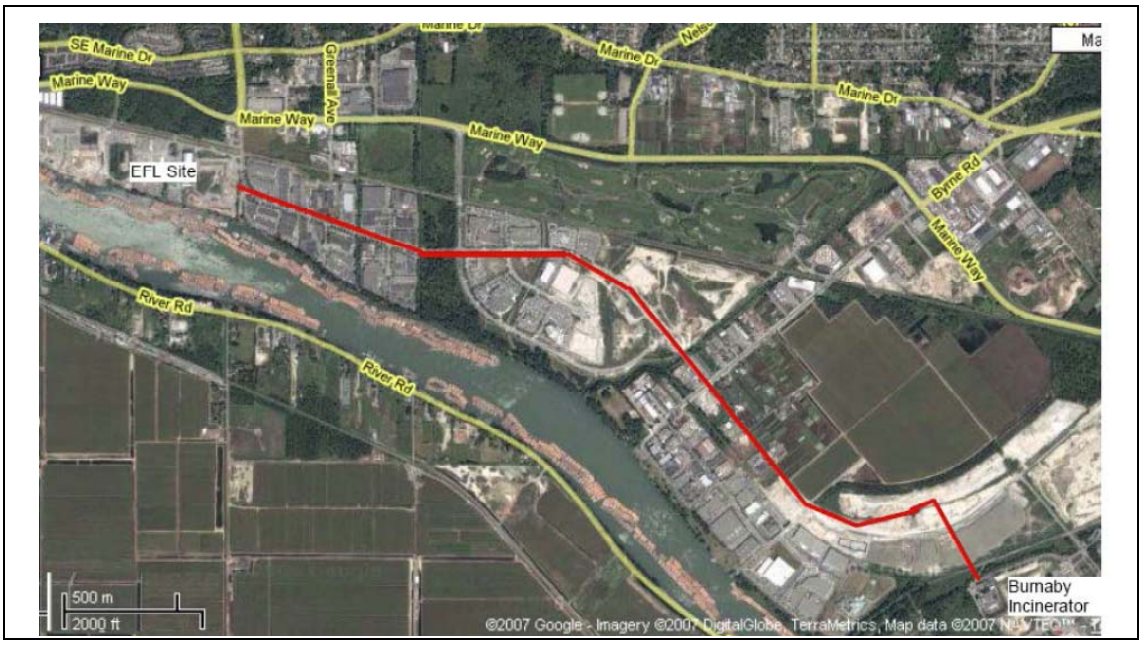
Figure 3 and Figure 4 further illustrate RDE's long-term plan.

Figure 3 - Description of Long-term River District Energy System



Source: Adapted from description in Exhibit B-1, Application, p.5

Figure 4 - Proposed Waste Heat Pipeline Alignment



Source: Exhibit B-1, Application, p. 47

3.5.1 Availability and Cost of Waste Heat

Metro Vancouver provided a letter of support, which confirms its interest in the benefits of combining WTEF technology with district energy systems, the availability of sufficient waste heat from the WTEF for the project, and ongoing cooperation with RDE. (Exhibit C1-1)

Engineering estimates and analysis were performed by RDE's engineering consultants in cooperation with Metro Vancouver's Solid Waste Division, which operates the WTEF. Based on these estimates the full levelized cost of the WTEF waste heat over the life of the project is estimated to be $56 per MWh including equipment, pipeline, operating costs, and lost WTEF electrical generation revenues. (Exhibit B1, p. 27)

3.5.2 Financial Viability of Utilizing Waste Heat

Financial modeling was used to generate three long-term scenarios reflecting different assumptions about the levelized cost of waste heat from the WTEF or its availability since no definitive agreement for supply of waste heat has been reached with Metro Vancouver.

Scenario "Reference (base) Case"

This case assumes that the WTEF waste heat is available at a cost that results in a total 20-year levelized customer rate of $150 per MWh. In the original Application this resulted in a waste heat cost of $25 per MWh, which subsequently increased to $35 per MWh to reflect revised assumptions made by RDE under the "Updated Reference Case." (Exhibit B-3 BCUC 1.15.4)

Scenario "High Bookend"

The High Bookend scenario assumes no grants or funding and allocates the full cost of the waste heat supply option estimated at $56 per MWh resulting in a total RDE customer levelized rate of $162 per MWh. (Exhibit B-3, BCUC 1.15.4)

Scenario "100 percent Gas"

Provided as a "technically feasible fall-back option" this scenario assumes natural gas boilers remain the only energy source for the DEU over its life resulting in a total RDE customer levelized rate of $162 per MWh.

Scenario "MV Grants and Loans"

Parklane and Metro Vancouver are pursuing options to reduce the costs of the WTEF waste heat including grant funding, low-cost financing, cost offsetting, and property tax exemptions, but none of these possible cost reductions are included in the Updated Reference Case financial model or capital cost estimates. (Exhibit B-1, pp. 28, 29; Exhibit B-3, BCUC 1.14.1)

Metro Vancouver is taking the lead in applying for the EcoEnergy II program and submitted a letter of intent to NRCan on September 27, 2011. In addition, Metro Vancouver is preparing an application to the Federation of Canadian Municipalities for a grant and low-cost financing. (Exhibit B-3, BCUC 1.14.1) Thus a fourth scenario was added called "MV Grants and Loans", which used the full estimated cost of the waste heat less a combination of grants and loans (to Metro Vancouver as applicant) including:

- NRCan EcoEnergy II program grant (50% of project costs or $6.9 Million),
- Green Municipal Fund (GMF) grant ($1 Million) and
- GMF low-cost loan ($5.9 Million at 2% interest)

The resulting RDE levelized cost based on this scenario was calculated as $151 per MWh.

(Exhibit B-3, BCUC 1.15.4)

Electricity Rate Benchmark

In assessing the financial viability of the resulting energy rates to RDE customers for the above four scenarios, RDE calculated a residential energy benchmark based on BC Hydro current and future

estimated prices for electricity. Assuming a BC Hydro rate increase of 8 percent in 2012 and 3.9 percent thereafter, RDE calculates a 20-year levelized electricity benchmark of $141/MWh. (Exhibit B-3, BCUC 1.15.4)

In its levelized cost comparison, RDE calculates a premium over the benchmark of six to fifteen percent for the four scenarios. (Exhibit B-3, BCUC 1.15.4,)

Commission Determination

The Commission Panel finds that the need for the project and the DEU as proposed in the CPCN has been established and that alternatives have been adequately assessed to justify the future potential benefits, including environmental, as being in the public interest. The Commission recognizes that the R-ETS and renewable energy source costs are not a requested component of this CPCN Application and that there remains some uncertainty regarding access to and cost of the WTEF alternative. The Commission is satisfied with RDE's evaluation of alternatives and considers the waste heat option from the WTEF a viable future alternative for the DEU. The Commission also recognizes the other alternative energy sources identified by RDE as potentially viable should the WTEF option not materialize. The Commission Panel encourages RDE to pursue capital grants in the interests of improving the economics of the DEU project.

The Commission Panel notes that no Intervener took issue with the proposed project scope or infrastructure of the DEU system.

4.0 PROJECT COSTS AND RATE STRUCTURE

4.1 Capital and Operating Costs

4.1.1 Capital Costs

During the written hearing process RDE corrected and updated certain cost assumptions for the project including delaying the permanent EC for two years and staging the installation of the boilers in the permanent EC to reduce the original application capital cost estimate of $11,783,000 (Exhibit B-3, BCUC IR 1.11.2). RDE states that the five-year capital cost amount for which approval is sought under this updated application is $10,874,000 in nominal dollars including contingency ($960,000) and interest ($317,000) (Exhibit B-6, BCUC IR 2.6.1). The breakdown of forecast costs over the five-year period is provided in RDE Final Submission, p. 7.

Phase 1 capital includes the permanent EC with 12 MWh of boiler capacity. The remaining 12 MWh of boiler capacity is deferred until after 2016 and will be installed to meet demand. RDE also states that any capital cost overruns would be subject to normal prudency reviews by the Commission and RDE proposes any prudency reviews on capital expenditures and operating costs would be conducted during a future Application for additional phases of capital and/or updated rates. (RDE Final Submission, p. 7)

RDE's capital cost estimate is based on varying degrees of engineering and tendering completeness. The $10,874,000 cost estimate for the first five years of capital expenditures is made up of $8,181,000 of Class C estimates with less than ten percent engineering complete with a minus 10 percent to plus 30 percent cost uncertainty range. The estimates are based on RDE's consulting engineers' methodologies, estimates and internal databases. (Exhibit B3, BCUC IR 1.13.2; Exhibit B-6, BCUC IR 2.6.3) RDE anticipates completing sufficient engineering and tendering to bring the Class C estimates to Class A (engineering complete and scope tendered) by 2014 or early 2015. (Exhibit B-6, BCUC IR 2.6.4)

According to RDE's forecasts and projections for subsequent phases beyond 2016, the total project build-out capital cost estimate grows to approximately $31 Million by 2034 excluding any grants and excluding the heat recovery and pipeline costs associated with the WTEF energy source to bring the heat energy from the WTEF to the R-ETS. (Exhibit B-6, BCUC IR 2, Appendix 2) RDE estimates costs for the heat recovery equipment and waste heat pipeline of approximately $13 Million in calculating the cost of waste heat energy. RDE expects that the heat recovery equipment and waste heat pipeline will be owned by Metro Vancouver. (Exhibit B-1, p. 47)

4.1.2 System Operating Costs

RDE's operations and maintenance costs include the costs for the utility's employees, training, office equipment and supplies, land rent, subcontractors, maintenance and repair services provided by maintenance personnel. All operations and maintenance costs are escalated annually at 2 percent per year for inflation. (Exhibit B-1, pp. 29-30)

The temporary EC does not require any significant land area and no land rent is charged until 2016 when the permanent EC is installed. While the temporary EC is in use, RDE's expects the project will have less than 0.5 Full Time Equivalent (FTE) operators. RDE will rely on a full-service maintenance contract from the supplier of the temporary EC. However, the BC Safety Authority has the ultimate authority to establish required supervision levels. The contract for the temporary EC including overheads has been budgeted at $84,000 per year. When the permanent EC is commissioned, RDE will likely require one FTE operator. RDE estimates that management and staff costs, including overheads will increase to $177,000 per year when the permanent EC is completed. (Exhibit B-1, p. 29; Exhibit B-3, BCUC 1.35.1)

In its Reply Submission RDE clarifies that the operating cost forecast was updated in its Exhibit B-6, Appendix 2 submission reflecting deferring the permanent EC to 2016 but RDE overlooked adjusting the Operating costs to reflect deferral of hiring the FTE operator. RDE proposes that the impact of this oversight be considered and reflected in the first review of the proposed Revenue Deficiency Deferral Account (RDDA). (RDE Reply Submission)

As of July 31, 2011 RDE had incurred $110,896 of cost prior to establishing the DEU. RDE also expects to incur an additional $60,000 of costs from July 31, 2011 to the date of approval of the CPCN. (Exhibit B-6, BCUC Supplemental 2.2.1) The amounts for "Management and Staff (including overheads)" include the recovery of costs incurred prior to approval of the CPCN. RDE proposes to recover costs incurred prior to the approval of the CPCN to the extent that it does not exceed the annual estimates in the Updated Reference Case. The costs incurred prior to the CPCN approval will be tracked separately and no interest will be charged on the unrecovered balance. Any balance remaining after 2016 will be written off. (Exhibit B-3, BCUC 1.13.1.2)

Commission Determination

The Commission Panel finds that the level of estimate, engineering review and resulting budget amount are reasonable though the Panel expects the control budget to be carefully monitored and updated as tender estimates are formalized in due course. RDE is reminded to reflect the overstated operating expenses in 2014 and 2015 and costs incurred prior to the CPCN approval in subsequent reviews. The Commission Panel recognizes that the capital and operating cost estimates provided include a degree of uncertainty and that RDE has included a contingency amount in its requested CPCN amount to compensate for this uncertainty. **RDE is directed to submit annual Project status update reports to the Commission.**

4.2 Debt and Equity Financing

4.2.1 Capital Structure

RDE proposes a deemed capital structure composed of 60 percent debt and 40 percent equity for revenue requirement and rate setting purposes, identical to the structures approved for UniverCity and Dockside Green Energy. (Exhibit B-1, p. 34) RDE indicates that it will provide all funding required by RDE from its cash reserves until conventional bank financing is obtained, which is

expected to occur when the DEU has demonstrated stable and growing revenues and will coincide with construction of the permanent EC. (Exhibit B-3, BCUC 1.23.2)

Regarding the debt, RDE intends to apply for a minimum 10-year term loan. (Exhibit B-6, BCUC 2.8.2) RDE further states that no portion of the deemed 60 percent debt is considered short-term debt (Exhibit B-3, BCUC 1.23.1) and that no short-term financing will be sought with the possible exception of a small operating line for working capital purposes. (Exhibit B-6, BCUC 2.8.2) RDE states that working capital has been estimated at 4 percent of annual revenues at an assumed interest rate of 2.5 percent. During the first five years of operation, working capital is expected to vary from zero to $50,000 but RDE will provide the necessary funding to the extent working capital is not obtained from conventional bank sources. (Exhibit B-3, BCUC 1.23.1) RDE notes that at the forecast upper limit of $50,000, working capital represents 0.4 percent of the rate base by year 5, but the actual amount will vary and at times be zero. RDE believes that the likelihood, amount, or interest rate of an available operating line is uncertain but its impact on the deemed capital structure is expected to be negligible. (Exhibit B-6, BCUC 2.9.1)

Once bank financing is obtained, RDE does not intend to seek approval to transition from a deemed capital structure to an actual capital structure. (Exhibit B-6, BCUC 2.8.1) The amount of debt will be supported by the business cash flow for interest and principal repayment. RDE proposes to apply for financing when it constructs the permanent EC. At that point, the cash flow will only support a small component of the required funding with RDE required to fund the balance. (Exhibit B-6, BCUC 2.10.2) Transitioning to the actual capital structure when the permanent EC is constructed would produce a higher Weighted Average Cost of Capital (WACC) and impose greater costs on the DEU from what was presented in the Application. (Exhibit B-6, BCUC 2.8.1)

BCSEA states in its Final Submission that it takes no position regarding the deemed capital structure. (BCSEA Final Submission, p. 1)

Commission Determination

The Commission Panel approves RDE's proposal to use a deemed capital structure comprising 60 percent debt and 40 percent equity for the purpose of determining revenue requirements and customer rates for the years 2012 through 2016. In reaching this determination, the Panel considered the UniverCity and Dockside Green neighbourhood utility systems, for which the same debt/equity ratios have recently been determined by the Commission, to be comparable for this purpose. The Panel also observes that the proposed 60/40 debt/equity ratio falls within the range typically found in mature utilities. The Panel considers the use of a deemed capital structure similar to mature utilities to be appropriate for the purpose of establishing levelized rates for a start-up utility such as RDE.

In the future, when RDE is able to obtain its own bank financing as a standalone utility, the Commission Panel will review the appropriateness of transitioning from a deemed capital structure and debt cost to an actual capital structure and debt cost. **Accordingly, the Panel directs RDE to reconsider the appropriateness of having a deemed capital structure and debt cost for re-determination at the time of applying for a CPCN for the R-ETS and/or revenue requirements and rates for years beyond 2016.**

For the period covered by this Application, the Commission Panel accepts RDE's position that no portion of the deemed 60 percent debt should be considered short-term and that the small operating line for working capital purposes is expected to have a negligible impact on the deemed capital structure and debt costs. **However, the Commission Panel makes no determination at this time on the short-term component of the total debt structure for the period beyond this Application.**

4.2.2 Debt Cost

RDE states in the Application that the interest rate on the debt is expected to be 6 percent. (Exhibit B-1, p. 34) The rate is inclusive of all applicable interest, financing, administration, placement and

legal fees. The 6 percent rate is an estimate and is based on perceived risks of the DEU, including being a small utility with revenues dependent on market absorption of the River District development. RDE will only be able to finalize the actual interest rate when it seeks financing, scheduled to coincide with the construction of the permanent EC in 2016. (Exhibit B-3, BCUC 1.23.3.2) At the time of filing this Application, the Government of Canada 10-year and 30-year bond rates were 2.88 percent and 3.35 percent respectively. (Exhibit B-6, BCUC 2.10.3) Therefore, the proposed 6 percent interest rate on the debt represents a 312 basis point and 265 basis point premium over 10-year and 30-year Government of Canada bonds respectively. (Exhibit B-6, BCUC 2.10.2)

RDE notes that the 6 percent rate and deemed capital structure is consistent with what the Commission approved recently for the Corix UniverCity NUS. (Exhibit B-6, BCUC 2.10.2) Based on a detailed comparison of business risks for RDE and NUS (Exhibit B-3, BCUC 1.24.1), RDE's view is that generally the system performance risks are comparable with NUS having higher fuel cost risk, assuming RDE is able to secure a long-term supply agreement for energy from the WTEF. However, RDE submits that it has higher risk on the key issues of property development and company size. (Exhibit B-6, BCUC 2.10.2) Comparing itself to Corix, RDE believes that the interest rates it is charged are low in comparison to other less established property developers but expects them to be higher than those charged to established utilities like Corix. Notwithstanding, RDE seeks approval for the same deemed rates and capital structure already approved for UniverCity. (Exhibit B-6, BCUC 2.10.2)

If the actual rate differs from the 6 percent assumed in the Application, RDE proposes to determine the impact and to reflect the actual rate in a revised submission to the Commission. This approach is consistent with submissions made by regulated utilities under a cost of service regulation whereby customers bear the financial risks for prudently incurred costs. (Exhibit B-3, BCUC 1.23.3.2)

BCSEA states in its Final Submission that it takes no position regarding debt financing costs. (BCSEA Final Submission, p. 1)

Commission Determination

The Commission Panel determines a deemed debt rate of 5.5 percent is appropriate. The Panel notes that in the Commission's May 6, 2011 Decision on the UniverCity NUS, the Commission approved a credit spread of 250 basis points above the 10-year Government of Canada benchmark bond yield, which at the time of the UniverCity NUS application was 3.5 percent. The Commission Panel further notes that the Government of Canada 10-year bond yield had decreased to 2.88 percent at the time this Application was filed and the Panel observes the reference bond rates are now reaching lows of approximately 2 percent.

When comparing the risk profiles between RDE and the NUS, the Commission Panel agrees with RDE that the system performance risks are generally comparable, given that the early stage of the respective projects consists of natural gas-fuelled energy centres. The Panel notes that both projects adopted a phased approach to capital deployment to mitigate the property development risk. Accordingly, the Panel does not agree with RDE that it faces a higher risk in this regard. The Commission Panel also considers that the two utilities face similar risks due to company size and finds that the credit spread of 250 basis points approved for the UniverCity NUS is a good starting point for determining the deemed debt rate in this Application. However, the Commission Panel notes that when the benchmark interest rate falls to such low levels, the debt rate does not necessarily follow in lock steps with an unchanged credit spread, which implies a larger credit spread may be appropriate. **Therefore, the Commission Panel determines that a deemed debt rate of 5.5 percent is reasonable at this time of low interest rates and high interest rate volatility, thus implying a credit spread of 262 basis points above the 10-year Government of Canada benchmark bond yield of 2.88 percent at the time of this Application.** The Commission will review the appropriateness of the 5.5 percent deemed rate annually considering any recommendations or tools that may result from the Generic Cost of Capital proceeding that the Commission will initiate in early 2012.

When RDE obtains conventional bank financing, if the actual interest rate differs from the 5.5 percent approved above, the Commission Panel directs RDE to determine the impact and to

reflect the actual rate in a revised submission to the Commission within 60 days of obtaining bank financing.

4.2.3 Return on Equity

RDE states that the development of the DEU involves exposure to many of the same risks facing other new thermal energy utilities, including property development risk, small company size risk and construction cost risk, among others. (Exhibit B-1, p. 34) A more detailed description of the business risks inherent in this project appears in Section 4.7 – Project Risks. In light of these risks and in keeping with the Commission decision regarding the UniverCity CPCN application (May 6, 2011 Decision), RDE proposes a rate of return on equity (ROE) of 10 percent, or a 50 basis point premium over the benchmark ROE of 9.5 percent. (Exhibit B-1, p. 34)

RDE anticipates revisiting the ROE once the waste heat pipeline is implemented, as this will change the DEU's risk profile. (Exhibit B-1, p. 34)

BCSEA states in its Final Submission that it takes no position regarding the return on equity. (BCSEA, Final Submission, p. 1)

Commission Determination

The Commission Panel agrees with RDE that other new thermal energy utilities constitute relevant benchmarks with which to compare the DEU's risk profile. In its May 6, 2011 Decision, the Commission approved a risk premium of 50 basis points over the benchmark ROE for the UniverCity NUS, which currently consists of a temporary gas-fired central energy plant and related thermal distribution system, and energy transfer stations. Given that the current CPCN Application considers only the temporary and permanent gas-fired ECs and related DPS and ETS, the Panel notes that the chosen technology is identical for the two district energy systems (DES) for the time being. The two projects also share other similarities such as a phased approach to capital deployment to reduce real estate development risks, mandatory connection to the DES to mitigate

the developer/customer connection risk, and a fixed/variable rate design established to reflect projected mix of fixed and variable cost components. (Exhibit B-3, BCUC 1.24.1)

Despite the aforementioned risk mitigation strategies, the Commission Panel recognizes that RDE will still face some risk, including property development risk, small company size risk, and construction cost risk. Therefore, **the Commission Panel approves RDEs' proposal of a risk premium of 50 basis points over the benchmark ROE.** The Commission will revisit this ROE determination in the event the risk profile of the DEU changes in the future.

4.3 Proposed Levelized Rate Approach

RDE proposes a levelized rate structure in order to reduce the energy rates for early customers of the DEU and to distribute the costs of developing this project over all customers for a 20-year period. Under this approach, the utility would agree to under-recover its costs of service during the early years of operation, capture these amounts in a deferral account, and fully recover the value of the deferral account by the 20th year of operation. (Exhibit B-1, p. 35) Consistent with this approach RDE is seeking approval of a Revenue Deficiency Deferral Account (RDDA) for accounting purposes.

BCSEA supports RDE's application for approval of a RDDA to support a levelized approach to rates. (BCSEA Final Submission, p. 1) BCSEA further considers the proposal for a levelized rate structure both fair and practical. As such, BCSEA accepts RDE's explanation that 20 years is a suitable levelization period because it corresponds roughly to the anticipated duration of the development build-out. BCSEA is of the view that a longer levelization period would add unnecessary financing costs to the revenue requirement. (BCSEA Final Submission, p. 3)

Commission Determination

In accordance with section 60 of the *Act*, the Commission Panel must ensure that rates being charged to customers are just and reasonable while allowing the utility to earn a fair return. The

Commission Panel recognizes that it is not uncommon to allow "Greenfield" start-up utilities to charge levelized rates. The Commission Panel agrees with BCSEA that this approach to rate setting is both fair and practical as it provides affordable energy rates for early customers while distributing the project's costs over all customers for a 20-year period, thus avoiding prohibitive energy rates in the early years. Therefore, **the Commission Panel grants approval for the 20-year levelized rate structure in which RDE defers a portion of its annual revenue requirements during the initial years. Consequently, the Panel also approves the establishment of a Revenue Deficiency Deferral Account or rate stabilization account to record shortfalls in the recovery of revenue requirements in the early years.**

4.4 Revenue Requirements

Table 2 below summarizes the annual revenue requirements for the first 5 years of operations under the Updated Reference Case. RDE expects the revenue requirements to exceed revenues during the early years of operation and to be less than revenues in the later years. The revenue requirements include the carrying costs of the proposed RDDA to finance the proposed 20-year levelized rates.

Table 2- Revenue Requirements and RDDA Balances

$ thousands	2012	2013	2014	2015	2016
Total Operating Costs	166	251	531	633	916
Depreciation	98	108	118	128	379
Interest	-	104	121	140	160
Return on Equity	-	115	135	156	177
Revenue Requirement	264	578	905	1,058	1,631
RDDA Balance	148	465	835	1,205	1,891

Source: RDE Final Submission, p. 8, Table 2; Exhibit B-6, Appendix 2

RDE proposes to provide the Commission with the actual and forecast amounts in the RDDA and show the calculation of the RDDA on an annual basis. RDE also states that variances in revenue requirements relative to the projections in the Application will be subject to prudency reviews, which are expected to occur during the next major update in rates and/or approval of future capital additions. (Exhibit B-3, BCUC 1.15.3; Argument, p. 9; Final Submission p. 9)

Commission Determination

The Commission Panel generally accepts the method used to calculate the Revenue Requirements; however RDE is directed to recalculate the Revenue Requirements from those proposed to account for changes in this Decision including the debt cost determined in section 4.2.2 – Debt Cost. The Commission Panel re-confirms that the RDDA is approved because this approach provides rate stability and allows a return on the capital invested during the nascent stages of development when cost based rates would be prohibitive. **The Commission Panel further directs RDE to file a report showing the calculations and balance of the Revenue Deferral Deficiency Account within 60 days of fiscal year end each year.**

4.5 Rate Design

RDE proposes to adopt a rate structure with both fixed and variable components to reflect the cost structure of the utility. To support its proposed rate structure, RDE points to the project's high capital costs and relatively low variable costs. Also, with a fixed rate component, RDE indicates that the utility is less likely to over-recover in periods of high demand and under-recover in periods of low demand. This rate design also reduces the volatility in customers' energy bills.
(Exhibit B-1, p. 36)

In the Application, RDE initially proposed a fixed/variable rate structure that would recover 70 percent of forecast revenues through a fixed charge and the remaining 30 percent through a variable charge based on energy consumption. (Exhibit B-1, p. 36) The fixed charge will be calculated based on connected floor area. Based on the City of Vancouver's experience at

Southeast False Creek (SEFC), RDE considers that connected floor area is an appropriate and convenient measure of the fixed costs incurred to provide district heating service. (Exhibit B-3, BCUC 1.29.1) The DEU would bill individual buildings connected to the system and the buildings' strata associations would subsequently allocate charges to strata owners via sub-metering or some other method they may choose. (Exhibit B-1, p. 36)

During the written hearing process, RDE calculated that, on a net present value basis, 66 percent of costs are fixed (i.e., fixed operating costs and capital costs) while the remaining 34 percent are variable (i.e., fuel costs, variable operating costs and income taxes). (Exhibit B-3, BCUC 1.28.1) Based on these calculations, RDE confirmed that it is now seeking approval of a rate design that would recover 66 percent of forecast revenues through a fixed charge based on connected floor area and the remaining 34 percent through a variable charge based on energy consumption. (Exhibit B-6, BCUC 2.15.3) This method is similar to the methods used for Dockside Green and SEFC rate setting but based on the project-specific costs and loads for River District. (Exhibit B-3, BCUC 1.25.3)

RDE expects that the appropriateness of the fixed and variable charges will be adjusted from time to time to reflect the actual cost structure and updated forecasts of revenue requirements over the life of the project. (Exhibit B-3, BCUC 1.25.3) Therefore, RDE confirms that it may seek to change the 66/34 split between the fixed and variable costs after Year 5 to better reflect the actual cost structure and updated forecasts of revenue requirements. (Exhibit B-6, BCUC 2.15.4)

In its Final Submission, RDE also states that, following receipt of initial approvals, it will:

- Consider the merits and implications of a separate tariff for commercial customers prior to the addition of significant commercial loads, which are not expected to be a major portion of total floor area; and
- Develop an extension policy and test for extending service to customers beyond the parcels covered in the proposed initial service area and financial modeling for this future Application.

(RDE Final Submission, p. 9)

BCSEA supports RDE's application for approval under sections 56, 60 and 61 of the Act of its rate design, among other things. (BCSEA Final Submission, p. 1)

Commission Determination

The Commission Panel agrees with RDE's rationale for designing a rate structure that better matches revenue streams with cost characteristics and acknowledges that the proposed design is similar to those approved by the Commission for Dockside Green Energy and the UniverCity NUS.

Therefore, the Commission Panel approves the rate design proposed by RDE, which would recover 66 percent of forecast revenues through a fixed monthly charge based on connected floor area (the Capacity Charge) and the remaining 34 percent through a variable charge based on energy consumption (the Energy Charge). The Commission Panel also directs RDE to recalculate the fixed/variable costs ratio based on the actual cost structure and updated revenue requirement forecasts at the time of filing a CPCN Application for the R-ETS.

Finally, the Commission Panel strongly encourages RDE to evaluate the advantages and/or disadvantages of establishing a separate commercial tariff prior to the addition of significant commercial loads and to develop an extension policy and test for extending service to customers beyond the parcels covered in the proposed initial service area.

4.6 Proposed Rates

4.6.1 Rate Benchmarks

RDE considers electricity to be a competitive benchmark for thermal energy for this project. Electricity is a widely-understood fuel in British Columbia, its price has relatively low volatility, and it is a common source of in-suite space heat. (Exhibit B-1, p. 37) RDE further submits that the comparable levelized cost of natural gas heat for building types comparable to River District is

currently very similar to electricity under a typical residential load profile. (Exhibit B-1, p. 37; Exhibit B-5, FEU 1.7.1)

RDE submits that a rate premium of up to 10 percent higher than electricity rates may be justified when considering additional intangible benefits to consumers such as the higher quality of service associated with hydronic heat, environmental benefits, reduced exposure to future commodity price changes, and the additional floor space freed up within individual projects.

Commission Determination

The Commission Panel agrees with RDE that the DEU is well positioned to deliver the additional intangible benefits to consumers as described above and therefore **accepts that a premium of up to 10 percent above the benchmark electricity rate may be justified when establishing the rates for the DEU.**

4.6.2 Proposed Effective Rates and Rate Escalation

Annual effective rates are estimated by RDE by determining an initial rate and calculating an escalation factor that will achieve the levelized revenue requirement over the 20-year levelization period. Under this approach, effective rates will result in full recovery of the revenue requirements over 20 years taking into account the Weighted Average Cost of Capital. The effective rate is then converted to a tariff composed of a fixed and variable charge that will achieve the forecast revenues. (Exhibit B-3, BCUC 1.25.3)

In the Application, RDE proposed an initial rate set at $86.65 per MWh that would be escalated at 8 percent per year through 2016 reaching $117.88 per MWh in 2016. Under the Reference case, the effective rate would then need to escalate at 3.04 percent per year through 2031 to achieve the target levelized rate of $150 per MWh. (Exhibit B-1, p. 35) The 8 percent annual escalator for the period 2012 to 2016 was initially selected to correspond to anticipated BC Hydro rate increases during this period. (Exhibit B-3, BCUC 1.25.4.2)

RDE explains that the initial rate for 2012 is set at $86.65 to match the expected SEFC Neighbourhood Energy Utility (NEU) effective rate for 2012. Since 2012 NEU rates are not yet known, RDE applied to the 2011 NEU rate of $84 per MWh the same nominal escalation factor of 3.15 percent that was applied to the 2010 NEU rates. Since the SEFC NEU is operating a low-GHG district heating system in Vancouver, RDE considers its 2012 rate to be a defensible starting rate for RDE. (Exhibit B-3, BCUC 1.25.4.1) BCSEA supports RDE's proposal to benchmark the initial rates on the SEFC NEU rates, in turn based on BC Hydro electricity rates plus a 10 percent premium justified by risk reduction, GHG benefits, and service quality. (BCSEA Final Submission, p. 3)

During the written hearing process, RDE was asked to recalculate the effective rates for the period 2013 to 2016, keeping the initial effective rate at $86.65 per MWh for 2012 and using an escalator of 3.9 percent per annum from 2013 to 2016 (instead of 8 percent) to mirror BC Hydro's updated electricity rate increase forecasts. (Exhibit B-6, BCUC 2.14.1) Under this analysis for the Updated Reference Case, the effective rate would then need to escalate at 4.9 percent per year from 2016 to 2031 to achieve the target levelized rate of $150 per MWh. (Exhibit B-6, BCUC 2.14.2)

RDE confirms it is seeking approval for the proposed rates for the first five years, 2012 to 2016, as summarized in Table 3 of RDE Final Submission. RDE states that the 2012 effective rate is based on the proposed SEFC effective rate for 2012 and that escalation thereafter is based on 3.9 percent nominal per year, which is equivalent to the assumed BC Hydro residential escalation rate in its "New Electricity Benchmark Baseline Scenario." RDE reduced the escalation factor from that proposed in the Application in response to BC Hydro reducing announced rate increases. (RDE Reply Submission, p. 2)

Commission Determination

The Commission Panel considers that the rate structure of the SEFC NEU, a municipally owned low-GHG district energy system in Vancouver, is a useful reference for assessing RDE's proposed initial rates, and notes that BCSEA supports using the SEFC NEU rate as a benchmark for the initial rates of RDE. However, the Panel is concerned that there may be a number of factors considered in the

setting of the SEFC NEU rates, which may make using those rates inappropriate as a starting point for RDE rates. Those factors include financial structure, subsidies and costs, levelization period, and project capital costs. The Panel is not convinced that using the SEFC NEU forecast 2012 rate is an appropriate starting point for RDE.

RDE states that "the baseline assumption of BC Hydro's residential electricity rate over the 20-year period is shown in Appendix 9. The rates shown in Appendix 9 are based on the assumption that rates escalate at 8% in 2012, then at 3.9% annually thereafter." (Exhibit B-3, BCUC 1.33.1) RDE notes that it "has applied the same escalation to current Tier 1 and Tier 2 rates over the life of the forecast." (Exhibit B-3, BCUC 1.34.4) The following table reproduces RDE's baseline case forecast of BC Hydro's residential Tier 1 and Tier 2 rates for 2012.

Table 3 - Electricity Rate Projections

Electricity Rates	**2012**
Residential Tier 1 $ per MWh	72.04
Residential Tier 2 $ per MWh	103.90

Source: Exhibit B-3, Appendix 9

The Panel finds RDE's forecast of BC Hydro's 2012 residential electricity rates and its assumed weighted average consumption mix of 50 percent Tier 1 and 50 percent Tier 2 to be reasonable. Applying those weights to the 2012 Tier 1 and Tier 2 rates results in a blended rate per MWh of $87.97. This blended rate does not reflect BC Hydro's Basic Charge, and thus is somewhat understated. Applying a premium of up to 10 percent (discussed above in 4.6.1 Rate Benchmarks) to the $87.97 benchmark could result in an initial rate as high as $96.77 per MWh

The Panel notes BCSEA's submission that "… pricing the energy at ... slightly above the cost of electrical energy provides the assurance that the rates in the early portion of the levelization period are not being unduly underpriced as a 'loss leader' to attract sales." (BCSEA Final Submission, p. 3) The Panel considers that starting at a higher initial rate than that proposed by RDE would reduce

rate increases that might otherwise be required to achieve the 20-year levelized rate, and limits the risk of rate shock in later years. The Panel considers inter-generational equity to be an issue which must be considered when determining appropriate escalation factors to apply to rates, both during and beyond the initial 2012-2016 period. The Panel considers that rate increases, including escalation factors, should be as smooth as possible throughout the 20-year levelization period in order to mitigate the risk of inter-generational inequity.

In conclusion, the Panel considers that the initial 2012 rate for RDE should be no less than the blended $87.97 per MWh benchmark rate determined above using RDE's forecast 2012 Tier 1 and 2 rates for BC Hydro. The Panel wishes to consider increasing the rate by as much as 10 percent over the $87.97 per MWh blended rate.

The Commission Panel is reluctant to determine a final 2012 rate greater than that requested in the Application without providing an opportunity for further input from RDE and Interveners. The Panel therefore determines that the rates requested cannot be approved without further process. **Accordingly, the Panel directs RDE to file the following additional options by calculating the annual effective rates per MWh for the 20-year period using one single escalation factor over the entire period:**

1. **First year rate: $87.97;**
2. **First year rate: $87.97 plus a premium of five percent; and**
3. **First year rate: $87.97 plus a premium of ten percent.**

RDE is to submit these options with the rate schedules showing the Capacity Charge and Energy Charge to the Commission no later than Tuesday, January 3, 2012. This submission should also include the identification of RDE's preferred option and the rationale for it. Further, RDE is asked to identify the advantages and disadvantages of all three options.

Interveners will have an opportunity to make submission on the options on or before January 10, 2012. The RDE reply is due on January 12, 2012.

The Commission Panel recognizes that the ultimate energy source selection will affect future capital requirements beyond 2016, which in turn will affect the rate escalation required to achieve the levelized revenue requirements between Years 5 and 20. The Panel recognizes the possibility that the annual rate increases required between Years 5 and 20 may be different (higher or lower) than the annual rate increase between 2012 and 2016. **The Panel directs RDE to have publicly available published rates for the first five years covered by this Application and to make these rates available to developers for their disclosure to prospective unit purchasers.**

4.7 Project Risks

RDE states that the development of this DEU involves exposure to many of the same risks which apply to other new thermal energy utilities, including property development risk, small company size risk, and construction cost risk. (Exhibit B-1, p. 34) RDE also provides a detailed risk analysis and discusses several mitigating factors for each identified risk. (Exhibit B-1, pp. 52-54) It is noted that some risks are inherent to the project as defined in this CPCN Application while others are related to the DEU's long-term plan. Thus, they will be described in turn.

4.7.1 Risks Related to the Current CPCN Application

Property Development Risk

RDE states that there is a risk that development does not occur as quickly as forecast due to changes in demand in the Vancouver area. The phased manner in which the River District DEU is being developed serve to mitigate this risk in that significant portions of the capital expenditures required are being deferred until the related capacity is needed. (Exhibit B-1, pp. 34, 52)

While the risk of under-utilized assets, due to slower than expected development, can never be eliminated, the phased development of the River District DEU reduces this risk, which could otherwise be problematic. **Accordingly, the Commission Panel finds the risk of under-utilized assets in the case of this project to be at an acceptable level.**

Load Forecast Uncertainty

RDE has prepared its load forecast based on the development schedule and the expected Energy Use Intensity factors (EUIs) for the various buildings planned for the River District. RDE notes that these EUIs do not account for differences in occupant behaviour, which can affect actual energy use by a factor of 2, or unique heating loads such as fitness centres or swimming pools, as these are difficult to model. (Exhibit B-3, BCUC 1.2.1) RDE further adds that these EUIs tend to reflect a best case outcome for actual building performance, system commissioning and maintenance, and occupant behaviour. (Exhibit B-3, BCUC 1.2.7) RDE confirms this implies that actual energy use would likely be higher than the modeled energy use forecast in the Application. (Exhibit B-6, BCUC 2.3.4) RDE further confirms that given these best case assumptions, the actual energy use could be higher, which will decrease the levelized cost, all other things being equal. (Exhibit B-6, BCUC 2.3.4)

Furthermore, to ensure that energy loads critical to the viability of the DEU are connected to the system, all buildings in the River District will be required to connect to the DEU as a condition of rezoning, with the exception of the townhouses on parcels 2/4/6. (Exhibit B-1, p. 53; Exhibit B-3, BCUC 1.1.1)

The Commission Panel finds that RDE adopted a conservative approach to load forecasting and finds the risk of under-utilized assets, due to lower than forecast energy loads, acceptable.

Leased Utility Facilities

The Application proposes to co-locate the permanent EC on parcel 5B and assumes that the owner of that parcel would construct the facility for the permanent EC to RDE's specification and charge rent to RDE. RDE would be responsible for the design and construction of the equipment within. (Exhibit B-3, BCUC 1.17.1) RDE justifies this option as being more cost-effective than a stand-alone building as it estimates that the cost of developing the permanent EC as a standalone building ($2,310,000) would be significantly higher than the cost of co-locating it within parcel 5B

($1,610,000). (Exhibit B-6, Supplemental BCUC 2.6.2) RDE also notes that there are other examples of Energy Centres co-located with other uses and/or immediately adjacent to residential uses, such as the SEFC NEU. (Exhibit B-6, Supplemental BCUC 2.4.1)

This proposal to lease the utility facility raises the following concerns:

- The risks/benefits from leasing vs. owning the building for the permanent EC; and
- Land rent cost uncertainty.

RDE provides an assessment of the risks associated with leasing vs. owning the building containing the permanent EC and shows that owning the building has a greater impact on the overall DEU risk level than leasing it. (Exhibit B-6, Supplemental BCUC 2.6.1.1)

To mitigate the risks of the leasing option, RDE also states that an option to locate the permanent EC on parcel 5B will be registered on title to ensure the space and technical requirements of the permanent EC are secured and space is reserved (Exhibit B3, BCUC 1.15.7) and that the option will survive in perpetuity and be registered against title to the property. (Exhibit B6, Supplemental BCUC 2.5.2) Furthermore, RDE plans to execute a 40-year lease term with option to renew, to ensure undisturbed operation of the permanent EC. (Exhibit B-6, Supplemental BCUC 2.5.3.2) Given that the building to contain the permanent EC has not been constructed yet and there is no signed lease contract, there is uncertainty regarding the estimated land rent cost of $135 per square meter. (Exhibit B-1, p. 30) The 7.1 percent capitalization rate assumption underlying that estimate was based on input received from commercial leasing professionals as there were no direct comparisons available where a structure was custom-designed and built for a unique user and could not be readily reconfigured for other purposes. (Exhibit B-3, BCUC 1.17.2)

The Commission Panel finds that RDE has adequately considered the risks and benefits of co-locating the permanent EC with an existing development and has plans and options to address risk issues and reduce overall costs subject to a suitable lease agreement. The Panel directs RDE to file the lease agreement subject to and for Commission approval once it is signed.

Construction Cost Overruns

RDE states that there is a risk that construction and equipment costs may be higher than projected but discusses the strategies it plans to implement to mitigate this risk. They include:

- Drawing on the expertise of its owner, Parklane, to bring tight cost controls and project management to the development of the DEU;
- Sourcing all significant cost items through a competitive tendering process with third party suppliers; and
- Working with the City, and being open to working with other DEU operators, to source parts and materials efficiently through sharing of information and, potentially, group purchases to reap improved economies of scale.

(Exhibit B-1, p. 54)

The Commission Panel accepts RDE's evidence and concludes that RDE has access to resources and practices for control of construction costs. **RDE is directed to update cost estimates and forecast versus actual costs incurred in an annual report to the Commission.**

4.7.2 Risks Related to the Long-Term Plan

The primary risk related to the long-term plan is the energy supply risk, which is addressed below.

RDE is currently negotiating a Memorandum of Understanding (MOU) with Metro Vancouver for the terms, conditions, and pricing of waste heat from the WTEF. The discussions include strategies to reduce the cost of waste heat and advance the pipeline timing. (Exhibit B-1, p. 5) RDE rates the risk of not reaching an agreement with Metro Vancouver as "medium" but adds that "both parties remain committed to reaching agreement." (Exhibit B-3, BCUC 1.5.4)

RDE also states that there may be challenges to acquiring the necessary Right-of-Ways (ROW) for the proposed pipeline route to connect the WTEF to the R-ETS but discusses the strategies to mitigate this risk. (Exhibit B-1, p. 53)

While there is a risk that an energy-supply agreement with Metro Vancouver for the WTEF waste heat cannot be obtained, (Exhibit B-1, p. 53) or that other challenges could delay or prevent this alternative energy source, RDE has identified several mitigating factors including:

- The system will be designed to operate on natural gas. If an agreement cannot be reached to source energy from WTEF, it will continue to operate on gas until another suitable alternative energy source can be identified and developed;
- The hydronic heating in each building provides flexibility to accommodate different energy sources; and
- The DEU is being developed in phases and the pipeline is not projected to be constructed until 2017 at the earliest, thereby providing sufficient time to negotiate an agreement with Metro Vancouver.

(Exhibit B-1, p. 53)

RDE states that "given the timing for heat in the initial developments, the optimal timing of the alternative energy source, and the fact that there are a range of alternative [energy] sources in lieu of the WTEF" (Exhibit B-4, BCSEA 1.3.6), it would be inappropriate for the CPCN to be contingent on finalization of the MOU between RDE and Metro Vancouver. It also comments that "there are other potential sources of low GHG heat for this project, including biomass and river or ground water recovery. These are considered less desirable than utilizing existing waste heat but if RDE is unable to reach a financially acceptable agreement with Metro Vancouver, RDE will investigate these alternatives." (Exhibit B-5, FEU 1.5.1)

Commission Determination

Given that there appears to be ongoing goodwill between RDE and Metro Vancouver in negotiating an MOU, that it will be several years before finalization of such an agreement is considered urgent, and that there are many other potentially viable alternative energy sources than the WTEF, **the Commission Panel finds the energy supply risk acceptable and does not believe the CPCN should be contingent upon the finalization of the MOU between RDE and Metro Vancouver.**

5.0 CPCN APPLICATION CONSIDERATIONS

After accepting the project need and the DEU as proposed, finding the capital cost estimates reasonable and approving the financial structure including levelized rates the Commission Panel will now consider certain fundamental issues relevant to granting a CPCN. These considerations include the adequacy of public and First Nations' consultation, alignment of the project with the *CEA* and the provincial government energy policy, project funding and delivery, as well as certain specific public interest considerations.

5.1 Adequacy of Public and First Nations Consultation

RDE has indicated that public consultation for the River District commenced as early as 2002. Community consultation has encompassed 66 public meetings, two design charrettes involving over 1,100 participants, seven full and half day community workshops, two workshops with Vancouver City Council, and two public hearings. River District has had several awards related to public consultation, communications and public engagement. (Exhibit B-1, pp. 40-41)

First Nations were welcomed into the public consultation process and were formally consulted by the Department of Fisheries and Oceans for the design of the foreshore. All First Nations registering intent over lands including the River District were contacted. Only the Musqueum responded; all its concerns were addressed and changes made to the design of the marine works. There is no need to consult further with First Nations as infrastructure is installed on titled land, municipally or privately owned rights of way, or installed within Metro Vancouver's WTEF. (Exhibit B-1, p. 41; Exhibit B-3, p. 23)

Other key stakeholders specifically consulted include the City of Vancouver, Metro Vancouver, and the City of Burnaby. While currently there are no residents connected to the DEU, a document has been produced describing the design specifications to be met by builders to ensure seamless integration of building mechanical systems with DEU infrastructure; this document will be provided to sales staff to present to prospective home owners. (Exhibit B-1, pp. 41-43)

RDE has received direct support for the project from the City of Vancouver and from Metro Vancouver. (Exhibit B-1, 9.4.1 and 9.4.2; Exhibit C-1-1) When asked by FortisBC Energy Utilities if similar support has been received from the majority of the 37 various Directors in Metro Vancouver representing various municipal and First Nation stakeholders, RDE stated that it believes that it would be inappropriate to approach individual members for letters of support, and that "the Metro Vancouver letter of support accurately reflects the general sentiment of the membership." (Exhibit B-5, p. 2)

The public consultation documents contemplated a project fuelled by a renewable energy source. City staff documents refer to natural gas for peaking and back-up purposes. A "100% gas scenario" was discussed with the City of Vancouver and is provided only as risk mitigation. RDE believes that, since the technology is well understood, capital costs can be accurately predicted, and fuel prices are expected to be stable for the forecast period, public acceptance of the risk mitigation 100 percent gas scenario is not expected to be controversial. Information shared with the public has been consistent with what has been discussed with the City. (Exhibit B-3, p. 14)

Public consultation activities, as well as ongoing exchanges of information with key stakeholders, continue as the project evolves. (Exhibit B-3, p. 24)

Commission Determination

RDE has complied with the requirements of Order G-50-10 regarding First Nations and public consultation for a CPCN application. In particular, it has attempted to identify and consult with First Nations potentially affected by the Application and address the issues relevant to them. In this instance, this included matters related to the design of the foreshore. Relevant concerns have been addressed. RDE has also conducted extensive public consultation activities with those who will be affected by the project. Such activities are ongoing as the project proceeds. As issues were identified they are addressed in design specifications, which are then communicated to potential buyers in a document provided to sales staff. It is noteworthy that RDE has received direct support from both the City of Vancouver and Metro Vancouver for the project.

The Commission Panel determines that public and First Nations consultation has been adequate.

5.2 Alignment with Clean Energy Act and Provincial Government Policy

Section 46(3.1) of the *Act* requires the Commission, in deciding to issue a CPCN, to consider the applicable of British Columbia's energy objectives, among other things. The alignment with Metro Vancouver's Integrated Solid Waste and Resource Management Plan will also be discussed.

5.2.1 Alignment with British Columbia's Energy Objectives

Section 2 of the *CEA* sets out British Columbia's energy objectives (listed in Appendix B). Those most relevant to this proceeding include (d), (g), (h), (i) and (j). The Commission Panel notes that when RDE discusses the DEU's environmental impacts or its alignment with provincial energy policy considerations, it does so in reference to the overall project, including the R-ETS. (Exhibit B-1, pp. 54-55, 58-59; Exhibit B-3, BCUC 1.37.1) However, as this CPCN Application covers only the first five years of the project, it is worthwhile examining how each phase meets the Province's energy objectives.

Current CPCN Filing (2012-2016)

As noted in RDE Final Submission, the current CPCN Application considers only the Phase 1 infrastructure, up to and including the permanent EC. RDE explains that the temporary EC will supply the first buildings to be constructed then will be supplanted by a permanent EC as development continues. The temporary and permanent ECs will both use gas-fired boilers. (RDE Final Submission, p. 3)

The first relevant objective relates to the use of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources (objective (d)). While the type of technology being proposed in this Application, i.e., natural gas boilers, is not itself novel – RDE admits that "the technology is well understood and system components widely available."

(Exhibit B-3, BCUC 1.5.1) RDE explains that one of the advantages of the district energy system is the ability to integrate different sources of supply over time. (Exhibit B-1, p. 25) BCSEA also views the proposed DEU as providing a strong environmental benefit because it puts in place the infrastructure to support a future R-ETS, which would then be an extremely efficient energy system with low carbon intensity, even with gas-fired back-up and peaking service. (BCSEA Final Submission, p. 2)

The next three relevant objectives relate to the reduction of GHG emissions in BC (objectives (g), (h) and (i)). The Panel notes that RDE's own calculations show an increase in GHG emissions of slightly over 40 percent over the business-as-usual of mixed electrical/natural gas for the period covered by this Application. (Exhibit B-3, BCUC 1.12.1) If, however, electrical baseboard heaters are banned as prescribed in the Project's Design Guidelines (a ban that is supported by the City of Vancouver) and replaced by on-site heat pumps and/or gas boilers, (Exhibit B-6, BCUC 2.1.1 and BCUC 2.1.2) then the Panel notes that the DEU's GHG emissions in the first five years may be comparable to those of individual natural gas boilers.

The Panel also notes BCSEA's position that it is satisfied that the prospect of the R-ETS materializing is sufficiently realistic to warrant weight being given to the environmental benefits of the DEU setting the stage for a future R-ETS. (BCSEA Final Submission, p. 2)

Overall, while the Panel finds that the only real GHG benefit will be realized when the DEU will be supplied with a renewable energy heat source, the Panel agrees with RDE and finds that the implementation of the DEU creates the conditions for adopting low-carbon energy sources in the future, thus aligning with the Government's energy objectives.

Long-Term Plan (Beyond 2016)

RDE notes that the River District DEU project aligns with several provincial government objectives under the 2007 *BC Energy Plan* and the *CEA* (Exhibit B-1, pp. 58-59) and details how the DEU meets the applicable energy objectives of the *CEA*. (Exhibit B-3, BCUC 1.37.1) RDE also presents details of

the GHG reductions that will result once the R-ETS is implemented.

The Commission Panel is in agreement with RDE and notes that the DEU is in alignment with the *CEA*'s energy objectives identified above. First, capturing the WTEF waste heat to fuel the R-ETS is a very innovative low-GHG technology that will lead to both higher energy efficiency and increased use of a clean and renewable energy source, thus satisfying objective (d). Consequently, at full build-out, the DEU will reduce annual GHG emissions by 8,212 tonnes relative to the business-as-usual approach for multi-family residential buildings in Vancouver (Exhibit B-1, p. 54-55), thus contributing to reducing BC GHG emissions (objective (g)). Moreover, by relying on waste heat from the WTEF as an energy source, the DEU also directly satisfies objectives (h), (i) and (j) by reducing waste and promoting the switch from natural gas to a resource leading to decreased GHG emissions on a community-wide basis.

5.2.2 Metro Vancouver's Integrated Solid Waste and Resource Management Plan

In the Application, RDE notes that "consistent with the constraints and directions of the Province for Solid Waste Management, Strategy 3.1 in Metro Vancouver's Draft Integrated Solid Waste and Resource Management Plan (Plan) is to increase energy recovery from waste remaining after recycling in order to provide the highest beneficial use to society, in particular through Waste-to-Energy systems that provide both electricity and district heating." (Exhibit B-1, p. 59) The Province approved Metro Vancouver's Plan on July 25, 2011. RDE explains that the DEU is supported by this strategy as it will increase the capture of thermal energy from the existing Burnaby Waste-to-Energy facility for use in district heating. (Exhibit B-3, BCUC 1.37.2)

Commission Determination

The Commission Panel finds that the Application does align itself in a satisfactory manner to British Columbia's energy objectives as outlined in the *CEA*, as well as to Metro Vancouver's Integrated Solid Waste and Resource Management Plan, sanctioned by the provincial government earlier this year.

5.3 Project Funding and Delivery

The Application states: "Funding for the development and operation of RDE will be provided by Parklane and conventional bank sources." and indicates that the (Parklane) group had revenues of $96 Million and assets of $188 Million as of the year ended December 31, 2010. (Exhibit B-1, p. 10) Confidential combined consolidated financial statements for the year ended December 31, 2010 have been filed with the Commission (Exhibit B-1-1) for Park Lane Group as have audited financial statements for Park Lane Ventures (1986) Limited Partnership and Park Lane Homes (combining Park Lane homes Limited Partnership and Park Lane Homes Ltd.).

The Commission requested RDE to comment on how it "is arranging to assure project performance by means such as securing letters of credit and/or performance bonds form independent third parties." (Exhibit A-6) In response, RDE's Final Submission states that "… Parklane confirms that it will provide a legally binding guarantee of the obligations of RDE ensuring the RDE will meet its obligations under the Utilities Commission Act." (RDE Final Submission, p. 5, Appendix 1)

The Commission Panel has reviewed the financial information submitted, including the financial statements filed on a confidential basis, and determines that, with a satisfactory guarantee, adequate funding resources are available to RDE to undertake and deliver Phase 1 of the project. As noted above, Parklane has undertaken to provide a guarantee. **RDE is directed to consult with and provide a guarantee in satisfactory form to the Commission.**

5.4 Public Interest Considerations

5.4.1 Would the Project be in the Public Interest even without the Prospect of a Renewable Heat Source?

RDE considers the project in the public interest because it creates conditions for adopting low-carbon energy sources that will be required or have greater value in the future. RDE does not consider perfect certainty about future conditions, including the prospect of a renewable heat source, a necessary condition for deeming the project in the public interest. Whether the project creates conditions for achieving the desired outcomes based on current information is more relevant. RDE believes that there is a range of realistic scenarios over which this project may be considered in the public interest relative to business as usual. (Exhibit B-4, p. 10, BCSEA IR 1.3.3)

Furthermore, RDE states that it "has adopted a comprehensive set of environmental goals for River District governing site remediation, storm water management, foreshore rehabilitation, pedestrian and bicycle use and North America's first songbird strategy to sustain and enhance habitat … will continue to emphasize consideration for the environment … and may include efforts to encourage reduced energy consumption …" (Exhibit B-4, pp. 2-3, BCSEA IR 1.1.7) Implicitly these goals will be pursued irrespective of the energy source it is using for the project.

The project itself as proposed does not actually reduce GHG emissions at the WTEF. The WTEF will continue to burn solid waste with or without the RDE project. The difference with the project, however, is that the extraction of waste heat will reduce total electricity produced while increasing total energy recovered. The same GHG emissions will be spread over larger recoverable energy. The energy recovered and sold as heat, in turn, will displace heat that would have been produced in part by natural gas. The project reduces GHG emissions in the region relative to status quo projections. (Exhibit B-3, pp. 70-71, BCUC IR 1.37.5) Therefore, if RDE is unable to secure heat from WTEF, it could still contribute to a net reduction of GHG emissions, as long as its energy source has similar energy characteristics as the waste heat from the WTEF.

RDE indicates that the project is fully aligned to eight of the sixteen energy objectives set out in the *CEA*, and partially contributes to two others. Among the energy objectives, six are not applicable. (Exhibit B-3, pp. 67-69, BCUC IR 1.37.1)

In the event that WTEF energy (or some other renewable heat source) is not available, RDE indicates that "the '100 % gas scenario' is a natural option as a permanent E(nergy) C(enter). This would provide time to evaluate other alternative energy options." (Exhibit B-3, p. 14, BCUC IR 1.5.1) It also indicates that public acceptance of this option is not expected to be controversial.

Finally, RDE considers that any proposed solution that is able to achieve energy costs at rates up to 10 percent above electricity (as a competitive benchmark) would be justified because of the "intangible benefits to consumers such as higher quality of service associated with hydronic heat, environmental benefits, reduced exposure to future commodity price changes … and additional floor space freed up within individual projects." (Exhibit B-1, p. 37) So, even if a renewable heat source is not available, as long as the emerging solution is able to deliver energy costs at or less than 10 percent above electricity costs, RDE believes there will be other intangible benefits to justify the project.

No Intervener takes exception to RDE's point of view of the project being in the public interest. BCSEA states "the Commission does not have to determine that the renewable energy transfer station will *necessarily* materialize in order to find that the District Energy System has a strong environmental benefit in terms of the public interest under section 45." (BCSEA Final Submission, p. 2)

Commission Determination

The Commission Panel finds the RDE arguments compelling. Even without a renewable heat source there are sufficient reasons to find the project in the public interest as long as the source of energy

is sufficiently cost-competitive with electricity. The Panel also notes that "RDE is not under any binding legal commitment or obligation to go to a renewable energy source" (Exhibit B-3, p. 17, BCUC IR 1.5.5)

5.4.2 Should the Test of Public Interest be Limited to the Benefits in the First Five Years?

This RDE Application is only seeking approval for the first five years of operation, and the construction of the temporary and permanent Energy Centers and related District Piping System and Energy Transfer Stations. However, it is based on using the concept of levelized rates for a twenty-year period. This approach has been approved by the Commission for other new district energy systems. (Exhibit B-1, p. 14) Because of the levelizing of rates, the rate stabilization account will cover shortfalls of revenue during the early years of operation.

RDE does not believe, however, that the test of public interest of the Application must be limited to the first five years of this project. RDE believes it prudent to submit another CPCN application and/or rate approval after the first five years that would include the alternative energy source or heat source contract that do not yet exist. However, "the benefits of the initial infrastructure [acquired in the first five years] extend beyond the five year capital plan included in the Application and create preconditions for the future benefits identified in the Application." (Exhibit B-4, p. 10, BCSEA IR 1.3.4)

Further, RDE states that the project is in the public interest because it creates the conditions for adopting low-carbon energy sources that will be required or have greater value in the future. (Exhibit B-4, p. 10, BCSEA IR 1.3.3)

Commission Determination

The Commission Panel concurs that the project is consistent with setting conditions for adoption of low-carbon energy sources in the future, and that the benefits of the infrastructure implemented during the first five years of operation extend beyond these five years. Therefore, the Panel

concurs with RDE that it would be inappropriate to limit the test of the public interest to the benefits derived only in the first five years of the project.

5.4.3 Does the Commission Need to Satisfy Itself that the WTEF, or some other non-fossil heat source, is a Reasonably Available Source of Energy?

The project's initial feasibility study considered a variety of heat source options including: sewer heat recovery, geothermal (both ground-water and ground-source with heat pumps), biomass, and the Metro Vancouver WTEF. These alternatives have higher initial capital costs and lower annual fuel costs than conventional heat sources such as natural gas. Exhibit B-1, p. 21) Of these alternatives, the WTEF option was preferable because it had a lower cost and a larger reduction in GHG emissions. (Exhibit B-1, p. 22) However, biomass remains a viable fall-back option.

The fact that the project reduces electricity demand while reducing natural gas demand for heating and associated GHG emissions, is consistent with the goal of encouraging co-generation, increases the recovery of waste heat from the WTEF, and is consistent with Metro Vancouver's Integrated Solid Waste and Resource Management Plan suggest that the project's expectation of utilizing waste heat from the WTEF is likely to receive favourable consideration as it proceeds through approval processes. Indeed, "Per staff at Metro Vancouver, the WTEF can have an indefinite life expectancy with periodic capital improvements. With the approved Integrated Solid Waste Management Plan calling for greater [waste to energy] capacity, Metro Vancouver staff anticipate the long-term availability of heat from the Burnaby WTEF." (Exhibit B-3, BCUC 1.4.1) Furthermore, RDE rates the risks of not securing a Burnaby ROW or of the WTEF being decommissioned as "low." (Exhibit B-3, BCUC 1.5.4) The foregoing would indicate that the WTEF is likely to be a reasonably available strategy for RDE. Since there are other viable alternative energy source options available, it would not be unreasonable to assume that they would receive similar favourable consideration in the event that the WTEF solution does not come to pass.

It is noted that "RDE is not seeking approval of the WTEF component in this Application. The ultimate alternative energy source selection does not affect the preliminary capital or rates proposed by RDE" and "Given RDE is a small utility and given the alternative energy source will not

be pursued for several years, RDE considers it prudent to continue discussions with Metro to determine if an acceptable agreement is likely before investing additional resources in further analysis and confirmation of other alternative energy sources examined in the screening study." (Exhibit B-3, pp. 22-23, BCUC IR 1.6.7)

Commission Determination

The Commission Panel determines that RDE has sufficiently explored a variety of alternative non-fossil heat sources and that the waste heat from the WTEF is a reasonably available strategy at this time for this CPCN. As determined in Section 4.7.2 above, a CPCN for this Application is not contingent upon securing an approved MOU with Metro Vancouver. Since the need to finalize such an MOU is several years off, there is time to explore alternative energy sources should that be necessary. The Panel agrees with RDE that it should continue to pursue its agreement with Metro Vancouver before incurring the costs of conducting further analysis and confirmation of alternative energy sources at this time for this CPCN.

6.0 COMMISSION DECISION AND DETERMINATIONS

The Commission Panel has reviewed the evidence on record and determines that it is in the public interest to grant a Certificate of Public Convenience and Necessity to River District Energy Limited Partnership to construct and operate the District Energy Utility. All relevant findings, determinations and reporting requirements are summarized in the following.

This Summary is provided for the convenience of readers. In the event of any difference between the Directions in this Summary and those in the body of the Decision, the wording in the Decision shall prevail.

	Directive	**Page**
1.	The Commission Panel finds that the need for the project and the DEU as proposed in the CPCN has been established and that alternatives have been adequately assessed to justify the future potential benefits, including environmental, as being in the public interest.	14
2.	The Commission Panel finds that the level of estimate, engineering review and resulting budget amount are reasonable though the Panel expects the control budget to be carefully monitored and updated as tender estimates are formalized in due course. RDE is reminded to reflect the overstated operating expenses in 2014 and 2015 and costs incurred prior to the CPCN approval in subsequent reviews. RDE is directed to submit annual Project status update reports to the Commission.	17
3.	The Commission Panel approves RDE's proposal to use a deemed capital structure comprising 60 percent debt and 40 percent equity for the purpose of determining revenue requirements and customer rates for the years 2012 through 2016. The Panel directs RDE to reconsider the appropriateness of having a deemed capital structure and debt cost for re-determination at the time of applying for a CPCN for the R-ETS and/or revenue requirements and rates for years beyond 2016.	19
4.	The Commission Panel makes no determination at this time on the short-term component of the total debt structure for the period beyond this Application.	19

5.	The Commission Panel determines a deemed debt rate of 5.5 percent is appropriate. The Commission Panel determines that a deemed debt rate of 5.5 percent is reasonable at this time of low interest rates and high interest rate volatility, thus implying a credit spread of 262 basis points above the 10-year Government of Canada benchmark bond yield of 2.88 percent at the time of this Application.	21
6.	When RDE obtains conventional bank financing, if the actual interest rate differs from the 5.5 percent approved above, the Commission Panel directs RDE to determine the impact and to reflect the actual rate in a revised submission to the Commission within 60 days of obtaining bank financing.	21
7.	The Commission Panel approves RDEs' proposal of a risk premium of 50 basis points over the benchmark ROE.	23
8.	The Commission Panel grants approval for the 20-year levelized rate structure in which RDE defers a portion of its annual revenue requirements during the initial years. Consequently, the Panel also approves the establishment of a Revenue Deficiency Deferral Account or rate stabilization account to record shortfalls in the recovery of revenue requirements in the early years.	24
9.	The Commission Panel generally accepts the method used to calculate the Revenue Requirements; however RDE is directed to recalculate the Revenue Requirements from those proposed to account for changes in this Decision including the debt cost determined in section 4.2.2 – Debt Cost. The Commission Panel further directs RDE to file a report showing the calculations and balance of the Revenue Deferral Deficiency Account within 60 days of fiscal year end each year.	25
10.	The Commission Panel approves the rate design proposed by RDE, which would recover 66 percent of forecast revenues through a fixed monthly charge based on connected floor area (the Capacity Charge) and the remaining 34 percent through a variable charge based on energy consumption (the Energy Charge). The Commission Panel also directs RDE to recalculate the fixed/variable costs ratio based on the actual cost structure and updated revenue requirement forecasts at the time of filing a CPCN Application for the R-ETS.	27
11.	The Panel accepts that a premium of up to 10 percent above the benchmark electricity rate may be justified when establishing the rates for the DEU.	28
12.	The Panel finds RDE's forecast of BC Hydro's 2012 residential electricity rates and its assumed weighted average consumption mix of 50 percent Tier 1 and 50 percent Tier 2 to be reasonable.	30

13.	The Panel considers that the initial 2012 rate for RDE should be no less than the blended $87.97 per MWh benchmark rate determined using RDE's forecast 2012 Tier 1 and 2 rates for BC Hydro. Accordingly, the Panel directs RDE to file the following additional options by calculating the annual effective rates per MWh for the 20-year period using one single escalation factor over the entire period: 1. First year rate: $87.97; 2. First year rate: $87.97 plus a premium of five percent; and 3. First year rate: $87.97 plus a premium of ten percent.	31
14.	The Panel directs RDE to have publicly available published rates for the first five years covered by this Application and to make these rates available to developers for their disclosure to prospective unit purchasers. The Commission Panel finds the risk of under-utilized assets in the case of this project to be at an acceptable level.	32
15.	The Commission Panel finds that RDE adopted a conservative approach to load forecasting and finds the risk of under-utilized assets, due to lower than forecast energy loads, acceptable.	33
16.	The Commission Panel finds that RDE has adequately considered the risks and benefits of co-locating the permanent EC with an existing development and has plans and options to address risk issues and reduce overall costs subject to a suitable lease agreement. The Panel directs RDE to file the lease agreement subject to and for Commission approval once it is signed.	34
17.	RDE is directed to update cost estimates and forecast versus actual costs incurred in an annual report to the Commission.	35
18.	The Commission Panel finds the energy supply risk acceptable and does not believe the CPCN should be contingent upon the finalization of the MOU between RDE and Metro Vancouver.	36
19.	The Commission Panel determines that public and First Nations consultation has been adequate.	39
20.	Overall, while the Panel finds that the only real GHG benefit will be realized when the DEU will be supplied with a renewable energy heat source, the Panel agrees with RDE and finds that the implementation of the DEU creates the conditions for adopting low-carbon energy sources in the future, thus aligning with the Government's energy objectives.	40

21.	The Commission Panel finds that the Application does align itself in a satisfactory manner to British Columbia's energy objectives as outlined in the *CEA*, as well as to Metro Vancouver's Integrated Solid Waste and Resource Management Plan, sanctioned by the provincial government earlier this year.	42
22.	The Commission Panel has reviewed the financial information submitted, including the financial statements filed on a confidential basis, and determines that, with a satisfactory guarantee, adequate funding resources are available to RDE to undertake and deliver Phase 1 of the project. RDE is directed to consult with and provide a guarantee in satisfactory form to the Commission.	42

DATED at the City of Vancouver, in the Province of British Columbia, this 19th day of December 2011.

Original signed by:

_____

LIISA A. O'HARA
COMMISSIONER/PANEL CHAIR

Original signed by:

_____

A.W. KEITH ANDERSON
COMMISSIONER

Original signed by:

_____

MICHAEL R. HARLE
COMMISSIONER

SIXTH FLOOR, 900 HOWE STREET, BOX 250
VANCOUVER, BC V6Z 2N3 CANADA
web site: http://www.bcuc.com

BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER C-14-11

TELEPHONE: (604) 660-4700
BC TOLL FREE: 1-800-663-1385
FACSIMILE: (604) 660-1102

IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

An Application by River District Energy Limited Partnership
for a Certificate of Public Convenience and Necessity
to Construct and Operate a District Energy System for the
River District Development in Southeast Vancouver

and

Approval of the Proposed Revenue Requirement,
Rate Design, Levelized Rates and Revenue Deficiency Deferral Account
for the First Five Years of Operation

BEFORE: L.A. O'Hara, Commissioner/Panel Chair
A.W.K Anderson, Commissioner
M.R. Harle, Commissioner

December 19, 2011

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

WHEREAS:

A. O On July 27, 2011, River District Energy Limited Partnership (RDE) submitted an Application for a Certificate of Public Convenience and Necessity (CPCN) to the British Columbia Utilities Commission (Commission) under sections 45 and 46 of the Utilities Commission Act (*Act*) for the construction and operation of a district energy utility (DEU) for the River District development located along the Fraser River in Southeast Vancouver, BC, and for approval under sections 59, 60 and 61 of the *Act* for the proposed revenue requirement, rate design, levelized rates and accounting treatment including a rate stabilization account (the Application);

B. The River District development is a Vancouver City council approved Official Development Plan that is being developed by the Park Lane Group through its wholly owned affiliates including RDE with a specific design objective to incorporate sustainable building design and energy systems to provide heat and domestic hot water to many of the community's eventual 15,000 residents;

C. RDE will function as a stand-alone DEU to service economically connected loads within the River District and adjacent city-owned properties and will ultimately consist of an Energy Centre (EC) equipped with

…/2

gas-fired boilers, a Renewable Energy Transfer Station (R-ETS), Distribution Piping System (DPS) and Energy Transfer Stations (ETS) at each connected building;

D. In the Application, RDE is seeking approval for the first phase of the project covering the first five years of operation including construction of the DPS, ETS for buildings and both temporary and permanent EC using natural gas boilers and energy rates for the five-year period;

E. RDE is proposing a 20-year levelized rate mechanism in order to provide affordable, competitive customer rates in the early years of the project, while recording the initial under-recovery of its cost of service in a rate stabilization account with the expectation of full recovery of revenue requirements over the 20-year levelizing period based on a reference case financial analysis;

F. RDE proposes to review its rates within five years and future rates will depend in part on actual under-recoveries in the first five years as well as the final selection and costs of the alternative energy source;

G. The Commission has reviewed the Application and has determined that it is in the public interest to grant approval of this CPCN Application.

NOW THEREFORE the Commission orders as follows:

1. Approval for RDE to construct and operate a temporary and a permanent natural gas fuelled Energy Centre and related thermal Distribution Piping System and Energy Transfer Stations as outlined in the Application and Final Submissions.

2. Approval of the accounting approach to the DEU including the following terms:

    a. A Return on Equity (ROE) based on a risk premium of 50 basis points over the benchmark ROE, which currently results in an ROE of 10 percent;

    b. A deemed capital structure of 60 percent long-term debt and 40 percent common equity;

    c. A blended debt rate of 5.5 percent based on the 10-year Government of Canada benchmark bond yield of 2.88 percent at the time of the Application plus a credit spread of 262 basis points;

    d. A rate design with 66 percent fixed monthly Capacity Charge based on connected floor area and 34 percent variable Energy Charge based on actual consumption;

    e. The establishment of a revenue deferral account to capture the variances between actual revenue requirements and actual revenues to support the levelized rate approach.

3. RDE shall re-submit a rates application based on the directions contained in the Decision and provide by Tuesday, January 3, 2012 with rationale for RDE's preferred rate option.

4. RDE shall file with the Commission Annual Financial Reports according to Commission guidelines and include planned versus actual revenue deferral account balances within 60 days of fiscal year end each year, beginning 2012.

5. RDE shall file Annual Progress Reports on the Project showing planned versus actual schedule, planned versus actual costs, planned versus actual demand load and any variances or difficulties that the Project may be encountering. The Annual Progress Reports will be filed within 30 days of the end of each reporting period on a calendar year basis and will generally be as set out in Appendix A to this Order.

DATED at the City of Vancouver, in the Province of British Columbia, this 19th day of December 2011.

BY ORDER

Original signed by:

L.A. O'Hara
Commissioner and Panel Chair

Attachment

RIVER DISTRICT ENERGY LIMITED PARTNERSHIP

An Application by River District Energy Limited Partnership
for a Certificate of Public Convenience and Necessity
to Construct and Operate a District Energy System for the
River District Development in Southeast Vancouver

and

Approval of the proposed Revenue Requirement,
Rate Design, Levelized Rates and Revenue Deficiency Deferral Account
for the First Five Years of Operation

Table of Contents of Annual Project Progress Report

REGULATORY TIMETABLE

RIVER DISTRICT ENERGY LIMITED PARTNERSHIP

An Application by River District Energy Limited Partnership
for a Certificate of Public Convenience and Necessity
to Construct and Operate a District Energy System for the
River District Development located along the Fraser River in Southeast Vancouver
and
Rates for the First Five Years of Operation

REGULATORY TIMETABLE

ACTION	DATE (2011)
Commission Information Request No. 1	Thursday, September 8
Intervener/Interested Party Registrations Participant Assistance Budget Submissions	Thursday, September 8
Intervener Information Request No.1	Thursday, September 15
Response to Commission and Intervener Information Request No. 1	Wednesday, September 28
Commission and Intervener Information Requests No. 2	Thursday, October 13
Response to Commission and Intervener Information Requests No. 2	Monday, October 24
RDE Final Submission	Thursday, November 3
Intervener Final Submission	Tuesday, November 15
RDE Reply Submission	Tuesday, November 22

Clean Energy Act

British Columbia's Energy Objectives

British Columbia's energy objectives

2 The following comprise British Columbia's energy objectives:

(a) to achieve electricity self-sufficiency;

(b) to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%;

(c) to generate at least 93% of the electricity in British Columbia from clean or renewable resources and to build the infrastructure necessary to transmit that electricity;

(d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;

(e) to ensure the authority's ratepayers receive the benefits of the heritage assets and to ensure the benefits of the heritage contract under the *BC Hydro Public Power Legacy and Heritage Contract Act* continue to accrue to the authority's ratepayers;

(f) to ensure the authority's rates remain among the most competitive of rates charged by public utilities in North America;

(g) to reduce BC greenhouse gas emissions

(i) by 2012 and for each subsequent calendar year to at least 6% less than the level of those emissions in 2007,

(ii) by 2016 and for each subsequent calendar year to at least 18% less than the level of those emissions in 2007,

(iii) by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007,

(iv) by 2050 and for each subsequent calendar year to at least 80% less than the level of those emissions in 2007, and

(v) by such other amounts as determined under the *Greenhouse Gas Reduction Targets Act*;

(h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;

(i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;

(j) to reduce waste by encouraging the use of waste heat, biogas and biomass;

(k) to encourage economic development and the creation and retention of jobs;

(l) to foster the development of first nation and rural communities through the use and development of clean or renewable resources;

(m) to maximize the value, including the incremental value of the resources being clean or renewable resources, of British Columbia's generation and transmission assets for the benefit of British Columbia;

(n) to be a net exporter of electricity from clean or renewable resources with the intention of benefiting all British Columbians and reducing greenhouse gas emissions in regions in which British Columbia trades electricity while protecting the interests of persons who receive or may receive service in British Columbia;

(o) to achieve British Columbia's energy objectives without the use of nuclear power;

(p) to ensure the commission, under the *Utilities Commission Act*, continues to regulate the authority with respect to domestic rates but not with respect to expenditures for export, except as provided by this Act.

IN THE MATTER OF
the Utilities Commission Act, R.S.B.C. 1996, Chapter 473

and

River District Energy Limited Partnership
Application for Certificate of Public Convenience and Necessity
for the District Energy System at the River District Development in Vancouver

EXHIBIT LIST

Exhibit No.	Description
COMMISSION DOCUMENTS	
A-1	Letter dated August 5, 2011 and Order G-141-11 - Establishing a Written Hearing Process and Regulatory Timetable
A-2	Letter dated September 8, 2011 – Information Request No. 1
A-3	Letter dated September 15, 2011 – Appointment of Panel
A-4	Letter dated October 13, 2011 – Information Request No. 2
A-5	Letter dated October 18, 2011 – Information Request No. 2 (Supplemental)
A-6	Letter dated October 31, 2011 – Request for comments in RDE Final Submission
APPLICANT DOCUMENTS	
B-1	**RIVER DISTRICT ENERGY LIMITED PARTNERSHIP (RDE)** Letter dated July 27, 2011 - Application for Certificate of Public Convenience and Necessity for the District Energy System at the River District Development in Vancouver
B-1-1	**CONFIDENTIAL** Letter dated July 20, 2011 – RDE Submitting Confidential Financial statements
B-2	Letter dated September 20, 2011 Via Email - RDE Submitting electronic copies of the Notice of Written Public Hearing Process
B-3	Letter dated September 28, 2011 - RDE Submitting response to BCUC Information Request No 1

Exhibit No.	Description
B-3-1	**CONFIDENTIAL** Letter dated September 28, 2011 - RDE Submitting Confidential Financial Schedules to BCUC Information Request No 1
B-3-2	**CONFIDENTIAL** Letter dated September 28, 2011 - RDE Submitting Confidential Financial Models to BCUC Information Request No 1
B-4	Letter dated September 28, 2011 - RDE Submitting response to BCSEA Information Request No 1
B-5	Letter dated September 28, 2011 - RDE Submitting response to FEU Information Request No 1
B-6	Letter dated October 24, 2011 - RDE Submitting Responses to BCUC IR No. 2 and Supplemental
B-6-1	**CONFIDENTIAL** Letter dated October 24, 2011 - RDE Submitting Confidential Responses to BCUC IR 2
B-6-2	Letter dated October 27, 2011 - RDE Submitting Addendum to BCUC IR 2.10.1 Responses
B-6-3	**CONFIDENTIAL** Letter dated October 27, 2011 - RDE Submitting Confidential Addendum to IR No. 2 Responses

INTERVENER DOCUMENTS

C1-1	**METRO VANCOUVER (MV)** Letter dated July 22, 2011 – Submitting comments regarding the Application
C2-1	**BC SUSTAINABLE ENERGY ASSOCIATION (BCSEA)** Letter dated August 26, 2011 - Request for Intervener Status by William J. Andrews
C2-2	Letter dated September 15, 2011 – BCSEA Information Request No. 1
C2-3	Letter dated October 13, 2011 – BCSEA Information Request No. 2
C3-1	**FORTISBC ENERGY UTILITIES (FEU)** Letter dated September 1, 2011 Via Email - Request for Intervener Status by Diane Roy
C3-2	Letter dated September 15, 2011 – FEU Information Request No. 1

Exhibit No.	**Description**

INTERESTED PARTY DOCUMENTS

D-1 **CITY OF NEW WESTMINSTER (CNW)** Letter dated August 29, 2011 - Request for Interested Party Status by R.E. Carle

D-2 **CITY OF VANCOUVER (CV)** Online Registration dated September 15, 2011 - Request for Interested Party by Chris Baber