



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** September 25, 2015
From: John Irving, P.Eng. MPA **File:** 10-6600-10-02/2015-Vol 01
 Director, Engineering
Re: **Oval Village District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 9299**

Staff Recommendation

That the Oval Village District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 9299 be introduced and given first, second and third readings.

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Director, Engineering
(604-276-4140)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Finance Department	<input checked="" type="checkbox"/>	
Law	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

In 2014, Council adopted the Oval Village District Energy Utility Bylaw No. 9134 (Bylaw) establishing governing regulations and the rate for the delivery of energy for space and domestic hot water heating within the Oval Village District Energy Utility (OVDEU) service area.

The purpose of this report is to:

- a) Recommend 2016 OVDEU service rates
- b) Recommend the expansion of the service area so that it encompasses two new development sites
- c) Replace the term “Services Agreement” with “Energy Services Agreement” in the Bylaw

This report supports Council’s 2014-2018 Term Goal #8 Sustainability:

8.1. Continued implementation and significant progress towards achieving the City’s Sustainability Framework, and associated targets.

8.2. Review opportunities for increasing sustainable development requirements for all new developments, including consideration of increasing requirements for sustainable roof treatments (e.g. rooftop gardens, solar panels, etc.) and energy security (e.g. use of local renewable energy sources, use of district energy systems, etc.).

Background

In 2013, under Council direction, the Lulu Island Energy Company (LIEC) was established as a wholly-owned corporation of the City for the purposes of managing district energy utilities on the City’s behalf. District Energy Utilities Agreement between the City and the LIEC was executed in 2014, assigning the LIEC the function of providing district energy services on behalf of the City.

The LIEC encompasses the Oval Village District Energy Utility (OVDEU) service area and administers the associated operations, assets and liabilities. All capital and operating costs are recovered through revenues from user fees, ensuring that the business is cost neutral over time for the City of Richmond’s residents. In 2014, in order to accomplish these goals, LIEC and Corix Utilities entered into a design-build-finance-operate-maintain concession agreement. The City is the sole shareholder of the LIEC and Council sets the rates to customers.

Analysis

Proposed 2016 OVDEU Rates

The 2015 OVDEU rate is comprised of:

1. Capacity Charge (Fixed) - monthly charge of \$0.0458 per square foot of the building gross floor area; and
2. Volumetric Charge (Variable) - charge of \$28.20 per megawatt hour of energy returned from the Heat Exchanger and Meter Set at the Designated Property.

Factors that were considered when developing the 2016 OVDEU rate options are:

- **Competitive Rate:** The rate should provide end users with annual energy costs that are less than or equal to conventional system energy costs, based on the same level of service.
- **Cost Recovery:** The OVDEU was established on the basis that all capital and operating costs would ultimately be recovered through revenues from user fees. The financial model included recovery of the capital investment over time and built in a rate increase year over year to cover for the fuel cost increases, inflation, etc. to ensure the financial viability of the system.
- **Financial Obligations from LIEC to Corix:** The OVDEU business was established based on the concept that all capital and operating costs would be recovered through revenues from user fees, ensuring that the business would be cost neutral over time. In order to fulfill these requirements, LIEC executed a concession agreement with Corix Utilities to design, construct, finance, operate and maintain the OVDEU. Under this agreement, Corix is entitled to recover from LIEC any costs and expenses that are incurred in accordance with prudent utility practice.
- **Forecasted Utility Costs:** Utility cost (electricity and natural gas) increases are outside the City's control. Nonetheless, these commodity costs directly impact the operation cost of the OVDEU. BC Hydro's 10 year plan projects an electricity rate increase of 6% in 2016. Natural gas costs are expected to increase by 5.4 % (residential and Lower Mainland) according to the Multi-Year Performance Based Ratemaking Plan for 2014 through 2019.
- **Consumer and Municipal Price Indexes:** Other factors to consider include various price indexes. For example, the consumer price index (CPI) is estimated by the Finance Department at 2.2% based on the average of recent BC forecasts, while municipal price index (MPI) is estimated at 2.7%.

Taking into consideration the above factors, three options are presented for consideration:

Option 1 – No increase to the OVDEU rate for services (Not recommended)

Under the “status quo” option, the rate would not change from the 2015 rate.

The OVDEU is in its early days of operation, and as a result the utility (electricity and natural gas), operation and maintenance costs are still largely based on projections of the original financial model. Variation from the model will affect the long term performance of the OVDEU. For example, the revenue may vary from the projected revenue in the financial model depending on the speed of development and occupancy. The financial model of the OVDEU has taken into consideration modest rate increases similar to projected increase rates for conventional energy. A status quo approach would have a negative impact on the financial performance of the OVDEU and could affect LIEC’s business model.

Option 2 – 2% increase to OVDEU rate for services (Not recommended)

A 2% increase would only partially cover the estimated utility (electricity and natural gas), operation and maintenance cost increases. At this stage, the OVDEU relies on natural gas to provide energy services to customers and therefore natural gas cost takes a considerable portion of OVDEU expenses. This rate increase is also below the projected increase used in the OVDEU financial model. Hence, an increase of only 2% would have a negative impact on the financial performance of the OVDEU and could affect LIEC’s business model.

Option 3 – 4% increase to OVDEU rate for services (Recommended)

The proposed 4% rate increase under this option follows the OVDEU financial model and is below the estimated business as usual (BAU) rates increase that the customers would pay based on projected conventional utility costs, which are 6% and 5.4% respectively for electricity and natural gas.

The OVDEU financial model and LIEC business model follows the principle of full cost recovery. To mitigate potential financial risks, it is recommended that the City follow the financial model as much as possible in the early years of the utility operation and annually adjust the rates as per the model. As the utility collects more actual data about the connected buildings’ energy loads and consumption, operation and maintenance costs, the model will be continuously updated and the annual rate adjustment may follow closer year to year financial indicators, to ensure that the business is sustainable, economically viable and beneficial for LIEC and its customers.

These options are displayed in Table 1.

Table 1: Proposed Rates for Services

	2015	2016		
		Option 1 0% Increase	Option 2 2% Increase	Option 3 4% Increase
Capacity Charge	\$0.0458	\$0.0458	\$0.0467	\$0.0476
- monthly charge per square foot of the building gross floor area				
Volumetric Charge	\$28.20	\$28.20	\$28.764	\$29.328
- charge per megawatt hour of energy consumed by the building				

The LIEC is a service provider appointed by Council to provide energy services to OVDEU customers on behalf of the City. City Council is the regulator and the rate setting body for the OVDEU service area. In accordance with this structure, LIEC staff have prepared the above rate analysis, and the LIEC Board of Directors has reviewed and approved the recommended 2016 OVDEU rate for services (Attachment No.1).

Proposed Expansion of the Service Area

When the project was initiated, the service area included all the active developments, entailing a range of mixed-use or multi-family residential buildings. As presented to Council in 2014, staff would bring proposals to Council for the expansion of the service area boundary, as new developments take place in the vicinity of the current service area. Two new developments adjacent to the existing service area are now in the active stage of development (Attachment No. 2), shown in Table 2 below. The information from this table is preliminary and subject to change.

Table 2: New Developments Bordering the Current Service Area

Development	Address	Size/Type	Application Process
Hallmark Holdings	7811 Alderbridge Way	35,800 m ²	Rezoning
Xpec Elmbridge Holdings	7100 Elmbridge Way	24,900 m ²	Development Permit

Further to the LIEC being the OVDEU service provider, LIEC staff have assessed the economy and technical feasibility of connecting the two new developments to the OVDEU system. In order to leverage economies of scale and realize the long-term social, economic and environmental benefits of district energy, expansion to service new developments is a key opportunity. Benefits of scale in this scenario relate to:

- Spreading the capital costs over a larger customer base
- Maximizing potential for introducing waste heat as an energy source

- Maintain low rates to OVDEU customers
- Reducing greenhouse gas emissions

The LIEC Board of Directors has reviewed the expansion potential and recommends that these two new developments are included in the OVDEU service area.

Proposed Housekeeping Amendment to Bylaw

Staff propose to replace the currently used term “Services Agreement” in the Bylaw with the term “Energy Services Agreement.” The purpose of this housekeeping amendment is to place the Oval Village District Energy Bylaw No. 9134 within the district energy context, as the term “services agreement” is also used in documents related to other City infrastructure: sanitary, water and storm. Another benefit is that the amendment will bring the terminology more in line with the Concession Agreement with Corix Utilities.

Financial Impact

None at this time.

Conclusion

The recommended 4% increase (Option 3) for the 2016 OVDEU service rate supports Council’s objective to keep the annual energy costs for OVDEU customers competitive with conventional energy costs, based on the same level of service. As a comparison to conventional system energy costs, the proposed 4% rate increase is below the estimated rates increase by BC Hydro and Fortis. At the same time, the proposed rate ensures cost recovery of the capital and operating costs, and that the OVDEU business is cost neutral over time for the City of Richmond’s residents. Staff will continuously monitor energy costs and review the rate to ensure rate fairness for the consumers and cost recovery for the City.

For: 

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DL:dl

- Att. 1: Oval Village District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 9299
Att. 2: Proposed Expansion of the Service Area



**Oval Village District Energy Utility Bylaw No. 9134
Amendment Bylaw No. 9299**

The Council of the City of Richmond enacts as follows:

1. The **Oval Village District Energy Utility Bylaw No. 9134** is amended by deleting **Schedule A (Boundaries of Service Area)** of the Bylaw in its entirety and replacing it with a new Schedule A as attached as Schedule A to this Amendment Bylaw.
2. The **Oval Village District Energy Utility Bylaw No. 9134** is amended in **Schedule B General Terms and Conditions** as follows:
 - (a) by deleting in its entirety the existing Section 1.1(aa) containing the defined term "Services Agreement";
 - (b) by adding a new Section 1.1(p) to read as follows:

1.1(p) "Energy Services Agreement" has the meaning given in Section 3.1 of these General Terms and Conditions;
 - (c) by re-numbering all sub-sections in Section 1.1 as necessary so that they maintain sequential numerical order;
 - (d) by replacing the capitalized term "Services Agreement" with the new defined term "Energy Services Agreement" in each instance the capitalized term "Services Agreement" is used in **Schedule B** of the **Oval Village District Energy Utility Bylaw No. 9134**, namely in the following Sections:

Section 2.2
Section 3.1
Section 3.2
Section 3.3
Section 3.4
Section 7.1
Section 11.1
Section 11.6
Section 12.3
Section 12.7

- Section 16.1
- Section 16.2
- Section 16.3
- Section 19.9
- Section 21.3
- Section 21.5
- Section 21.6

(e) by revising the heading to Part 16 so that it reads as follows:

PART 16: TERMINATION OF ENERGY SERVICES AGREEMENT

(f) by deleting **Schedule D (Rates and Charges)** of the Bylaw in its entirety and replacing it with a new Schedule D as attached as Schedule B to this Amendment Bylaw.

3. This Bylaw is cited as "**Oval Village Energy Utility Bylaw No. 9134, Amendment Bylaw No. 9299**".

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. OL
APPROVED for legality by Solicitor BDS

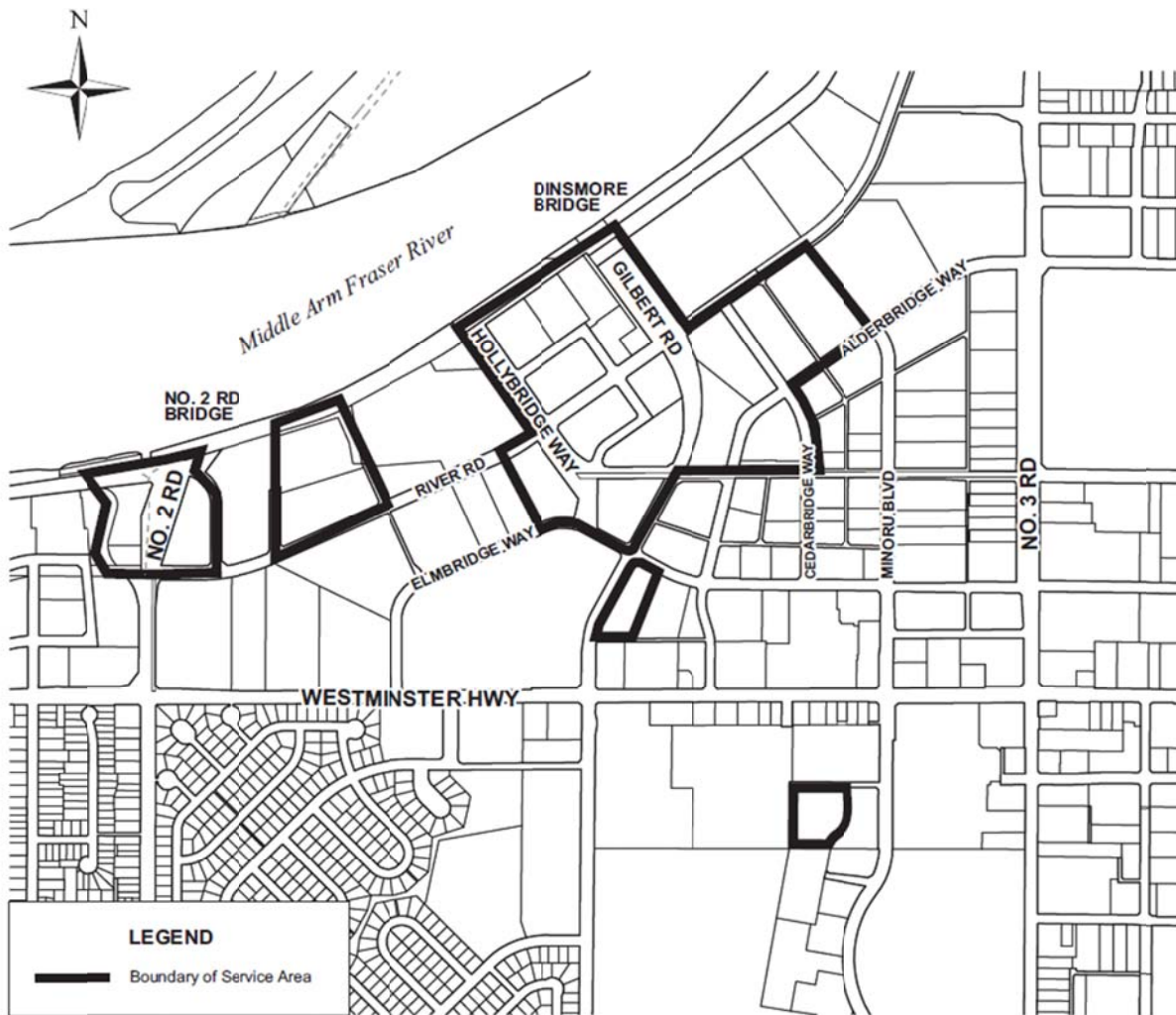
MAYOR

CORPORATE OFFICER

Schedule A to Amendment Bylaw No. 9299

SCHEDULE A

Boundaries of Service Area



Schedule B to Amendment Bylaw No. 9299

SCHEDULE D

Rates and Charges

PART 1 - RATES FOR SERVICES

The following charges, as amended from time to time, will constitute the Rates for Services:

- (a) capacity charge - a monthly charge of \$0.0476 per square foot of gross floor area; and
- (b) volumetric charge – a monthly charge of \$29.328 per megawatt hour of Energy returned from the Heat Exchanger and Meter Set at the Designated Property.

PART 2 - EXCESS DEMAND FEE

Excess demand fee of \$0.14 for each watt per square foot of the aggregate of the estimated peak heat energy demand referred to in section 19.1(e) (i), (ii), and (iii) that exceeds 6 watts per square foot.

Attachment No.2-Proposed Expansion of the Oval Village Service Area

