

NO: R246

COUNCIL DATE: DECEMBER 16, 2013

REGULAR COUNCIL

TO: **Mayor & Council** DATE: **December 12, 2013**

FROM: **General Manager, Engineering** PROJECT FILE: **5511-104**
General Manager, Finance & Technology

SUBJECT: **District Energy System Utility (Surrey City Energy) – Policy on Utility Rate Setting and Regulation**

RECOMMENDATION

The Engineering Department recommends that Council:

1. Receive this report as information; and
2. Approve, for use in setting the rates and the rate structure for Surrey City Energy (SCE), the policy attached to this report as Appendix B, which is titled “District Energy (DE) Rate-setting Policy” (the “Policy”);
3. Authorize staff to proceed with a public Request for Expressions of Interest for the purpose of establishing the Expert External Rate-Review Panel (the “Panel”) as generally described in this report; and
4. Approve the Terms of Reference that are attached to this report as Schedule 1 of Appendix B in relation to the Panel and its function.

INTENT

The purpose of this report is to obtain approval of the principles and a related methodology that are proposed as the means to regulate the rates and the rate structure that will be used by SCE, the City’s City Centre District Energy utility, in relation to its business operations.

BACKGROUND

At its Regular meeting on January 24, 2011 Council adopted the recommendations of Corporate Report No. R013;2011, that authorized staff to establish a DE Utility for the purpose of designing, constructing and operating a DE system in Surrey City Centre. As part of that report, staff committed to forward further reports to Council, complete with recommendations regarding the design, financial strategy, operating strategy, tendering process, construction and other matters related to the implementation of the DE system in the City Centre area.

At its Regular meeting on May 3, 2011, Council adopted the recommendations of Corporate Report No. R069;2012, that authorized staff to establish a District Energy Utility under the brand name of Surrey City Energy(SCE) operating as a business unit within the Engineering Department.

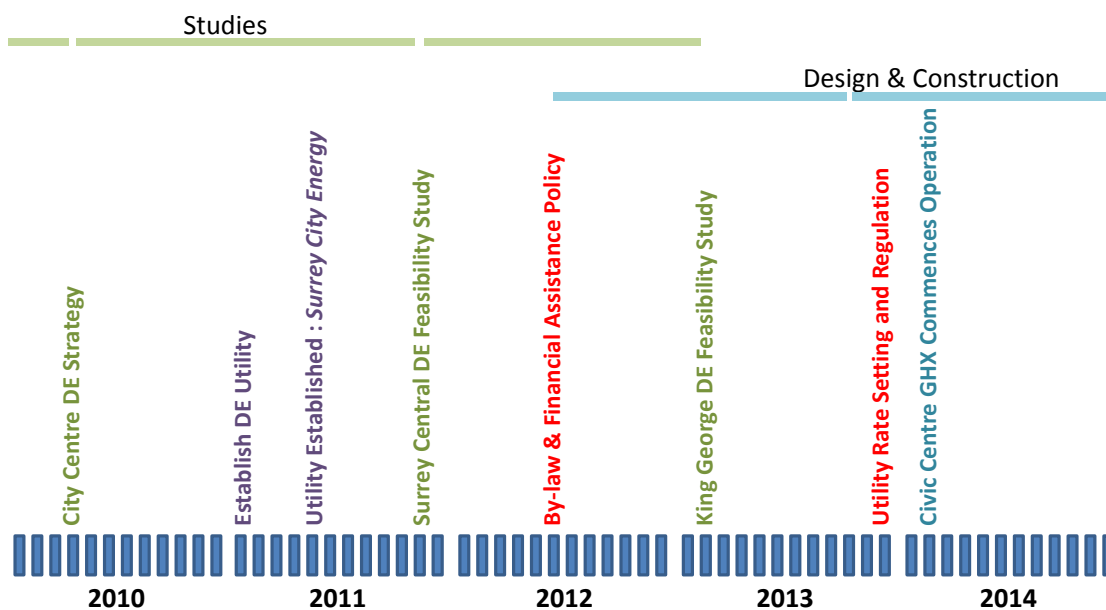
At its Regular meeting on June 7, 2012, Council adopted the recommendations of Corporate Report No. R123;2012 that resulted in the adoption of the District Energy System By-law, 2012, No. 17667. This By-law established the DE requirements for new development in each of two distinct areas within Surrey City Centre, being Service Area A and Service Area B, respectively. A copy of this report is attached this report as Appendix A.

The boundary of Service Area A encompasses those lands within the City Centre that are designated for high density development with a Floor Area Ratio (FAR) greater than 3.5. Each new development within Service Area A with a build-out FAR equal to or greater than 1.0 is required to incorporate in its design domestic hot water, make-up air units, and in-suite hydronic heating that is connectable to the DE system prior to occupancy of the development.

Service Area B primarily includes land designated for low to medium density development at an FAR less than 3.5. Each new development in Service Area B with a build-out FAR greater than 1.0 and less than 2.5 will be required to incorporate in its design domestic hot water and make-up air units that are connectable to a DE system. Each development in this area with a build FAR equal to or greater than 2.5 will be required to install a hydronic heating system in addition to domestic hot water and make-up air units in such a manner as to be fully compatible for connection to the DE system when it is available.

Staff has been working with a committee (the “Committee”) comprised of representatives of the Urban Development Institute and representatives of developers who have active development applications in each Service Area within the Surrey City Centre area. The Committee is identifying and addressing concerns related to the implementation of the City’s DE system in the City Centre.

The following graph is a timeline of activities that have taken place, are taking place or are planned in relation to the implementation of the DE system in City Centre.



DISCUSSION

The meetings of the Committee have been a valuable opportunity to exchange information regarding the implementation of the DE system in City Centre and to work collaboratively to address concerns. One of the primary concerns expressed by the Committee relates to how the rates and rate structure will be established and regulated. This report relates to this specific concern.

With a view to providing the development community and future customers with an understanding of how the rates will be established and charged, staff has developed a draft policy titled “District Energy Rate-Setting Policy”, a copy of which is attached as Appendix B to this report. The following sections of this report discuss the substantive elements of the proposed Policy.

1. Cost Recovery

The cost-of-service model is a well-accepted accounting structure for energy utilities operating in a regulated environment. Rates charged to customers of SCE will be calculated such that all costs-of-service associated with financing, operating, and administering the delivery of thermal energy by way of SCE are fully recovered.

A 30-year financial pro-forma has been developed for the purpose of rate setting. The pro-forma projects out over a 30-year period the forecasted revenue requirements necessary to fund the costs of the system. The pro-forma will be updated on an annual basis to reflect actual conditions in each year of operation.

2. Rate Stability

Although capital intensive, DE systems allow for a variety of fuel sources to be used in the delivery of energy and offer long-term price stability that is not available to customers of single source conventional heating systems. There is expected to be much less variability in the year-to-year SCE rates in comparison to conventional systems.

In the short term, as the DE system is maturing, SCE rates will not necessarily fully cover the debt servicing and operating costs of the system; however, the rate structure will allow for the recapturing of the early years deficits while remaining competitive with the costs that customers would incur if they were using other thermal energy options that are available in the market, such as electricity and natural gas.

This rate-setting approach is commonly used by privately-owned utilities regulated by the British Columbia Utilities Commission (BCUC), including FortisBC. This approach has also been applied to the SFU UniverCity District Energy system and River District Energy located in southeast Vancouver as well as the City of Vancouver’s DE utility that services Southeast False Creek. This approach ensures that the DE infrastructure financing costs are more equitably distributed between the initial customers of the system and those that connect in later years.

3. Accountability/Transparency

BCUC is a regulatory agency that was established by the Province for the purpose of administering the Utilities Commission Act (the “Act”). BCUC’s mandate includes regulation of the sale of energy by BC “public utilities”. Two examples of “public utilities” that are regulated by BCUC are FortisBC and BC Hydro. The Act explicitly states that a “public utility” does not include a municipality or regional district in respect of services provided by the municipality or regional district within its own boundaries.

SCE has been established as a municipally-owned utility and, as such, is exempt from the regulatory oversight of BCUC. Similar to the City’s water, sewer, drainage and solid waste utilities, Council is tasked with the responsibility of regulating the sale of energy services by SCE and ensuring that the public interest is served.

While the City is exempt from the regulatory oversight of BCUC, there is merit in establishing an external rate review panel to assist Council in the oversight of SCE’s rates. The City of Vancouver has established such a panel as part of the DE utility that services development in the Southeast False Creek community. The formation and operation of such a panel is discussed in more detail in the following section.

Expert External Rate-Review Panel

It is proposed that the Panel be made up of 4 members appointed by Council, with one member being appointed as the Chair. The Panel members would have expertise in the context of the Panel’s responsibilities. The Panel would be tasked with providing objective, expert advice to the City regarding the rates that should be charged by SCE in relation to a set of Council-approved rate-setting principles for SCE. A draft Terms of Reference for the Panel is attached to this report as Schedule 1 of Appendix B.

4. Low-Carbon/Renewable Energy Targets

One of the fundamental benefits of a DE system lies in its ability to reduce emissions of GHG’s by replacing consumption of fossil fuels with renewable, low-carbon fuel sources on a neighborhood-scale. Upfront infrastructure costs of DE systems are high and a significant customer demand is required to support the related necessary investments. The typical approach to implementing DE systems is to commence the development of the system using low-cost conventional natural gas combustion equipment until a sufficient level of customer demand has been achieved to support the large scale investment that is needed to introduce alternative renewable energy sources.

Privately-owned utilities regulated by BCUC are allowed a set rate of return on their investment equity, which is commensurate with the level of assessed risk associated with the related investment. For DE utilities in BC this is typically in the range of 9% to 10% of the equity portion of the total financing.

The SCE rate structure will seek to include a similar level of return on investment, which will allow for some reserves to be established over time for equipment replacement and unexpected occurrences. These reserves will also be used to fund low-carbon, renewable energy generation capacity. In this way, SCE will be re-investing energy expenditures into the local economy while reducing GHG emissions. The rate of return on the City’s investment in the DE system will be no less than the City’s cost of borrowing to finance the development of the DE system and no more than the rate of return that is established for the private utilities that are regulated by the BCUC.

5. Rate Competitiveness

The BC Hydro electricity rate for residential electricity service (i.e., based on 50% of the energy being drawn at the step 1 electricity rate and 50% at the step 2 rate) is considered to be a suitable benchmark against which SCE rates should be compared. This statement is based on the observation that most high-rise residential dwelling units not serviced by DE are generally provided with heating service by electricity. SCE's objective will be for its rates to not exceed this benchmark. To provide certainty for the utility and its initial customers it is recommended that SCE rates be set to this benchmark for the first three years of operations. This is also consistent with a number of private utilities that are regulated by BCUC which have set their initial energy rates for service based on this benchmark. It is also recommended that the Panel regularly review opportunities to continue this rate assurance.

SCE energy rates over time will likely become less than the BC Hydro benchmark, as the efficiencies of the DE system are realized. These efficiencies primarily relate to economies of scale and, in the longer term, the flexibility that DE systems have in relation to changing energy sources over time. This divergence will depend on a number of factors including, among others, the rate at which buildings connect to the DE system and the rate of increase for the BC Hydro benchmark.

While the BC Hydro rate is a suitable benchmark based on equivalence of service and customer understanding, rate comparisons will not be limited to BC Hydro. SCE rates will also be compared against the long-term capital and operating costs of natural gas as well as other lower mainland DE systems.

6. Fairness

SCE rates will be structured such that the rates charged to different types of users (i.e., residential, retail commercial, office, institutional, etc.) are fair and equitable. All customers of the utility should be subject to rates that reflect the cost of the level of service that is provided to the user type and at no point should rates charged to one user type act to subsidize the rates of another user type.

Next steps

Subject to adoption of the recommendations of this report, a Request for Expressions of Interest will be structured and advertised for the purpose of selecting suitable candidates to serve on the Panel. This REOI will be based on the attached draft Terms of Reference. Staff will undertake a process to evaluate the responses including appropriate interviews and in due course will recommend to Council individuals who are considered appropriate to appoint to the Panel. This process should be completed by the spring of 2014.

Following the appointment of the Panel, staff will present information to the Panel with a view to the Panel overseeing the establishment of the initial utility rate structure for SCE. This will ultimately result in a further report to Council on the results of the Panel's work.

Legal Services Review

This report and the proposed Policy, which is attached as Appendix B, have been reviewed by Legal Services.

SUSTAINABILITY CONSIDERATIONS

The implementation of a DE system in the City Centre supports the Economic and Environmental Pillars of the City's Sustainability Charter under the following specific action items:

- *EC8: Energy security by promoting the use of low-impact, renewable energy sources and promoting community energy solutions;*
- *EN1: Energy efficiency by incorporating alternative energy systems such as geo-exchange and solar heating systems as potential heat sources; and*
- *EN10: Integrated Community Energy Master Plans by developing an Integrated Community Energy Master Plan for the City Centre and by working with property owners to promote and increase building energy efficiency through implementation of a DE system.*

CONCLUSION

Based on the above discussion, the Engineering Department recommends that Council:

1. Approve, for use in setting the rates and the rate structure for Surrey City Energy (SCE), the policy attached to this report as Appendix B, which is titled "District Energy (DE) Rate-setting Policy" (the "Policy");
2. Authorize staff to proceed with a public Request for Expressions of Interest for the purpose of establishing the Expert External Rate-Review Panel (the "Panel") as generally described in this report; and
3. Approve the Terms of Reference that are attached to this report as Schedule 1 of Appendix B in relation to the Panel and its function.

Vivienne Wilke, CGA
General Manager,
Finance & Technology

Vincent Lalonde, P.Eng.
General Manager, Engineering

JA/JO/brb

Appendix A - Corporate Report R123;2012
Appendix B - Draft District Energy Rate Setting Policy



CORPORATE REPORT

NO: **R123**COUNCIL DATE: **June 11, 2012**

REGULAR COUNCILTO: **Mayor & Council**DATE: **June 7, 2012**FROM: **General Manager, Engineering**FILE: **5510-101**SUBJECT: **City Centre District Energy System By-law and Related Financial Assistance Policy**

RECOMMENDATION

The Engineering Department recommends that Council:

1. Authorize the City Clerk to bring forward for the required readings the District Energy System By-law, 2012, No. 17667, which is attached as Appendix I to this report; and
2. Adopt the policy titled "District Energy Early Adopters Policy", which is attached as Appendix II to this report that will form the basis for the provision of financial assistance to residential development projects that are constructed with hydronic heating systems in support of the City Centre District Energy (DE) system.

INTENT

The purpose of this report is to obtain Council approval of a by-law and related policy that will act to support the implementation of a District Energy System in the City Centre area.

BACKGROUND

At its Regular meeting on May 7, 2012, Council adopted the recommendations of Corporate Report No. R089; 2012, a copy of which is attached as Appendix III. The recommendations of this report support Council's resolution related to that previous report.

DISCUSSION

In accordance with Council's direction staff has prepared for Council's consideration the *District Energy System By-law* (the "By-law"), which is attached as Appendix I to this report.

The By-law is structured around the strategy of developing DE systems around each of the high-density land use nodes in City Centre, which over time will become interconnected as each of the nodes reaches maturity in terms of its development. The three core DE nodes are centered at each of the three (3) City Centre SkyTrain stations.

At this early stage of DE implementation in City Centre, it is difficult to serve all development by the DE utility; however, it is critical that hydronic systems be implemented in each new

development to facilitate its future connection to the DE system when the system becomes available to the development.

Service Area

Staff have reviewed all active development applications within the City Centre area and established the viability of a DE connection for each site based on 3 key criteria:

- proposed density;
- timing of development; and
- proximity to the three core DE nodes.

For the purpose of providing a clear indication to all land development applicants of the DE requirements for their development, staff has established two distinct boundaries within City Centre: these are illustrated as Service Area A and Service Area B on the map attached as Appendix IV. These boundaries have been developed based on the Surrey City Centre Land Use and Density Concept Plan approved by Council at its Regular meeting of July 25, 2011 (Corporate Report No. R151;2011).

The boundary of Service Area A encompasses those lands within the City Centre that are designated for high density development with a Floor Area Ratio (FAR) greater than 3.5. The boundary of Service Area A includes a small pocket of low to medium density land between Old Yale Road and 104 Avenue west of 133 Street. This pocket was included due to its immediate proximity to the Surrey Central node. Developments within Service Area A with a build out FAR equal to or greater than 1.0 will be required to provide full hydronic capability in support of the City's DE system including domestic hot water, make-up air units, and in-suite hydronic heating and will be required to connect to the City's DE system prior to occupancy.

Service Area B involves the remainder of the land within the Surrey City Centre, which primarily includes land designated for low to medium densities at an FAR less than 3.5, and in majority less than 2.5. Developments on the lands within Service Area B may not be able to be immediately serviced by the DE system and, as such, those projects with a build out FAR equal to or greater than 1.0 and less than 2.5 will only be required to incorporate hydronic make-up air and hot water systems. Given the uncertain timeline over which these developments can be connected to the DE network, staff is of the opinion that partial compatibility to the City's DE system (domestic hot water and make-up air units but not in-suite hydronic heating) is appropriate. Developments in Service Area B with a build out FAR equal to or greater than 2.5 will be required to install a hydronic heating system as well (i.e., be fully compatible for connection to the DE system when it is available).

Early Adopters Policy

With a view to mitigating some of the additional costs of hydronic heating systems for "early adopters" and to establish a consistent approach to providing financial assistance a draft policy titled "District Energy Early Adopters Policy" has been prepared, which is attached as Appendix II to this report. The proposed Policy is summarized in the following paragraphs.

The Policy provides that repayable financial assistance will be provided to proponents of residential projects that qualify as "early adopters". This incentive is time-limited and will not be required once the market shifts more generally to hydronic systems. The Policy provides that financial assistance up to \$1.50 per sq. ft. of dwelling unit area will be provided but in any case

such assistance will not exceed 50% of the cost premium related to installing the hydronic systems in comparison to the cost of installing a conventional electric baseboard heating system in the same dwelling units. This financial assistance will be recovered by way of a transfer of property tax revenues from the dwelling units. In this regard, consistent with Corporate Report No. Ro89;2012, it is proposed that one-half of the property taxes that are collected on such projects be transferred as repayment to the DE utility to amortize the debt associated with the financial assistance. At this rate of repayment, the debt would be retired over 3 years for a typical project.

The Policy defines an “early adopter” as a residential development project within Service Area A or Service Area B (with an FAR equal to or greater than 2.5) that installs a hydronic heating system and a hot water system that is immediately connectable to a DE system and where the floor area of the project combined with all other projects that have been designated as “early adopter” projects is less than or equal to a total floor area of 1,500,000 ft² and subject to a building permit being issued for each such project within 3 years of the date of adoption of the By-law. Based on this total floor area limit, the DE utility would incur repayable debt up to a maximum of \$2,250,000. The 1,500,000 sq. ft. of floor area represents approximately 1,500 to 2,000 dwelling units or 3 to 5 high rise residential projects. Early adopters will be required to enter into a partnering agreement with the City to receive the referenced financial assistance. Each such partnering agreement will be subject to City Council approval before it is executed.

Developments that do not install hydronic heating systems are not eligible for consideration as an early adopter.

In-stream Applications

The By-law sets new requirements for the in-building mechanical systems for development projects. Such requirements will be conditions attached to the issuance of a building permit in relation to each such project. Those projects in the City Centre with an FAR equal to or greater than 2.5 for which a development permit has been issued in advance of the adoption of the By-law and that have been designed based on conventional electric baseboard heating but have not been issued a building permit, will only be required to provide for a DE connection for the project’s hot water system and make-up air units provided that a building permit is issued for the project within 1 year of the adoption of the By-law. The owner of each such development will be required to enter into a partnering agreement with the City in advance of the issuance of a building permit for the project. These developments that are exempted from the full connection requirements of the By-law will not be eligible for financial assistance as an early adopter.

The City has 36 active development applications for properties within Service Areas A and B of which 20 are within Service Area A. Applications within Service Area A are illustrated on the map attached as Appendix V and are described more specifically in Appendix VI.

The following table lists development applications within Service Area A that can request exemption from the full DE connection requirements of the By-law based on the fact that a development permit has been issued for the project:

ID No.	Project #	Address	Developer	Description	Development Permit Application Status
1	11-0075-00	13286 – 104 Avenue	Rize - LHC Building Inc.	Rezoning from RF to CD (based on RMC-150); Development Permit in order to permit the development of two high-rise apartment towers containing approximately 450 apartment units and 21 ground-oriented units, for a total of 471 units.	Issued on May 7, 2012
2	10-0324-00	9647 - 137 Street	Parmit Nagra	Rezoning from RF to C-5; Development Permit and Development Variance Permit in order to permit the development of a two-storey medical office with basement.	Issued on March 12, 2012
3	10-0258-00	13718 – 100 Avenue	Concord Pacific	One 39-storey apartment tower containing 430 units and one 42-storey apartment tower containing 449 units and 7 ground-oriented townhouses.	Issued on July 25, 2011
4	08-0312-00	13778 – 100 Avenue	King George Developments	One 46-storey apartment building and one 20-storey apartment building containing a total of 551 units.	Issued on December 12, 2011

The following table lists the only development application within Service Area B that can request exemption from the full DE connection requirements of the By-law, as a development permit has been issued for this project and the project has an FAR greater than 2.5:

ID No.	Project #	Address	Developer	Description	Development Permit Application Status
N/A	11-0176-00	13852 – 101 Avenue	Lark Group	One 27-storey apartment building containing 164 units and 3 ground-oriented townhouses.	Issued on September 12, 2011

All in-stream development applications within Service Area A or Service Area B (with an FAR equal to or greater than 2.5) will be required to be designed with full compatibility for connection to the City's DE system (i.e., domestic hot water, make-up air units, and in-suite hydronic heating).

All in-stream development applications within Service Area B with an FAR equal to or greater than 1.0 and less than 2.5 will be required to provide for DE connectability for their domestic hot water system and make-up air units but will not be required to install in-suite hydronic heating.

Next steps

Staff is in the process of developing:

- detailed design guidelines for each of hydronic heating systems and hot water systems;
- a formal “application for service” document; and
- promotional materials that will be available to developers in relation to marketing developments in which hydronic systems are installed.

An economic model is being developed for establishing energy rates based on DE utility revenue requirements. As capital costs of system infrastructure are confirmed, the economic model will be used to generate a rate schedule, which will be presented for Council’s consideration and incorporation into the By-law well in advance of the system commencing service delivery to any development project.

Legal Services/Finance Review

This report, the By-law, and the proposed Policy have been reviewed by Legal Services and the Finance & Technology Department.

SUSTAINABILITY CONSIDERATIONS

The implementation of a district energy system in the City Centre supports the Economic and Environmental Pillars of the City’s Sustainability Charter under the following specific elements of the Charter:

- EC8: Energy security by promoting the use of low-impact, renewable energy sources and promoting community energy solutions;
- EN1: Energy efficiency by incorporating alternative energy systems such as geo-exchange and solar heating systems as potential heat sources; and
- EN10: Integrated Community Energy Master Plans by developing an Integrated Community Energy Master Plan for the City Centre and by working with property owners to promote and increase building energy efficiency through implementation of a district energy system.

CONCLUSION

Based on the above discussion, the Engineering Department recommends that Council:

- Authorize the City Clerk to bring forward for the required readings the District Energy System By-law, 2012, No. 17667, which is attached as Appendix I to this report; and
- Adopt the policy titled "District Energy Early Adopters Policy", which is attached as Appendix II to this report that will form the basis for the provision of financial assistance to residential development projects that are constructed with hydronic heating systems in support of the City Centre District Energy (DE) system.



Vincent Lalonde, P.Eng.
General Manager, Engineering

JA/JO/brb

- Appendix I - District Energy System By-law, 2012, No. 17667
- Appendix II - District Energy Early Adopters Policy
- Appendix III - Corporate Report No. R089; 2012
- Appendix IV - District Energy Service Area (Service Area A and Service Area B) Map
- Appendix V - Development Applications within Service Area A Map
- Appendix VI - Development Applications within Service Area A Summary

CITY OF SURREY



District Energy System By-law, 2012, No. 17667

DISTRICT ENERGY SYSTEM BY-LAW

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BY-LAW NO. 17667

A By-law to provide for the establishment
and operation of a district energy system

THE COUNCIL OF THE CITY OF SURREY, in public meeting assembled, ENACTS AS
FOLLOWS:

**SECTION 1
INTERPRETATION**

Name of By-law

- 1.1 This By-law may be cited for all purposes as "District Energy System By-law, 2012, No. 17667".

Definitions

- 1.2 In this By-law:

"applicant" means an applicant for a building permit under section 4.2;

"building" means any structure used or intended for supporting or sheltering any use or occupancy either of a temporary or permanent nature;

"Building By-law" means 'Surrey Building By-law, 1987, No.9011' as amended from time to time;

"Building Inspector" means the General Manager, Planning and Development, or his or her duly appointed representatives and assistants;

"building mechanical system" includes the internal space heat energy and domestic hot water distribution system for a building;

"charge" means a variable consumption fee based on the amount of heat energy used in, and recorded at the meter or estimated by the Collector under this By-law for, a designated property;

"City" means the City of Surrey;

"Collector" means the individual appointed by Council to be the Collector of Taxes or a person duly authorized to carry out the powers and duties of the Collector of Taxes;

“community energy centre” means an energy supply facility that provides heat energy in the form of hot water to designated buildings through the distribution system;

“Council” means the council of the City of Surrey;

“delivery point” means the outlet of the heat exchanger at a designated property;

“designated building” means a building to which this By-law applies by virtue of section 2.1 or 2.4;

“designated property” means a parcel of real property on which a designated building is situated;

“distribution system” means a thermal distribution network that links the community energy centre with the energy transfer station in each designated building, and that includes separate loops for the supply and return of heat energy in the form of hot water;

“distribution system extension” means that part of the distribution system that is situated on, over, under, or in a parcel of real property on which a designated building is situated or in a designated building;

“district energy system” means the district energy system referred to in section 3.1, and consists collectively of the community energy centre, distribution system and energy transfer station in each designated building, and all necessary appliances and equipment;

“early adopter” means an owner of a building that meets the criteria described in:

(a) section 2.1(a); or

(b) section 2.2(a) where the building has a floor area ratio of 2.5 or greater,

and who enters into a partnering agreement with the City within three years of the adoption date of this By-law regarding the owner's use of the district energy system;

“energy transfer station” means equipment owned by the City and used to meter, for billing purposes, the amount of energy consumed in a designated building, and to transfer heat energy from the distribution system to the building mechanical system in a designated building, and includes pipes for the supply and return of hot water, valves, controls, meters, and separate heat exchangers for domestic hot water and space heating;

“entry points” mean two openings in an exterior wall of a designated building for the passage of the supply and return pipes connecting the distribution system extension and energy transfer station;

“floor area ratio” means the figure obtained when the area of all the floors of the buildings constructed or proposed to be constructed on a parcel is divided by the area of the parcel;

“future designated building” means a building described in section 2.2(a) or (b);

“General Manager, Engineering” means the General Manager, Engineering for the City and includes his or her duly appointed assistants and representatives;

“heat energy” means heat distributed or delivered by water including space heating, domestic hot water, and heat for ventilation make-up air;

“heat exchanger” means the equipment, including ventilation systems and electrical pumps, installed at a designated property transfer of energy from the district energy system to a designated property;

“levy” means a fixed capacity fee based on the design, and the estimated peak heat energy demand, approved or varied by the General Manager, Engineering under this By-law for a designated building;

“meter” means a thermal energy meter at an energy transfer station consisting of a water flow meter, temperature sensors, and associated electronics used to measure and record the heat energy supplied to the designated building which houses the energy transfer station;

“owner” means an owner of a parcel of real property including the registered owner of an estate in fee simple, the tenant for life under a registered life estate, the registered holder of the last registered agreement for sale, the holder or occupier of land held in the manner referred to in the definition of “Owner” in the Schedule to the *Community Charter*, S.B.C. 2003, c.26, and a strata corporation established or continued under the *Strata Property Act*, S.B.C. 1998, c.43.

“parcel” means any lot, block, or other area in which land is held or into which it is subdivided, but does not include a highway.

“peak heat energy demand” means the maximum amount of heat energy, measured in kilowatts, required for a designated building, after completion of the installation or alteration of the building mechanical system, at any one point in time in a calendar year;

“points of delivery” mean the valves on the building side of the heat exchangers at an energy transfer station;

“registered professional” means an architect or engineer registered in the Province of British Columbia, as a member in good standing in the Architectural Institute of British Columbia or the Association of Professional Engineers and Geoscientists of British Columbia;

“service” means the delivery by the City to a designated building of heat energy by way of the district energy system; and

“Service Area A” means the geographic location or area for which the service is currently available from the City and is defined in Schedule A, Figure 1;

“Service Area B” means the geographic location or area for which the service will be available in the future from the City and is defined in Schedule A, Figure 1;

Application of and conflict with other by-laws

1.3 The requirements of this By-law are in addition to the requirements of the Building By-law and other City by-laws, except that in case of conflict between the Building By-law or other City by-laws and this By-law, this By-law will prevail.

Table of contents

1.4 The table of contents for this By-law is for convenient reference only, and is not for use in interpreting or enforcing this By-law.

Schedules

1.5 Schedules attached to this By-law form part of this By-law.

Severability

1.6 A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.

SECTION 2 APPLICATION OF BY-LAW

Compulsory use of district energy system

2.1 Each owner in Service Area A of:

- (a) a new building with a floor area ratio equal to or greater than 1.0 proposed for construction or under construction for which the Building By-law requires submission of a building permit application and issuance of an occupancy permit to which the owner, as at the date of enactment of this By-law, is not yet entitled; or
- (b) an existing building with a floor area ratio equal to or greater than 1.0 where the estimated value of proposed alterations or alterations under construction which require submission under the Building By-law of a building permit application is more than \$400,000 and 50% of the building's latest assessed value according to the records of the British Columbia Assessment Authority,

must make use of the district energy system in accordance with the terms and conditions of this By-law.

Compulsory hydronic systems

2.2 Each owner in Service Area B of:

- (a) a new building with a floor area ratio equal to or greater than 1.0 proposed for construction or under construction for which the Building By-law requires submission of a building permit application and issuance of an occupancy permit to which the owner, as at the date of enactment of this By-law, is not yet entitled; or
- (b) an existing building with a floor area ratio equal to or greater than 1.0 where the estimated value of proposed alterations or alterations under construction which require submission under the Building By-law of a building permit application is more than \$400,000 and 50% of the building's latest assessed value according to the records of the British Columbia Assessment Authority,

must utilize hydronic systems that are compatible with the district energy system for all space heating and hot water heating, as described in the City's Design Criteria Manual / Energy Services Design Requirements, and in accordance with those terms and conditions of this By-law stated to be applicable to future designated buildings.

Compulsory hydronic systems where floor area ratio is less than 2.5

2.3 Where a building described in section 2.2(a) or (b) has a floor area ratio of less than 2.5, the owner will not be required to utilize hydronic systems for space heating within individual units, but hydronic systems will be required for all other space heating and hot water heating in the building.

Permissive use of district energy system

2.4 An owner of property located outside Service Area A and Service Area B but within the City may apply to the General Manager, Engineering to utilize the district energy system, if:

- (a) the General Manager, Engineering is of the opinion that the district energy system is capable of servicing the building that is the subject of the application;
- (b) the General Manager, Engineering is of the opinion that servicing the building is necessary or desirable; and
- (c) the owner enters into an agreement with the City, in form and substance satisfactory to the General Manager, Engineering, undertaking, among other matters, to wholly or partially, in the City's sole discretion, fund the capital cost of extending the district energy system to the owner's property in an amount and at a time determined by the General Manager, Engineering,

the General Manager, Engineering may approve the application, in which case the owner must utilize the district energy system in accordance with the terms and conditions of this By-law.

Exemption for early adopters

2.5 Despite sections 2.1, 2.2 and 2.3, an early adopter will be exempt from those provisions of this By-law identified in the partnering agreement entered into between the early adopter and the City.

**SECTION 3
IMPLEMENTATION OF
DISTRICT ENERGY SYSTEM**

Authorization for district energy system

3.1 Council authorizes the design, construction, installation, maintenance, operation, repair, and management of a district energy system for the generation, storage, transmission, distribution and sale of heat energy to supply the entire heat energy demand for each designated building.

Ownership of district energy system

3.2 Ownership of the property comprising the district energy system will remain vested in the City, and is not to pass to any owner, or other person who has an interest in a designated building or designated property, and, despite any attachment or annexation to a designated building, the distribution system extension and energy transfer station are not to become part of the real property.

Role of the Collector and the General Manager, Engineering

3.3 For the purposes of this By-law, the Collector shall have charge of the levies, charges and fees and their collection and the General Manager, Engineering shall have charge and control of all properties and works in connection with the district energy system and of all connected engineering and mechanical work.

Authority for policies and criteria

3.4 The Collector and the General Manager, Engineering may establish or amend policies and criteria relating to the district energy system.

**SECTION 4
BUILDING PERMIT REQUIREMENTS
FOR BUILDING MECHANICAL SYSTEM**

Application to designated buildings and future designated buildings

4.1 All conditions of section 4 apply to designated buildings. All conditions of section 4 apply to future designated buildings with the exception of sections 4.2(c), 4.2(h) and 4.9(e).

Building permit application

4.2 A person who applies, under the Building By-law, for a permit to authorize the installation or alteration of a building mechanical system must include in, or submit with, the application:

- (a) an acknowledgment signed by the owner that the building is a designated building or future designated building;
- (b) a certificate, signed by the registered professional who is responsible for design of the building mechanical system, estimating the:
 - (i) peak heat energy demand for space heating,
 - (ii) peak heat energy demand for domestic hot water,
 - (iii) combined peak heat energy demand for any uses other than space heating and domestic hot water,
 - (iv) annual average heat energy demand for space heating,
 - (v) annual average heat energy demand for domestic hot water, and
 - (vi) annual average heat energy demand for any uses other than space heating and domestic hot water;
- (c) a cheque in the amount of the excess demand fee referred to in section 8.1;
- (d) the proposed location of the energy transfer station;
- (e) the proposed location of the distribution system extension;
- (f) the proposed location of the distribution system extension entry points;
- (g) the proposed schedule for installation or alteration of the building mechanical system;

- (h) the proposed commencement date for the delivery of heat energy by the City to the energy transfer station; and
- (i) such other information as the Building Inspector or General Manager, Engineering may require.

Submission of copy of application

4.3 The owner must submit a copy of the building permit application described in section 4.2 to the General Manager, Engineering.

Approval of estimated maximum heat energy demand

4.4 The estimated peak heat energy demand submitted under section 4.2(b) is subject to approval by the General Manager, Engineering.

Approval of locations

4.5 The proposed location of each of the:

- (a) energy transfer station, submitted under section 4.2(d);
- (b) distribution system extension, submitted under section 4.2(e); and
- (c) entry points, submitted under section 4.2(f),

is subject to approval by the Building Inspector and General Manager, Engineering.

Approval of alternate locations

4.6 If:

- (a) the location which the owner proposes for the energy transfer station, distribution system extension, or entry points would be acceptable to the Building Inspector and General Manager, Engineering except for increased costs the City would incur to install the energy transfer station or distribution system extension in that location; and
- (b) before issuance of the building permit, the owner:
 - (i) pays the City the estimated increased costs calculated by the General Manager, Engineering, and
 - (ii) agrees to pay the City on demand any amount by which the actual increased costs calculated by the General Manager, Engineering exceed the estimated increased costs,

the Building Inspector and General Manager, Engineering may approve the alternate location.

Approval of schedule

4.7 The proposed schedule for installation or alteration of the building mechanical system is subject to approval by the General Manager, Engineering.

Design of building mechanical system

4.8 The design of the building mechanical system is subject to approval by the Building Inspector and General Manager, Engineering.

Design and technical requirements

4.9 The building mechanical system must comply with the following design and technical requirements:

- (a) the City's Design Criteria Manual / Energy Services Design Requirements or as stipulated by the General Manager, Engineering;
- (b) the Building By-law;
- (c) the applicable edition of the BC Building Code;
- (d) the design must not incorporate features that increase the difficulty of efficiently integrating the building mechanical system and energy utility system;
- (e) the system must achieve a minimum water temperature drop across the heat exchanger interface with the energy utility system of at least 15°C between the energy utility system hot water supply and return pipes as recorded at the meter;
- (f) the space heating system must include a variable flow operation with variable speed pumps to minimize the pumping power requirements, and to achieve the minimum water temperature drop;
- (g) all control valves, being terminal units and zone valves, must be the 2-way modulating type or the on/off type for fan coil units;
- (h) the system must not include 3-way valves that allow flow to by-pass the heating elements; and
- (i) the system must require an energy utility supply temperature of no greater than 65°C when the outdoor ambient temperature is equal to or greater than 0°C.

Approval of building permit

4.10 The building permit is subject to approval by the:

- (a) Building Inspector under the Building By-law; and
- (b) Building Inspector and General Manager, Engineering under this By-law.

No work before permit issuance

4.11 A person must not begin to install or alter a building mechanical system until the Building Inspector has issued the building permit.

SECTION 5 DESIGN AND INSTALLATION OR ALTERATION OF BUILDING MECHANICAL SYSTEM

Integration with district energy system

5.1 The design and installation or alteration of the building mechanical system must integrate the building mechanical system and district energy system in a manner that enables the building mechanical system to derive the most benefit possible from the district energy system and the district energy system to operate at peak efficiency.

Prohibited components

5.2 A building mechanical system must utilize the district energy system for all the space heating and domestic hot water requirements for a designated building, and must not incorporate any heat production equipment including but not limited to boilers, furnaces, hot water heaters or make-up air heaters, except that:

- (a) an owner who is constructing a new building or altering an existing building may incorporate, as part of the building mechanical system, a solar system to generate heat energy or equipment to acquire waste heat energy from the refrigeration or cooling system of the building or of another building in the vicinity, for the purpose of supplementing the heat energy provided by the district energy system; and
- (b) a person who is altering an existing building may retain components otherwise prohibited under this section 5.2 to the extent permitted by the Building Inspector under the Building By-law or by the Building Inspector and General Manager, Engineering under this By-law.

Installation of valves

- 5.3 The City will install the valves on the building side of the heat exchangers at the energy transfer station.

Scheduling

- 5.4 An owner must:
- (a) ensure that installation of the building mechanical system proceeds in accordance with the schedule approved under section 4.7, and any changes to the schedule approved under this section 5.4; and
 - (b) advise the Building Inspector and General Manager, Engineering within 24 hours of any proposed changes to the schedule for installation or alteration of the building mechanical system, which proposed changes are subject to approval by the Building Inspector and General Manager, Engineering.

Approval of installation or alteration of work

- 5.5 Completion of the installation or alteration of a building mechanical system in a designated building or future designated building is subject to approval by the Building Inspector and General Manager, Engineering under this By-law.

Adjustment of increased installation costs

- 5.6 Upon completion by the City of installation of the energy transfer station and distribution system extension or either of them in an alternate location under section 4.6:
- (a) after notice from the General Manager, Engineering of the amount by which the actual increased costs calculated by the General Manager, Engineering exceed the estimate, the owner referred to in section 4.6 must pay the City the difference; or
 - (b) the City must pay the owner the amount by which such actual increased costs are less than the estimate.

No occupancy permit

- 5.7 An owner is not entitled to issuance of an occupancy permit under the Building By-law for a designated building or a future designated building until the General Manager, Engineering has given approval under section 5.5, and, where applicable, the owner has paid the City any shortfall under section 5.6(a).

**SECTION 6
ENTRY ONTO AND ACCESS TO
REAL PROPERTY**

Entry with respect to district energy system

6.1 The General Manager, Engineering, and other authorized employees, contractors or agents of the City, may enter onto real property at any reasonable time for the purpose of installation, maintenance, repair, or removal of a district energy system.

Entry with respect to building mechanical system

6.2 The General Manager, Engineering, and other authorized employees, contractors or agents of the City, may enter onto real property at any reasonable time to inspect the real property and appliances and equipment, including any building mechanical system, and to enforce this By-law.

Work on entry

6.3 Without limiting the generality of sections 6.1 and 6.2, the General Manager, Engineering, and other authorized employees, contractors or agents of the City, for the purposes of those sections, may conduct investigations, expose pipes, calibrate instruments, and read and test meters.

Access to designated property

6.4 The owner of a designated property that is to receive the service must sign and deliver to the City a covenant and a statutory right of way to be registered against title to the designated property, in the format specified by the City, for the installation, operation and maintenance on the designated property of all necessary facilities for supplying the service to the designated property.

Access to intervening property

6.5 If one or more privately-owned intervening properties are located between the designated property and the district energy system, then the owner of the designated property will obtain, at the owner's sole cost, a registered easement and a statutory right of way in favour of the City, in a form specified by the City, for the installation, operation and maintenance on each intervening property of all necessary facilities for supplying the service to the designated property.

**SECTION 7
OPERATION OF DISTRICT ENERGY SYSTEM
AND BUILDING MECHANICAL SYSTEM**

Operation of district energy system

7.1 The City will maintain, repair, and manage the district energy system including the energy transfer station in each designated building up to and including the points of delivery.

No obligation to provide service

7.2 Nothing in this By-law shall obligate the City to provide the service to any person when:

- (a) the cost of laying the mains to the premises of the person to provide the service would be excessive and create an additional burden upon the revenues of the district energy system, unless the person shall pay to the City the cost of laying the mains to the person's property and other associated works; or
- (b) the capacity of the district energy system is insufficient to provide the service.

No guarantee of service

7.3 The City does not guarantee service, or any particular level of service, to any designated building.

City not liable for failure of the district energy system

7.4 The City will not be liable for the failure of the district energy system in consequence of any accident or damage to the district energy system, breakdown or malfunction of the district energy system, or any temporary stoppage from breaks, alterations or repairs, whether the failure arises from the negligence of any person in the employ of the City or any other person or through natural deterioration or obsolescence of the district energy system, or otherwise.

City's ability to change operating conditions without liability

7.5 The City reserves the right at any and all times, without notice, to change operating conditions of the service, for the purposes of making repairs, extensions, alterations or improvements, or for any other reason, and neither the City, its officers, employees, contractors or agents shall incur any liability of any kind whatever by reason of the cessation in whole or in part of the district energy system or changes in operating conditions.

Tampering with district energy system

7.6 A person must not tamper, interfere with, damage, or destroy any part of the district energy system.

Operation of building mechanical system

7.7 An owner of a designated property must maintain and repair the building mechanical system to the points of delivery including:

- (a) keeping the building mechanical system free of foreign material so as to prevent fouling of the heat exchangers at the energy transfer station; and
- (b) treating water in the building mechanical system sufficiently to prevent corrosion of the heat exchangers at the energy transfer station, and in accordance with the minimum criteria set out in Schedule B,

to the extent that the City does not need to clean any heat exchanger in the energy transfer station more often than once in each calendar year.

Damage to district energy system components

7.8 An owner of a designated property must advise the City immediately of any damage to the energy transfer system or distribution system extension.

No obstruction

7.9 An owner of a designated property must not construct any structure, which in the sole opinion of the General Manager, Engineering, obstructs access to a distribution system extension, energy transfer station, or any part of the district energy system above ground or underground.

Protection of equipment

7.10 An owner of a designated property must take reasonable care of and protect all equipment installed by the City on the owner's designated property.

No unauthorized changes

7.11 No equipment such as heat exchangers, meter-sets or related equipment will be installed, connected, moved or disconnected except by the City's authorized employees, contractors or agents or by other persons acting with the City's written permission.

Application for service

7.12 An owner of a designated property must apply to the General Manager, Engineering to commence service to a designated building at least 120 days before the earlier of:

- (a) the date the owner requires service; and
- (b) the date of issuance of any occupancy permit for occupancy of the building.

Meter test

7.13 When an owner of a designated property notifies the General Manager, Engineering, in writing, that a past charge for service is excessive the General Manager, Engineering will arrange to have the meter tested at the expense of the owner.

Payment of meter testing fee

7.14 Before the City conducts the test outlined in section 7.13, the owner of the designated property requesting the test must pay the fee set out in Schedule D.

Accuracy of meter

7.15 A meter will be considered to be accurate unless the meter testing result indicates that the percentage accuracy of the meter is less than 95% or greater than 105%.

Meter found to be not accurate

7.16 If the test outlined in section 7.13 shows that the meter is not accurate, the meter testing fee will be refunded to the owner, the meter will be replaced or repaired by the City, and the excess charge for service will be refunded to the owner.

Meter found to be accurate

7.17 If the test outlined in section 7.13 shows that the meter is accurate, the meter testing fee will be retained by the City, no refunds or adjustments will be made in favour of the owner and the meter will not be replaced or repaired by the City.

Service calls

7.18 An owner of a designated property may apply to the General Manager, Engineering to temporarily interrupt service to a designated building by closing the appropriate valves or by such other means as the General Manager, Engineering may find appropriate.

Changes to energy transfer station or distribution system extension

7.19 An owner of a designated property may apply to the General Manager, Engineering to remove, relocate, or alter the energy transfer station or distribution system extension servicing a designated building.

Cost of changes to energy transfer station or distribution system extension

7.20 If the General Manager, Engineering agrees to remove, relocate, or alter the energy transfer station or distribution system extension referred to in section 7.19:

- (a) the General Manager, Engineering will give the owner an estimate of the cost;

- (b) the owner must pay the City the amount of the estimate before commencement of the work;
- (c) after completion of the work, the General Manager, Engineering will notify the owner of the actual cost;
- (d) if the actual cost is more than the estimated cost, the owner must pay the City the shortfall within 30 days after demand by the City; and
- (e) if the actual cost is less than the estimated cost, the City must pay the owner the excess except that if the owner owes the City money under this By-law at that time, the City may apply the excess against such debt.

Removal of equipment

7.21 If the supply of the service to an owner's designated building is discontinued or terminated for any reason then the City may, but is not required to, removed the energy transfer station and related equipment from the designated property.

SECTION 8 LEVIES AND CHARGES AND OTHER COSTS

Excess demand fee

8.1 Pursuant to section 4.2(c), a building permit applicant must pay the City the excess demand fee set out in Schedule C.

Imposition of levy

8.2 From and after the earlier of the date the owner of a designated building requires service, as indicated in the application referred to in section 7.12(a), and the date of issuance of any occupancy permit for occupancy of the building, the owner must pay the City the levy set out in Schedule C.

Imposition of charge

8.3 From and after the date upon which service to a designated building begins, the owner of the designated property must pay the City the charge set out in Schedule C.

Billing for levy or charge

8.4 The Collector will send a bill for the amount of each levy or charge to each owner according to the frequency set out in Schedule C, and the bill will include:

- (a) the date when payment of the amount of each levy or charge is due and payable;

- (b) the number of megawatt hours of heat energy supplied to the energy transfer station; and
- (c) the number of megawatt hours of heat energy returned from the energy transfer station.

Payment of levy or charge

8.5 The owner of a designated property must pay the City the amount of each levy or charge on or before the due date set out in each bill referred to in section 8.4.

Amount added for late payment

8.6 Council hereby imposes a penalty or loss of discount of an amount equal to 5% of any levy or charge that remains unpaid after the date it is due under this By-law.

Insertion in tax roll

8.7 The Collector may insert each levy or charge in the real-property tax roll of the designated property.

Adjustment for partial period

8.8 The Collector may pro rate the amount of a levy or charge for a partial billing period on a daily basis.

Non-registering meter

8.9 If a meter for a designated building fails to register accurately the consumption of heat energy, the Collector will estimate the consumption, and render a bill based on the average previous consumption adjusted to take into account seasonal variations, changes in occupancy, or other factors which, in the opinion of the Collector or the General Manager, Engineering, may affect the consumption of heat energy in the designated building.

Variation in matters affecting levy

8.10 With respect to a designated building:

- (a) the owner must give the General Manager, Engineering written notice at least 30 days in advance of any variation in use, occupancy, building alteration, or other matter that may affect the amount of the levy, and must include in the notice the date the owner anticipates such variation to take effect;
- (b) the owner may apply to the General Manager, Engineering to vary the estimated peak heat energy demand; or

- (c) the General Manager, Engineering may notify the owner that the General Manager, Engineering is varying the estimated peak heat energy demand,

and, if the General Manager, Engineering is of the opinion that, as a result of any such variation, the amount of the levy for the designated building should increase or decrease, the General Manager, Engineering may order such increase or decrease to take effect on a date specified by the General Manager, Engineering after taking into account the incremental costs to the City as a consequence of the variation.

Calculation of City's costs

8.11 Calculation of the costs or estimated costs the City incurs or expects to incur under this By-law will include, without duplication, amounts spent by the City using its own work force or engaging an independent contractor for gross wages, employee fringe benefits, materials, equipment rentals at rates paid by the City or set by the City for its own equipment, and fees and other charges payable to an independent contractor, plus an amount equal to 20% of those costs to cover the City's overhead and administrative expenses.

Back-billing

8.12 On discovery that service provided in the past by the City has not been billed yet to a designated property, the City may bill the cost associated to the owner of the designated property, providing details and, on submission of the bill to the owner, the amount billed will be due.

Historical billing information

8.13 An owner who requests historical billing information may be charged the cost of processing and providing the information. The cost will be charged based on the actual hours of work performed by the City in retrieving and preparing the information.

SECTION 9 APPLICATIONS AND FEES

Form of application

9.1 Each person who submits an application under this By-law must use the form of application prescribed by the General Manager, Engineering, Building Inspector, or Collector, as the case may be.

Fee for application

9.2 Each person who submits an application under this By-law must pay the applicable fee set out in Schedule D.

Returned cheques

9.3 If a person's cheque is returned to the City, that person must pay to the City on demand the amount set out in Schedule D.

SECTION 10 OFFENCES AND PENALTIES AND ENFORCEMENT

Termination of service for failure to pay

10.1 Without limiting the City's other rights or remedies under this By-law, if an owner of designated property fails to pay to the City any levy, charge, fee, or cost for more than 30 days after the due date:

- (a) the Collector may serve notice upon the owner; and
- (b) such notice will:
 - (i) set out the amount owing,
 - (ii) demand payment of that amount within 10 days from the date of such notice,
 - (iii) notify the owner that failure to pay that amount within such 10 days will result in the City ceasing service to the owner's building, and
 - (iv) notify the owner that the City will not restore such service until the owner has paid to the City the amount owing together with any additional costs incurred by the City in connection with such cessation and restoration of service.

Notice of violation

10.2 An inspector or official of the City, or a By-law Enforcement Officer, may give notice to any person ordering or directing that person to:

- (a) discontinue or refrain from proceeding with any work or doing anything that contravenes this By-law; or
- (b) carry out any work or do anything to bring a building mechanical system into conformity with this By-law,

within the time specified in such notice.

Service of notice

10.3 An inspector or official of the City, or a By-law Enforcement Officer, may serve a notice under this By-law:

- (a) by mailing it by registered post to an owner at the address of the owner shown on the real property assessment roll prepared pursuant to the *Assessment Act*;
- (b) by handing it to the owner or other person who is the addressee of the notice; or
- (c) if the notice refers to real property, by posting it on the real property.

Offences under By-law

10.4 A person who:

- (a) violates any provision of this By-law, or does any act or thing which violates any provision of this By-law, or suffers or allows any other person to do any act or thing which violates any provision of this By-law;
- (b) neglects to do or refrains from doing anything required to be done by any provision of this By-law; or
- (c) fails to comply, or suffers or allows any other person to fail to comply, with an order, direction, or notice given under any provision of this By-law,

is guilty of an offence against this By-law, and liable to the penalties imposed under this Section 10.

Fine for offence

10.5 Every person who commits an offence against this By-law is punishable on conviction by a fine of not less than \$250.00 and not more than \$10,000.00 for each offence, except that:

- (a) a person who commits an offence under section 7.11 that results in fouling of the heat exchangers is liable to a fine of not less than \$2000.00 for each offence; and
- (b) a person who fails to comply, or suffers or allows any other person to fail to comply, with an order, direction, or notice given under any provision of this By-law is liable to a fine of not less than \$500.00 for each offence.

Fine for continuing offence

10.6 Every person who commits an offence of a continuing nature against this By-law is liable to a fine for each day such offence continues.

Termination of service for failure to comply

10.7 Without limiting the City's other rights or remedies under this By-law, the City may enforce compliance with the requirements of this By-law against the owner by discontinuing the service to the designated building.

SECTION 11 LIMITATIONS ON LIABILITY

Responsibility before and after delivery point

11.1 An owner of a designated property is responsible for all expense, risk and liability for:

- (a) the use or presence of energy being delivered from the district energy system to the owner's property before it passes the delivery point;
- (b) the use or presence of energy being returned from an owner's property to the district energy system after it passes the delivery point; and
- (c) the City-owned facilities serving the owner's property,

if any loss or damage caused by or resulting from failure to meet that responsibility is caused, or contributed to, by the act or omission of the owner or a person for whom the owner is responsible.

Responsibility after delivery point

11.2 The owner of a designated property is responsible for all expense, risk and liability with respect to the use or presence of energy being delivered to the owner's property after it passes the delivery point.

Responsibility for energy transfer station

11.3 The owner of a designated property is responsible for all expense, risk and liability with respect to all energy transfer station related equipment at the owner's property unless any loss or damage is:

- (a) directly attributable to the negligence of the City, its employees, contractors or agents; or
- (b) caused by or resulting from a defect in the equipment, and the owner must prove that negligence or defect.

For greater certainty and without limiting the generality of the foregoing, the owner is responsible for all expense, risk and liability arising from any measures required to be taken by the City to ensure that the energy transfer station related equipment on the owner's property are

adequately protected, as well as any updates or alterations to the distribution system extension on the owner's property necessitated by changes to the grading or elevation of the owner's property or obstructions placed on such distribution system extension.

Owner indemnification

11.4 The owner of a designated property will indemnify and hold harmless the City and its elected and appointed officials, employees, contractors and agents from all claims, loss, damage, costs or injury (including death) suffered by the owner or any person claiming by or through the owner or any third party caused by or resulting from the use of energy by the owner or the presence of energy in the owner's property, or from the owner or owner's employees, contractors or agents damaging the City's facilities.

**SECTION 12
ENACTMENT**

Force and effect

12. This By-law will come into force and take effect on the date of its enactment.

READ A FIRST TIME on the _____ day of _____, 2012.

READ A SECOND TIME on the _____ day of _____, 2012.

READ A THIRD TIME on the _____ day of _____, 2012.

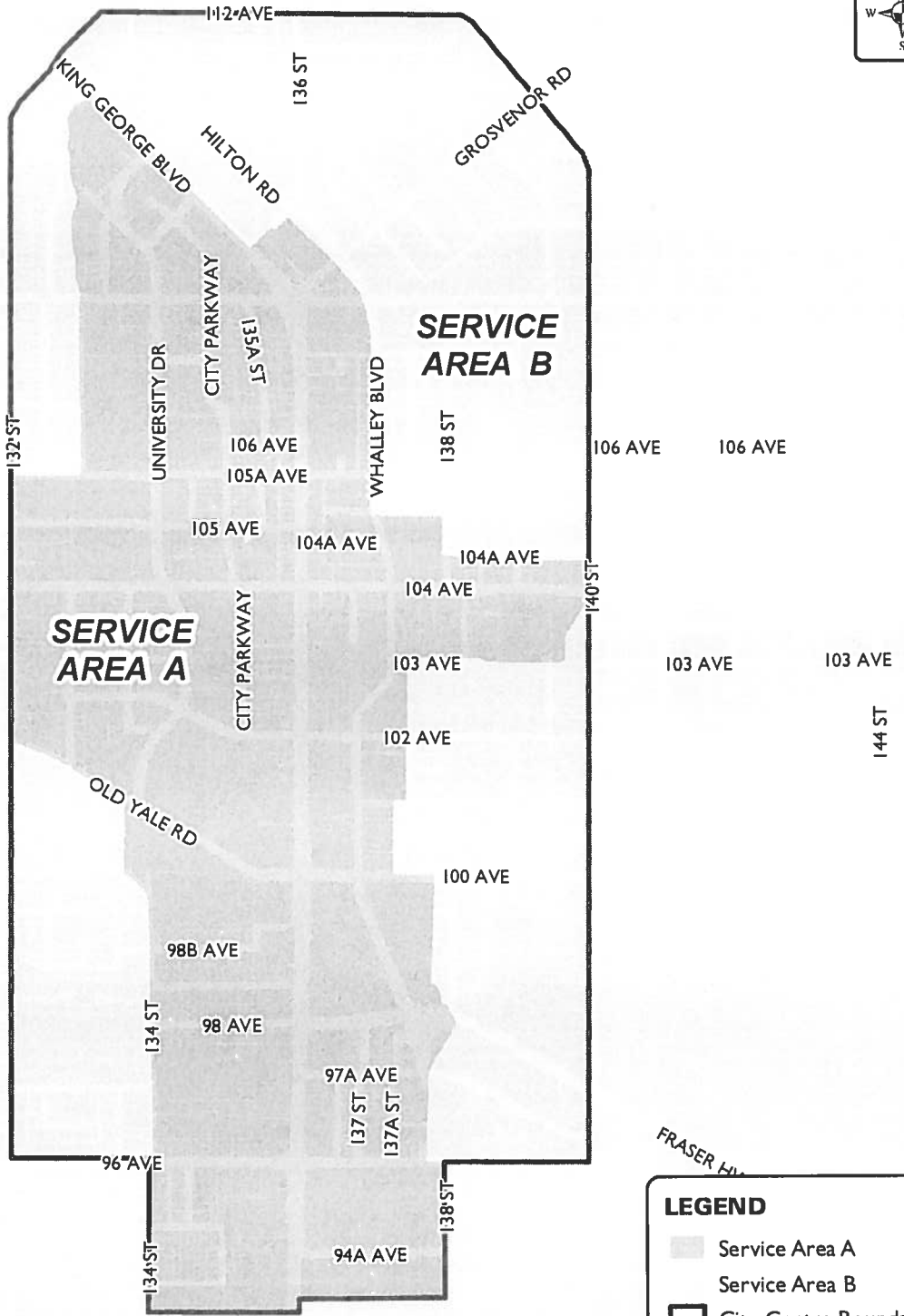
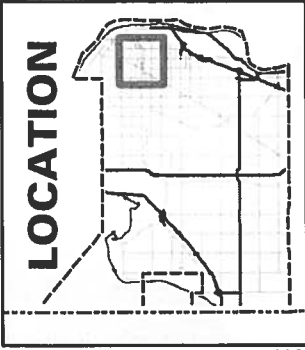
RECONSIDERED AND FINALLY ADOPTED, signed by the Mayor and Clerk, and sealed with the Corporate Seal on the _____ day of _____, 2012.

MAYOR

CLERK

SCHEDULE A

Figure 1 – SERVICE AREA A & SERVICE AREA B



Produced by GIS Section: May 31, 2012, CS/AW8



**DISTRICT ENERGY SERVICE AREA
(SERVICE AREA A & SERVICE AREA B)**

SCHEDULE B

**STANDARDS FOR TREATING WATER
IN THE BUILDING MECHANICAL SYSTEM**

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SCHEDULE C
LEVIES AND CHARGES

[Intentionally left blank]

SCHEDULE D
APPLICATION AND MISCELLANEOUS FEES

[Intentionally left blank]



CITY POLICY

No.

REFERENCE:

APPROVED BY:

CITY COUNCIL

REGULAR COUNCIL MINUTES

DATE:

HISTORY:

TITLE: DISTRICT ENERGY EARLY ADOPTERS POLICY

District Energy System By-law, 2012, No. 17667 (the “By-law”) stipulates requirements in relation to the use of the City Centre District Energy System for individual development projects.

Every development project within Service Area A with a proposed density equal to or greater than 1.0 FAR, as illustrated on the attached Appendix, is required to install a domestic hot water system, make-up air units, and an in-suite hydronic heating system in such a manner that each of these systems can be fully connected to the City Centre District Energy (DE) System.

Every development project within Service Area B with a proposed density equal to or greater than 1.0 FAR, as illustrated on the attached Appendix, is required to install a domestic hot water system and make-up air units in such a manner that each of these systems can be fully connected to the City Centre District Energy System. Any development within Service Area B with a proposed density equal to or greater than 2.5 FAR is required to install a domestic hot water system, make-up air units, and an in-suite hydronic heating system in such a manner that each of these systems can be fully connected to the City Centre DE system.

ELIGIBILITY

Financial assistance is available for “early adopter” residential projects in Service Area A and Service Area B that have an FAR equal to or greater than 2.5 and install a domestic hot water system, make-up air units, and an in-suite hydronic heating system in such a manner that each of these systems can be fully connected to the City Centre District Energy System. An “early adopter” is a residential project that has an FAR equal to or greater than 2.5 and installs a hydronic heating system, hot water system and make-up air units in such a manner that is immediately connectable to the DE system and where the floor area of the project combined with all other projects that have been designated as “early adopter” projects is less than or equal to a total floor area of 1,500,000 ft² and subject to a building permit being issued for each such project within 3 years of the date of adoption of the By-law.

FINANCIAL ASSISTANCE AVAILABLE

Financial assistance will be provided by the DE Utility to the project proponent of up to 50% of the cost premium related to installing the hydronic systems in the project in comparison to the cost of installing a conventional electric baseboard heating system and conventional hot water and make-up air systems for the dwelling units in the same project but in any case such assistance will not exceed \$1.50 per square foot of dwelling unit area.

The provision of financial assistance will remain at the complete and absolute discretion of City Council.

PARTNERING AGREEMENT

The proponent of any project for which financial assistance is requested under this policy will be required to enter into a partnering agreement with the City in relation to such financial assistance. The partnering agreement will require City Council approval.

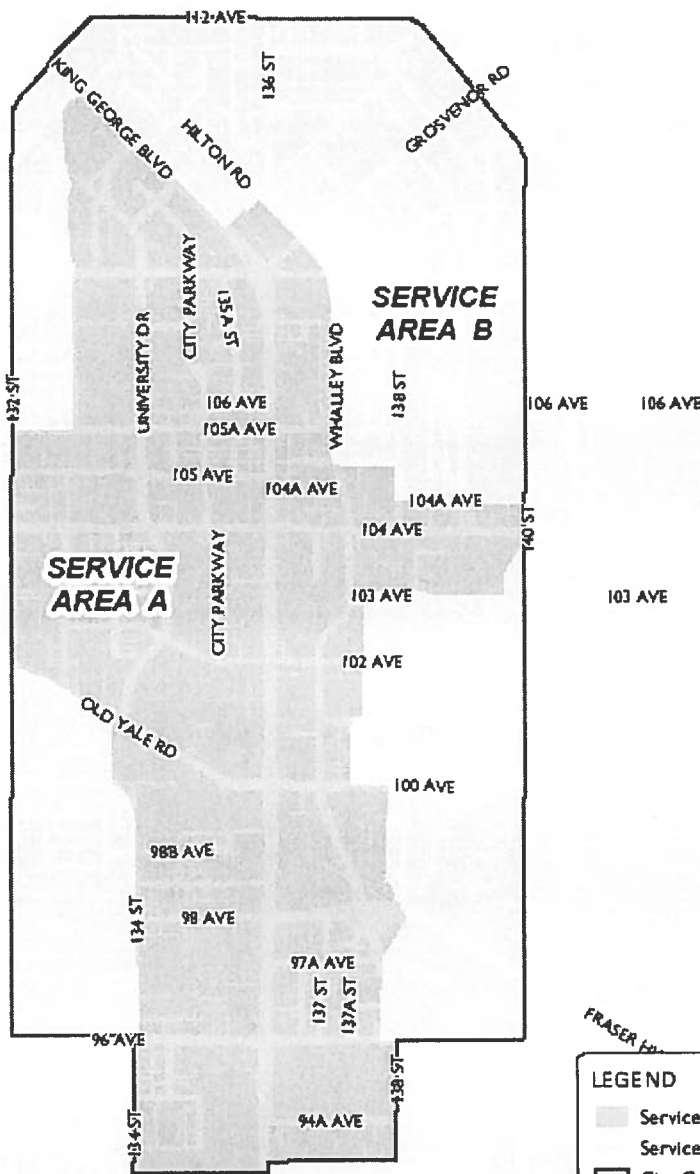
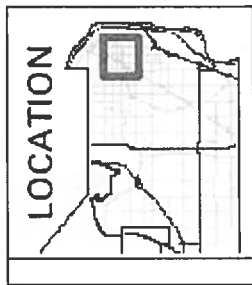
This policy is subject to any specific provisions of the Local Government Act, or other relevant legislation or collective agreement.

TO VIEW APPENDIX III

**Ro89 - “Implementation of Hydronic
Heating and Hot Water Systems in
Development Projects in the City Centre”
(May 7, 2012)**

**Please see electronic copy of Corporate
Report under Regular Council 2012**

APPENDIX IV



Produced by GIS Section: May 31, 2012, CS/AW8



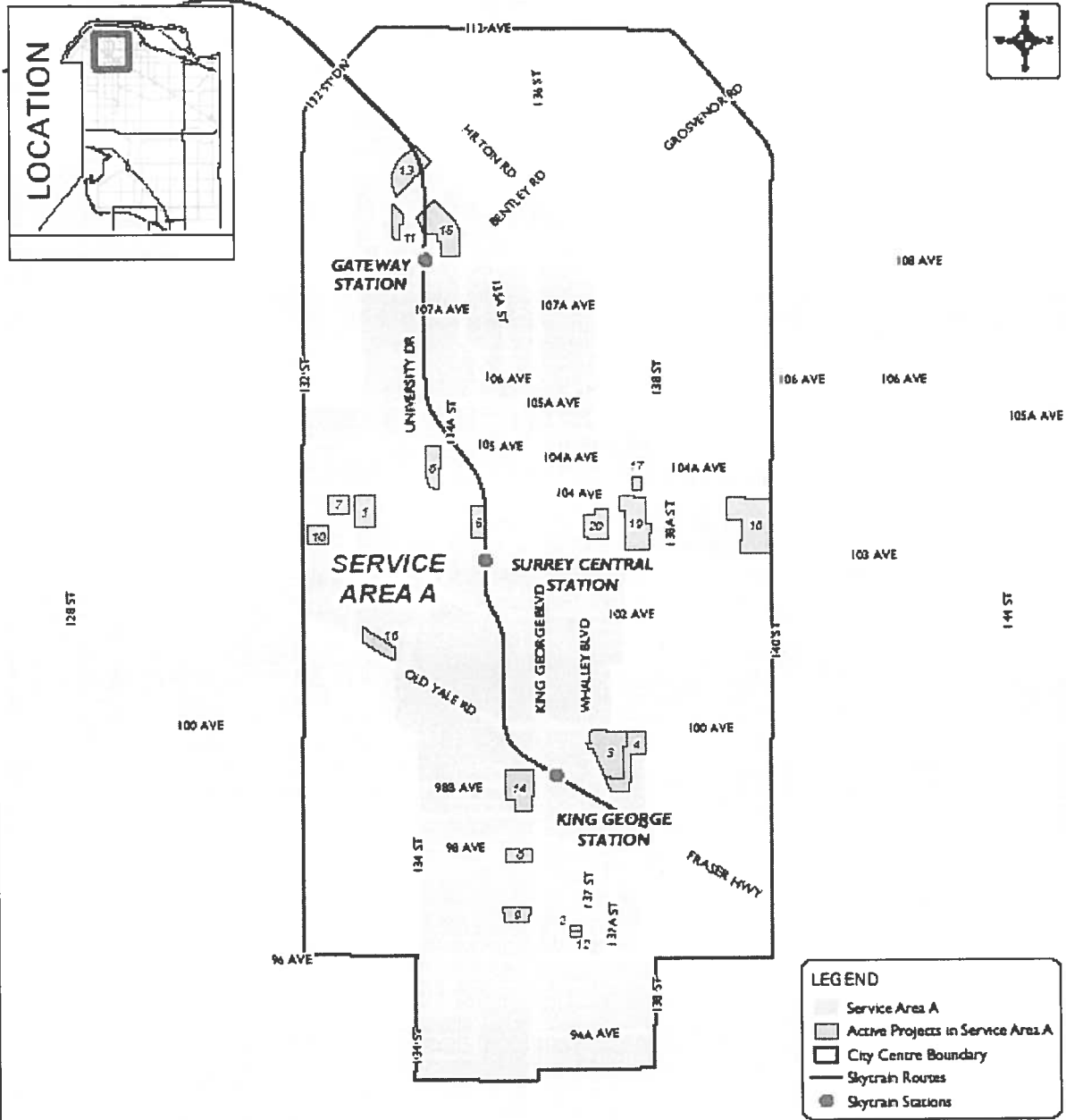
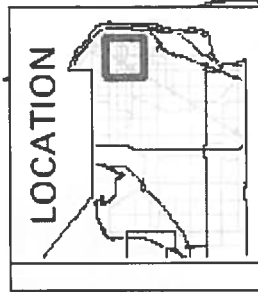
DISTRICT ENERGY SERVICE AREA
(SERVICE AREA A & SERVICE AREA B)

ENGINEERING
DEPARTMENT

The data provided is compiled from various sources and IS NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only.
Lot lines, legal descriptions and encumbrances must be confirmed at the Land Title Office.

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AW-Distric:EnergyServiceArea.mxd

APPENDIX V



LEGEND

- Service Area A
- Active Projects in Service Area A
- City Centre Boundary
- Skytrain Routes
- Skytrain Stations

Produced by GIS Section: May 31, 2012, CS/AW8



ACTIVE PROJECTS IN SERVICE AREA A

ENGINEERING DEPARTMENT

The data provided is compiled from various sources and ISNOT warranted as to its accuracy or sufficiency by the City of Surrey. This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office.

GIS MAPPING & DATA SERVICES
CORPORATE REPORTING & UTILITIES
AW-Active Projects in Service Area A.mxd

APPENDIX VI

Development Applications within Service Area A Summary

ID No.	Project #	Address	Developer	Description	Development Permit Application Status
1	11-0075-00	13286 – 104 Avenue	Rize - LHC Building Inc.	Rezoning from RF to CD (based on RMC-150); Development Permit in order to permit the development of two high-rise apartment towers containing approximately 450 apartment units and 21 ground-oriented units, for a total of 471 units.	Issued on May 7, 2012
2	10-0324-00	9647 – 137 Street	Parmit Nagra	Rezoning from RF to C-5; Development Permit and Development Variance Permit in order to permit the development of a two-storey medical office with basement.	Issued on March 12, 2012
3	10-0258-00	13718 – 100 Avenue	Concord Pacific	One 39-storey apartment tower containing 430 units and one 42-storey apartment tower containing 449 units and 7 ground-oriented townhouses.	Issued on July 25, 2011
4	08-0312-00	13778 – 100 Avenue	King George Developments	One 46-storey apartment building and one 20-storey apartment building containing a total of 551 units.	Issued on December 12, 2011
5	11-0334-00	13450 – 104 Avenue	Century Group	Proposal to rezone to CD in order to construct a new mixed-use development adjacent to the new City Hall. The project will include underground parking, a 20-storey hotel (160 suites), retail, 5 levels of office use and 36 levels of multiple residential units.	Initial Review
6	11-0333-00	13409 – 104 Avenue	Bosa Developments	To consolidate 6 lots in order to construct a mixed-use development with two residential towers, street oriented townhouses, retail, and a central street over 4 levels of underground parking. The towers are 24 and 37 storeys.	Initial Review
7	10-0025-00	13242 – 104 Avenue	Mr. Lin	To rezone from RF to CD (RM-70) and develop 112 units.	Initial Review

ID No.	Project #	Address	Developer	Description	Development Permit Application Status
8	09-0177-00	13586 – 98 Avenue	Kenstone Properties	Partial Discharge Land Use Contract No. 420; Rezoning from C-35 to CD (based upon RMC-150); Development Permit in order to permit the development of a mixed-use development, consisting of a 206-unit high-rise apartment building, 6 townhouses and ground-level retail/commercial space.	Third Reading on January 10, 2011
9	09-0145-00	9677 King George Boulevard	Tony Russo	OCP Amendment from Commercial to City Centre; Rezoning from C-8 to CD (based on RMC-50 and RMS-2); Development Permit in order to permit the development of a mixed-use high rise development within an 18-storey building, consisting of retail uses, medical offices, a care facility and multiple residential housing.	Third Reading on November 1, 2010
10	09-0011-00	10316 – 132 Street	Prosper Development Inc.	To rezone from RF to CD in order to develop a 91-unit 4-storey apartment building.	Initial Review
11	07-0393-00	10925 University Drive	0793260 B.C. Ltd.	To rezone from CD By-laws 12660 & 10464 to a new CD by-law in order to permit development of a 28-storey 186-unit apartment building.	Initial Review
12	07-0392-00	9637 - 137 Street	Jak Redenbach	Rezoning from RF to C-5; Development Permit and Development Variance Permit in order to permit the development of a medical office.	Third Reading on July 28, 2008
13	06-0147-00	13424 King George Boulevard	Seagate Properties	Rezoning from RF and CHI to CD (based on RM-135) and Development Permit in order to permit the development of two high-rise residential towers and podium townhouse units in Surrey City Centre.	Third Reading on June 16, 2008
	08-0207-00	9905 King George Boulevard	Century Group	Development Permit to allow a 31-storey tower with 18 townhouse units, 4 levels of parking.	Initial Review

ID No.	Project #	Address	Developer	Description	Development Permit Application Status
15	08-0112-00	13479 - 108 Avenue	Dundee Capital / Station Tower Developments Ltd.	Rezoning from CD (By-law Nos. 10464 & 12660) to CD (based on C-35 and RMC-150) and Development Permit in order to permit the development of two office buildings and two high-rise apartment towers.	Third Reading on November 3, 2008
16	06-0262-00	13333 Old Yale Road	Townline	To rezone to CD to accommodate renovation of existing care facility and to build a new 7-storey building totalling 9454 sq. m.	Initial Review
17	11-0172-00	13769 - 104 Avenue	Highten Development Corporation	To permit the development of a 3-storey tilt-up concrete building with commercial on the ground floor and 2 floors of offices.	Initial Review
18	10-0193-00	13932 - 104 Avenue	China Cereals and Oils Corp.	To permit the development of a one-storey with mezzanine commercial development.	First Reading on May 7, 2012
19	09-0189-00	13777 - 103 Avenue	633 Oakview Investment Ltd.	Generalized Development Permit for a phased mixed-use development with commercial uses and approximately 504 residential units.	Initial Review
20	08-0262-00	10342 - 136A Street	Janda Tower Corporation	DP for 234 residential units and 8651.2 sq.m. of commercial area	Initial Review



CITY POLICY

No.

REFERENCE:	APPROVED BY:	CITY COUNCIL
REGULAR COUNCIL MINUTES	DATE:	
	HISTORY:	

TITLE: District Energy (DE) Rate-Setting Policy

Utility rates for thermal energy provided by the City of Surrey (the “City”) are regulated under the District Energy System By-law, 2012, No. 17667, as amended. This policy forms the basis for the establishment and adjustment of the City’s thermal energy utility rates.

EXPERT EXTERNAL RATE REVIEW PANEL

The City will establish an Expert External Rate Review Panel (the “Panel”) in accordance with the Terms of Reference attached as Schedule 1 to this policy. Information on the District Energy Utility (the “Utility”) rates and rate structure is to be reviewed by the Panel who will provide objective, expert advice to the City to ensure that the rates and rate structure are consistent with the following principles.

RATE STRUCTURE AND RATE-SETTING PRINCIPLES:

1. COST RECOVERY

The cost-of-service model is the accounting structure that will be used to establish the rates and rate structure for the Utility and will take into account all costs associated with financing, operating, and administering the utility.

2. RATE COMPETITIVENESS

Rates will be established and maintained such that they are competitive with the costs that Utility customers would incur if they were using other thermal energy options that are available in the market, such as electricity and natural gas.

3. RETURN ON INVESTMENT

The rates over time will be set to include a rate of return on investment. In this regard, the rate of return on the City’s investment over time will be no less than the City’s cost of borrowing to finance the development of the Utility and no more than the rate of return established for private utilities regulated by the British Columbia Utilities Commission.

4. *SHORTFALL RECOVERY*

If by virtue of the rates and rate structure that emanates from this policy, the Utility incurs a shortfall in any year including debt servicing, operations, administration and capital replacement, such a shortfall will be recognized as debt against the Utility and will be taken into account in relation to future rate adjustments.

5. *LOW-CARBON / RENEWABLE ENERGY SOURCES*

The Utility will seek to maximize the proportion of low-carbon, renewable heat sources within its energy supply mix as early as possible while ensuring that the other rate-setting principles are respected.

6. *FAIRNESS*

Utility rates will be structured such that the rates charged to different user types are fair and equitable. The Utility will not charge one user type a higher rate as a means to charge a different user type a lower rate that is not commensurate with the cost of providing utility service to that user type (i.e., cross-subsidization will not occur across user types).

This policy is subject to any specific provisions of the Local Government Act and other relevant legislation and by-laws and Union collective agreements.

SCHEDULE 1

Terms of Reference District Energy Utility Expert External Rate Review Panel DRAFT

BACKGROUND

Surrey City Energy (SCE) is a municipally-owned utility and, as such, is exempt from the regulatory oversight of the British Columbia Utilities Commission (BCUC). Similar to the City's water, sewer, drainage and solid waste utilities, Council is tasked with the responsibility of regulating the pricing of services being delivered under the utility and ensuring that the public interest is served.

Where SCE differs from the City's other utilities is that it is a new utility providing a new service in the City, it is relatively complex and there are private utility operators who offer similar service under the regulation of BCUC.

While the City is exempt from the regulatory oversight of BCUC, an external rate review panel is being established to assist Council in the oversight of SCE's rates and rate structure.

Expert Rate-Review Panel Structure

The Panel will be comprised of 4 members that are appointed by Council. Council will appoint one member as the Chair. The Panel will provide objective, expert advice to the City regarding SCE utility rate structure and rates consistent with the rate-setting principles articulated in this policy.

SCOPE OF WORK

Staff proposes that a full rate review would be conducted once every 3 years or more frequently if the Panel deems such a more frequent review as being necessary. The rate review process will include:

1. The updating by City staff of the financial model for SCE including proposed rates, rate escalation factor and any other changes to the financial structure of SCE considered necessary by staff;
2. The Panel will review the updated financial model and the proposed rates and rate structure;
3. The Panel will prepare a report that either approves the revised rates and rate structure as proposed in the updated financial model or recommend revisions to the model and/or rates and/or the rate structure; and
4. With the Panel's report as background staff will prepare a report to Council recommending the financial model for SCE including any proposed rate or rate structure changes.

Through this process, SCE will be held to a high level of accountability in its stewardship of the utility and related reporting. The approval of the SCE rates and rate structure will be conducted in a fully transparent manner.

The Panel's review will include consideration of the following factors:

- a) Long-term forecasted cost of inputs, including forecasted fuel costs and the utility's cost of capital, including debt charges and return on equity premiums;
- b) Revenue forecasts;
- c) Rate stabilization reserve requirements; and
- d) Comparisons of the rates and rate structure to other energy benchmarks.

PANEL EXPERTISE

The Panel should have within its membership a variety of expertise to ensure a balanced review process. Expertise in the following areas is considered desirable:

1. Utility Pricing and Regulation: Demonstrated expertise and experience in the area of utility finance/pricing, ideally with past experience working for or reporting to British Columbia Utilities Commission or another similar regulatory body;
2. Finance: A professional understanding with demonstrated expertise and experience in finance and financial modelling, ideally in the field of utility finance and pricing; and
3. Renewable, Low-Carbon Energy: Demonstrated expertise in the area of renewable energy production and demand management.

Each Panel member should be able to carry out the work objectively, have the demonstrated ability to make complex decisions that equitably balance the interests of various stakeholders, and be perceived as a credible, objective expert by SCE stakeholders.

In the interest of avoiding any conflicts of interest, Panel members should not be:

- a) an employee of the City of Surrey;
- b) an elected official for the City of Surrey;
- c) a customer of SCE;
- d) an employee or major shareholder of a competing energy utility; or
- e) in any position or role that would be perceived as being in a conflict of interest in relation to the responsibilities described in these Terms of Reference.