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June 12, 2017

British Columbia Utilities Commission  
Sixth Floor – 900 Howe Street  
Vancouver, B.C. V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

**Re: British Columbia Utilities Commission  
Shannon Estates Thermal Energy System Rate Application  
Project No. 3698882**

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We are counsel to Shannon Wall Centre Rental Apartments (SWCRA) for the Shannon Estates Thermal Energy System (SETES) Rate Application. In accordance with the regulatory timetable established by BCUC Order No. G-52-17, we enclose the final argument of SWCRA with respect to the application.

We note that SWCRA has an outstanding request from the BCUC to quantify the SETES costs of providing space cooling. As of the time of this writing, SWCRA is still waiting on its contractors to provide a precise break down of costs for the equipment that provides space cooling functions for both Phase 1 and the Phase 2 expansion of Shannon Estates. A critical person at one of the major contractors has been away. Sterling Cooper NDY will submit the requested information as soon as they have received it from the contractors.

Yours very truly,

LAWSON LUNDELL LLP

Ian Webb  
Enc.

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**British Columbia Utilities Commission**

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**Shannon Estates Thermal Energy System Rate Application**

**Final Argument of  
Shannon Wall Centre Rental Apartments**

**June 13, 2017**

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1     **1.       Introduction**

2     Shannon Wall Centre Kerrisdale (“Shannon Estates”) is a one-of-a-kind development on the 10  
3     acre site of the 100-year-old Shannon Estate at West 57th Avenue and Granville Street in  
4     Vancouver, British Columbia. The development consists of ten buildings, including restored  
5     heritage buildings, new townhomes and suites, a rental apartment building (Shannon Mews &  
6     Apartments), gardens, parks and grounds, and related infrastructure. The development is  
7     partially complete at this time, with the final phase expected to be completed in 2018/early 2019.

8     The City of Vancouver required connection to a low carbon thermal energy system as a  
9     condition for the development. Accordingly, the development includes a small thermal district  
10    energy utility (the “Shannon Estates Thermal Energy System” or “SETES”) to serve the thermal  
11    energy requirements of residences and common areas for space heating, space cooling, and  
12    domestic hot water. Pursuant to Letter No. L-39-15 the British Columbia Utilities Commission  
13    (“BCUC”) determined the SETES is a Stream B utility under the BCUC’s TES Regulatory  
14    Framework Guidelines.<sup>1</sup>

15    Pursuant to BCUC Order No. C-4-16 dated April 21, 2016, the BCUC granted a certificate of  
16    public convenience and necessity (“CPCN”) to Shannon Wall Centre Rental Apartments Limited  
17    Partnership (“SWCRA”) to own and operate the SETES at an estimated total capital cost of  
18    \$7.5 million.<sup>2</sup>

19    On May 24, 2016 SWCRA applied to the BCUC (the “Rates Application”) for among other  
20    things interim and final approval of rates and terms and conditions of service for the SETES  
21    utility. The BCUC approved interim rates effective June 1, 2016 pursuant to Order No. G-77-16.  
22    During the course of this proceeding SWCRA amended the relief sought in the Rates  
23    Application. A list of the final relief sought is provided in section 4 of this submission.

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<sup>1</sup> The BCUC issued the TES Regulatory Framework Guidelines pursuant to Order No. G-127-14 and amended and restated the Guidelines pursuant to Order No. G-27-15. A TES that does not meet the requirements for an exemption and does not meet the characteristics of a Stream A TES is by default considered a Stream B TES.

<sup>2</sup> Some of the information requests (“IRs”) suggest there is misunderstanding about the estimated capital cost of the SETES reported to and accepted by the BCUC in granting the CPCN. For clarity, the \$7.5 million capital cost estimate was reported to the BCUC during the CPCN proceeding and is specifically referenced by the BCUC in preamble paragraph G of Order No. C-4-16.

1 The proceeding to review the Rates Application has been irregular, with a final submissions  
2 phase during the July to September 2016 time period followed by the proceeding being reopened  
3 in November 2016, amendments to the Rates Application in February 2017, further IRs, BCUC  
4 Panel IRs, intervener evidence and IRs on the intervener evidence.

5 Given the irregular process to date, pursuant to Order No. G-52-17 the BCUC requested that  
6 those parties that filed submissions last summer (SWCRA, FAES and Mr. Peden) clearly identify  
7 if any parts of their previous submissions are no longer relevant. Given the subsequent  
8 amendments to the Rates Application and additional evidence submitted as IR responses,  
9 SWCRA's previous submissions are no longer relevant and will be superseded by this  
10 submission and SWCRA's reply submission to be filed in July 2017.

11 The remainder of this submission is organised as follows:

- 12 • Section 2 provides SWCRA's summary submission in support of the amended Rates  
13 Application
- 14 • Section 3 provides a technical overview of the SETES utility system, including the  
15 services it provides and the current and future customer base
- 16 • Section 4 provides an up-to-date list of the relief sought in the amended Rates  
17 Application
- 18 • Section 5 provides SWCRA's submissions with respect to specific issues that arose  
19 during the proceeding

## 20 **2. Summary Submission**

21 SWCRA has been granted a CPCN to construct, own and operate the SETES at an estimated  
22 total capital cost of \$7.5 million. The Shannon Estates development is partially complete at this  
23 time, with the final phase expected to be completed in 2018/early 2019. As of December 31,  
24 2016, roughly \$4 million of the estimated \$7.5 million cost of the SETES was spent. This figure  
25 includes all of Phase 1 construction and early stages of the Phase 2 expansion.

1 The SETES is a Stream B utility under the BCUC's TES Regulatory Framework Guidelines,  
2 which means that a rate approval application is required. Approval of Stream B TES rates is  
3 governed by section 59 to 61 of the *Utilities Commission Act* ("UCA"), and also considers the  
4 Commission's rate setting principles as set out in section 2.4.3 of the TES Regulatory  
5 Framework Guidelines. Section 2.4.4(iv) of the TES Regulatory Framework Guidelines also  
6 provides that a regulated cost of service rate setting mechanism will be considered only as a  
7 method of last resort for Stream B TES.

8 The reason for considering regulated cost of service rate setting as a method of last resort for  
9 TES utilities is simply because it is too expensive. Although regulated cost of service rate  
10 setting could be considered as the 'gold standard' for ensuring the rates of a monopoly are not  
11 unjust or unreasonable, for a small utility like SETES (with about 600 customers at completion  
12 of Phase 2) full regulated cost of service rate setting is simply unaffordable.<sup>3</sup>

13 SWCRA proposes a rate setting methodology of (i) pegging to the rates of other regulated  
14 utilities for the basic and consumption dependent charge components of the thermal energy rates,  
15 (ii) standard fees and charges for discrete services, and (iii) limited use of deferral accounts and  
16 rate riders to capture and recover significant irregular costs (e.g., regulatory costs). The  
17 methodology aligns well to the BCUC's rate setting principles to use the least amount of  
18 regulatory oversight and avoid the high cost of regulated cost of service rate setting.<sup>4</sup>

19 Pegging to the rates of other utilities does not mean that the SETES and the other utilities have  
20 similar costs, services or customer base. They do not. Nor does it mean that charging the  
21 pegged rates will be sufficient to recover the costs of the SETES.

22 Whether another utility's rates are just and reasonable given that utility's cost structure is not  
23 relevant to whether SWCRA's proposed rates are just and reasonable given its cost structure.  
24 SWCRA provided a financial model that projects the costs, revenues and returns of the SETES  
25 utility. The financial model can be used to test whether the proposed pegged rates might result in  
26 an over- or under-recovery of expenses for SWCRA.

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<sup>3</sup> The SRG has also identified the tension between the potential benefits of additional regulation versus the added cost. For example, refer to Exhibit C7-19, SRG response to SWCRA IR 8.1.1.

<sup>4</sup> Also refer to Exhibit B-17-1, SWCRA response to SRG IR 3.1.

1 The evidence of both SWCRA and the Shannon Ratepayers Group (“SRG”)<sup>5</sup> demonstrates that  
 2 the proposed rates are not expected to recover the costs of the SETES and provide a reasonable  
 3 return for many years. Even using its “high case” assumptions,<sup>6</sup> the SRG estimates that  
 4 SWCRA’s proposed rates will yield an average return of 1.4% over the 2016 to 2022 period.  
 5 The projected average rate of return on equity for the first 5.5 and 10 years from SWCRA’s  
 6 financial model and the SRG evidence, respectively, are shown in the table below.<sup>7</sup>

	<b>5.5 Year (2016-2022)</b>	<b>10 Year (2016-2026)</b>
SWCRA Rate Model	0.2%	2.0%
SRG Low Case	-17.6%	0.7%
SRG Medium Case	-7.3%	9.2%
SRG High Case	1.4%	16.4%

7  
 8 Given the above evidence, there is clearly no basis for reducing the proposed rates at this time.

9 While it is theoretically possible that the proposed rates could result in higher than acceptable net  
 10 income if the same rate setting methodology remains in place decades from now, extrapolating  
 11 over such longer time period is highly speculative and, most importantly, the theory requires one  
 12 to assume that the rate setting methodology will remain unchanged over the period. That  
 13 assumption is not valid.

14 Pursuant to the TES Regulatory Framework Guidelines, section 2.4.6, Stream B TES are  
 15 required to file annual financial reports with the BCUC. The annual reports for the SETES  
 16 utility would disclose if SETES revenues are getting out of line with expenses and, of course, in  
 17 such event the BCUC could direct a review of the SETES rates. Further, in its response to SRG  
 18 IR 3.7.1, SWCRA confirmed that it “has no expectation that the calculated returns will be

<sup>5</sup> The Shannon Ratepayers Group (“SRG”) retained EES Consulting to “present and support SRG’s position” on the Rates Application as confirmed by Exhibit C7-18, SRG’s response to SWCRA IR 1.1. Given that EES Consulting is acting for this proceeding as advocate for SRG’s position, this submission does not distinguish between SRG and EES Consulting – SRG and EES Consulting are considered as one and the same for the purposes of this submission.

<sup>6</sup> The SRG suggests in its evidence submission (Exhibit C7-16) that SWCRA’s financial modelling uses unreasonable assumptions. SRG deemed SWCRA’s assumptions the ‘low case’ and updated the financial model using SRG’s own ‘high case’ assumptions, and also provided a ‘medium case’ of assumptions midway between the low and high cases. SRG quantified its low, medium and high cases in its Exhibit C7-18-1, SRG response to BCUC Confidential IR 4.1.

<sup>7</sup> The SRG estimates are from Exhibit C7-19, SRG response to SWCRA IR 6.13.

1 achieved over the 30 years presented and there is no reason to assume that either BCUC or  
2 SWCRA would not take action if the rates and costs become too misaligned.”

3 The SRG’s concern<sup>8</sup> about potential for excessive profits is not applicable now and could only  
4 begin to become relevant about a decade from now assuming that nothing changes, which is not  
5 a valid assumption. Specifically, SRG’s assumption that “the Commission and [SRG] will not  
6 have the ability to review [SWCRA’s] costs periodically”<sup>9</sup> is not correct. The BCUC and SRG  
7 will have the ability to review SWCRA’s costs annually when SWCRA submits its annual report  
8 to the BCUC, and each of the BCUC, SRG and SWCRA has the ability to request a rate review  
9 if SETES revenues are getting out of line with expenses.

### 10 **3. The Shannon Estates Thermal Energy Utility**

11 The SETES serves a fixed number of buildings within the Shannon Estates development. When  
12 the development is completed, the customers will comprise of approximately 213 rental  
13 apartments, 387 strata units, the common areas of each of the buildings, and 2 commercial  
14 tenants. Each customer is individually metered for the thermal services provided to them which  
15 will be one or more of thermal energy for space heating, space cooling, and domestic hot water.

16 As is required by the legally binding obligation to reduce carbon footprint by 70% compared to a  
17 conventional system, the SETES uses innovative technologies to improve efficiency and reduce  
18 waste. It utilizes a central thermal energy controller known as the “Thermenex” system to direct  
19 heating/cooling energy at varying temperatures to demands in real time. The Thermenex system  
20 allows recovery of heat which typically is discarded such as rejected heat from space cooling and  
21 parkade exhaust shafts. The SETES design places emphasis on forgoing the use of fossil fuels for  
22 heating in favor of lower carbon intensive sources of heat. Chiefly the SETES utilizes electric  
23 heat pumps and a solar thermal array for heating whenever possible. To maximize the  
24 availability of low-carbon heating, large thermal storage capacity is installed onsite. In the event  
25 that low-carbon sources of heat are not available or insufficient to meet demand, gas fired boilers  
26 are used to provide uninterrupted heating. Heating energy supplied to the Thermenex system  
27 may be used for space heating of the strata or rental units and heating of the service hot water.

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<sup>8</sup> The SRG outlines its concern in Exhibit C7-18, SRG responses to BCUC IRs 1.2 and 1.2.2.

<sup>9</sup> Exhibit C7-18, SRG response to BCUC IR 1.2.

1 Cooling is provided by the same heat pumps that can be used to provide space heating. The  
2 “waste” heat produced by the cooling process is stored until capacity has been reached at which  
3 time additional heat will be rejected to atmosphere through evaporative cooling towers.

4 Thermal energy is distributed throughout the site through insulated pipework by efficient  
5 variable speed pumps.

6 In the strata suites, space heating and cooling is provided by one or more fan-coil units. In the  
7 rental suites and common areas, space heating is provided by hot water baseboards. In the  
8 commercial units, heating and cooling is provided by water source heat pumps using medium  
9 temperature supply water.

10 To reduce thermal energy demand, most units at Shannon Estates have the following energy  
11 saving measures for each of the thermal energy service types:

12 Space heating

- 13 • High performance double glazed windows
- 14 • Increased roof and wall insulation

15 Space cooling

- 16 • Operable windows

17 Service hot water

- 18 • Reduced flow on selected fixtures

19 As of December 31, 2016, roughly \$4 million of the estimated \$7.5 million cost of the SETES  
20 has been spent. This figure includes all of Phase 1 construction and early stages of Phase 2  
21 expansion.

1     **4.     Relief Sought**

2     SWCRA requests that the BCUC approve the following:

3           (i)     *Approval of basic and consumption dependent charge components of the thermal*  
4                    *energy rates*

- 5           a.     Monthly Capacity Levy equal to the Class 1 South East False Creek  
6                    ("SEFC") Residential or Mixed Use Residential Building Rate, converted  
7                    to dollars per square foot, as amended or replaced from time to time. The  
8                    Monthly Capacity Levy rate is currently \$0.0489/sqft.
- 9           b.     Monthly metering charge of \$9.50 per account
- 10          c.     Consumption Dependent Space Cooling rate equal to the arithmetic mean  
11                   divided by two of Step 1 and Step 2 of British Columbia Hydro and Power  
12                   Authority's rate schedule 1101, as amended or replaced from time to time.  
13                   The Space Cooling rate is currently \$0.0518/kWh.
- 14          d.     Consumption Dependent Space Heating rate equal to the arithmetic mean  
15                   of Step 1 and Step 2 of British Columbia Hydro and Power Authority's  
16                   rate schedule 1101, as amended or replaced from time to time. The Space  
17                   Heating rate is currently \$0.1036/kWh.
- 18          e.     Consumption Dependent Domestic Water Heating rate equal to the  
19                   arithmetic mean of Step 1 and Step 2 of British Columbia Hydro and  
20                   Power Authority's rate schedule 1101, as amended or replaced from time  
21                   to time. The Space Cooling rate is currently \$0.1036/kWh.

22          (ii)    *Approval of the standard fees and charges*

- 23          a.     Service start charge of \$50.00
- 24          b.     Service restart charge of \$125.00 during normal service hours
- 25          c.     Service restart charge of \$312.00 during non-business hours
- 26          d.     Bill Non-Payment Collection charge of \$45.00
- 27          e.     Dishonoured Payment Charge of \$25.00
- 28          f.     Late Pay Charge lesser of 1.0% per month or maximum allowed interest  
29                   rate

1 g. Disputed Meter Testing Fees are charged on market rates to inspect the  
2 meter, none if meter is out of tolerance

3 *(iii) Approval of regulatory accounts and rate riders*

4 a. Sustainment Capital Deferral Account and rate rider:

5 To be activated should capital replacement costs exceed budgeted  
6 replacement figures for the year by 30% as shown under “Capital  
7 Replacement Cost” line in the SETES rates financial model under line  
8 item “Contingency Deposit”

9 b. Emergency Repair Deferral Account and rate rider:

10 To be activated in a manner in accordance to SWCRA’s response to  
11 BCUC IR 77.2

12 c. Regulatory Deferral Account and rate rider

13 *(iv) Approval of the SWCRA Thermal Energy Service Tariff*

14 a. SWCRA Thermal Energy Service Tariff as provided in Appendix A2  
15 to Exhibit B-20.

16 **5. Submissions on Specific Issues**

17 This section provides SWCRA’s submissions with respect to specific issues that arose during the  
18 proceeding, and in particular that arose since the BCUC reopened the proceeding in November  
19 2016. FAES has not been involved in this proceeding since summer 2016, and in our view the  
20 additional evidence submitted by SWCRA since November 2016 fully addresses the points  
21 FAES made in its July 2016 submission. Therefore, this submission does not specifically  
22 comment on the specific points raised by FAES in its July 2016 submission.

23 *(i) Rate Setting Methodology*

24 The proposed rate setting methodology is to peg the energy rates to the rates of other utilities.  
25 The methodology aligns well to the BCUC’s rate setting principles to use the least amount of  
26 regulatory oversight and avoid the high cost of regulated cost of service rate setting. Pegging to  
27 the rates of other utilities does not mean that the SETES and those other utilities have similar  
28 costs, services and customer base. They do not.

1 The rate design and cost structure of the other utilities cannot be fully compared to SETES as  
2 those larger utilities have economies of scale, customer base, and redundancy not available to  
3 SETES. The requested Sustainment Capital Deferral Account, Emergency Repair Deferral  
4 Account, Regulatory Deferral Account and rate riders account for this by providing a means for  
5 the utility to recover significant irregular expenditures. Without these mechanisms, the utility  
6 would need to recover such costs through the base fixed and variable energy charges, which  
7 would need to be increased accordingly. Reflecting significant irregular costs in the base  
8 charges would also increase volatility in net income and/or suggest re-evaluation of the merits of  
9 more costly regulated cost-of-service rate setting for the SETES utility.

10 BC Hydro's residential rate (rate schedule ("RS") 1101) energy charge was selected as the rate  
11 the SETES usage dependent charges are pegged against. SETES space and water heating charges  
12 are set at the arithmetic mean of the RS 1101 step 1 and 2 energy charges; the SETES space  
13 cooling charge is set at one-half of the arithmetic mean of RS 1101 step 1 and 2 energy charges.  
14 The arithmetic mean was selected to address the interactions of energy and demand charges from  
15 electricity and energy charges / taxes from natural gas. SETES purchases electricity via BC  
16 Hydro's Large General Service tariff which differs from the Residential tariff in energy charges,  
17 also has a demand charge, and has a conservation component based on a historical baseline.  
18 Natural gas is also purchased. To "use the least amount of regulatory oversight," which is a rate  
19 setting principle of BCUC, the mean was selected as opposed to requesting a regulated cost of  
20 service rate-setting mechanism where precise amounts of electricity energy / demand / natural  
21 gas and carbon reduction targets would need to be forecasted for a period and adjustments made  
22 for previous periods with additional factors for the gas tariff and the multi-variable electric tariff.  
23 The cooling process is more energy efficient (from the perspective of generating/absorbing a unit  
24 of heat) than space heating / domestic hot water processes so the charges for recovering costs are  
25 also accordingly set lower. The advantages however of a refrigeration cycle in energy efficiency  
26 are reduced by the high rate of energy consumption (demand) required to absorb and reject heat  
27 and to distribute chilled water. There is an additional energy demand charge beyond the energy  
28 charge to SETES. Therefore, the rate is selected to account for the increased energy efficiency of  
29 cooling and the increased electricity demand.

1 The SETES monthly capacity levy is pegged to the per area capacity charge of the SEFC energy  
 2 utility. The SEFC class 1 monthly levy was selected because, like SETES, SEFC must similarly  
 3 maintain the thermal capacity of a plant that consists of electric heat pumps and gas fired boilers  
 4 and the associated distribution system.

5 (ii) *Measured Load Compared to Forecast Load*

6 The BCUC Panel, in its IR No. 1 to SWCRA, asked questions about the actual load for 2016 as  
 7 compared to the forecast. The SRG also noted that actual 2016 sales were much higher than the  
 8 forecast used in the financial model.

9 The forecast loads are based on compiled usage statistics and industry and engineering best  
 10 practice assumptions for: (i) weather, (ii) occupancy rates and number of occupants for rental  
 11 and strata units, (iii) customer usage patterns, and (iv) building envelope performance.

12 The measured consumption on site for the half year July to December 2016 deviated from the  
 13 load forecast. The potential reasons for the variance between forecast and actual sales for 2016  
 14 are set out in SWCRA's responses to BCUC Panel IRs 1.4, 1.4.2 and 1.8. In summary, the  
 15 higher than forecast load for the June to December 2016 period is primarily related to colder  
 16 weather and higher customer usage as discussed further below.

17 • Weather

18 The load forecast is based on a 30-year average of weather data at the Vancouver International  
 19 Airport ("YVR"). The abnormally cold weather during November and December of 2016  
 20 heavily contributed to increased heating energy demand (*e.g.*, December 2016 had 33% more  
 21 heating degree-days than December 2015).

22 • Customer Usage Patterns

23 The actual rental rate and sale rate of units (proportion of units rented/sold) appears to be  
 24 reasonably comparable to the assumptions.<sup>10</sup> The number of occupants in rented/sold dwelling  
 25 units was forecast using typical assumptions of one occupant in studio apartments and two  
 26 occupants at a minimum in any larger dwelling unit plus one more occupant for second, third,

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<sup>10</sup> Exhibit B-21, SWCRA response to BCUC Panel IR 1.2.1,

1 etc. additional bedrooms.<sup>11</sup> The assumed occupancy rate of private dwelling units cannot be  
2 verified while respecting the privacy of the occupants. Accordingly, the assumptions about  
3 rental/sale rates and occupancy rates continue to be reasonable.

4 During the July to December 2016 period of analysis, the rental building exhibited service hot  
5 water consumption greater than a typically occupied building. Customers may have set their  
6 thermostats differently than assumed; taken longer showers, washed their hands more often and  
7 longer, and used their dishwashers more frequently; and used exhaust fans and opened  
8 windows/doors differently than assumed in the forecast. SWCRA cannot limit any of these  
9 customer behaviours and there are no interlocks provided to disable exhaust fans, for example, or  
10 heating or cooling equipment when doors/windows are open.

11 The load forecast is based on compiled usage statistics consistent with industry and engineering  
12 best practices, and the customer behaviours during the 6 month period of analysis are not  
13 expected to represent a long-term trend. Customers were provided with up to 6 months of  
14 service without charge, and the 6-month period of analysis may have captured energy  
15 consumption when customers had not yet adjusted their usage habits for paid service.

16 The revenue variation may be attributed to the uncertainty some customers have for the billing  
17 and rate setting process (e.g., uncertainty with respect to the meaning of interim rate approval).  
18 In general, thermal energy billing is not a matter residential customers are familiar with in BC  
19 unlike electricity or natural gas. With further familiarity, as is developed by paying invoices,  
20 customers can be assumed to reduce usage to align more to the compiled statistical averages.

21 • Commissioning and Construction Thermal Energy Losses

22 Another factor that has likely contributed to measured load exceeding the forecast is  
23 unfavourable impacts to plant efficiency and thermal losses due to construction of Phase 2  
24 extensions that began in late 2016. In particular, the apparent space heating and service water  
25 heating energy demand may be artificially inflated because sections of piping insulation were  
26 removed during this construction work. In combination with low ambient temperatures,

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<sup>11</sup> Adjustments are made on a higher-level to the overall energy consumption via the “intensity of usage” factors described in SWCRA response to BCUC Panel IR 1.4.2.

1 excessive distribution losses may be misinterpreted as uncommonly large usage demand. This  
2 difference is apparent as plant meters (thermal energy production) and billing meters (thermal  
3 energy consumption meters) are compared. This situation is temporary during construction.  
4 Thermal losses should reduce as a portion of operational energy once extension connections have  
5 been made and piping insulation re-applied.

6 In addition, the relatively small population (the number of dwelling units during the June to  
7 December 2016 period was less than 300) made the consumption during the period more prone  
8 to be driven by a small number of consumers with non-typical demand patterns.

9 As stated in SWCRA's response to BCUC Panel IR 1.1.4.2, it would not be reasonable to use the  
10 historical data from the second half of 2016 to directly forecast sales for 2017 and beyond. The  
11 following factors are believed to have impacted the historical data from 2016 to make it  
12 unsuitable for forecasting:

- 13 • does not reflect the 4 seasons of Vancouver;
- 14 • only includes a single data collection period to forecast 29 more years;
- 15 • the winter weather pattern appeared to be an outlier having met design low  
16 temperatures and prolonged cooler weather;
- 17 • only includes Shannon Estates Phase 1 which is rental customer weighted while the  
18 full build out will be strata customer weighted (the occupancy rate for strata units is  
19 expected to be lower than that of rental units, for example due to non-resident  
20 owners and owners that go south for the winter); and
- 21 • includes period of adjustment for customers from no thermal energy billing to  
22 thermal energy billing.

23 The predicted loads are calculated using compiled statistics, including averaged historical  
24 weather, consistent with industry and engineering best practices. It is expected that under more  
25 typical weather conditions and stabilized user demand, the measured consumption will exhibit  
26 less deviation from the projected figures. However, by the nature of being a small scale TES

1 there will almost always be a greater degree of volatility in actual demand compared to larger  
2 utilities.

3 *(iii) Regulatory Account related to Load Variances*

4 Given the variance between forecast and actual energy sales during the second half of 2016, and  
5 the apparent uncertainty with the load forecast, at least in the initial years, the BCUC Panel asked  
6 SWCRA if it would be open to having a deferral account to capture any variance between  
7 forecast and actual: (a) revenues due to load, and (b) cost of energy expense.<sup>12</sup> SWCRA is not  
8 opposed in principal to a deferral account mechanism to capture the impact to revenue due to  
9 uncertain load or cost of energy; however, the response also outlines several disadvantages that  
10 would arise with applying such a mechanism.<sup>13</sup> A key disadvantage could be that such a  
11 variance deferral account mechanism would appear to require a cost of service revenue  
12 requirement based on forecasts of load and revenue, whereas SWCRA proposes rates that are  
13 pegged to the rates of other utilities and that are not set based on specific forecasts of load and  
14 revenue at SETES. There would be significant additional regulatory burden and cost to  
15 determine a cost of service revenue requirement for the SETES utility and to review and approve  
16 load and revenue forecasts as often as each year the deferral account is in effect.

17 Additionally, as discussed above the proposed rates are not expected to recover the utility's  
18 expenses and earn a reasonable return for many years. Even using SRG's "medium case" and  
19 "high case" assumptions, which use actual 2016 load results to forecast load in 2017 and  
20 beyond,<sup>14</sup> SRG estimates that SWCRA's proposed rates will yield an average rate of return of  
21 1.4% over the 2016 to 2022 period.<sup>15</sup> Accordingly, if the load remains higher than the forecast  
22 for the initial years, this would not be expected to result in over-recovery of expenses and there  
23 appears to be no need for a regulatory account related to load variance at this time.

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<sup>12</sup> Exhibit A-17, BCUC Panel IR 2.6.

<sup>13</sup> Exhibit B-21, SWCRA response to BCUC Panel IR 2.6.

<sup>14</sup> Exhibit C7-16; Exhibit C7-18-1, SRG response to confidential BCUC IR 4.1; Exhibit C7-19, SRG response to SWCRA IR 11.1.

<sup>15</sup> Refer to section 2 of this submission, above.

1 (iv) “Rate Competitiveness”

2 The SRG and several interested parties make various arguments in relation to the  
3 “competitiveness” of the rates SWCRA proposes.<sup>16</sup>

4 The SRG agrees that “competitiveness may not be a direct factor in determining if rates are just  
5 and reasonable under section 60 of the UCA, as discussed in BCUC 3.85.1”.<sup>17</sup> However, the  
6 SRG also states that rate competitiveness is a factor to include in a Stream B TES Rates  
7 Application, with reference to the TES Regulatory Framework Guidelines (page 17, section  
8 2.4.4(iii)). The SRG misunderstands the circumstances in which rate competitiveness  
9 information might be considered. The TES Regulatory Framework Guidelines actually state that  
10 information confirming the proposed rates will be competitive with other service options that are  
11 available to customers in the new service area is to be provided if appropriate. Thermal energy  
12 services from the City of Vancouver SEFC utility, Creative Energy, Corix or BC Hydro are not  
13 available to customers in Shannon Estates. Each of the residential, commercial and common  
14 areas of Shannon Estates is connected to the SETES and customers do not have other thermal  
15 energy service options. The competitiveness of SETES rates relative to service options that are  
16 not available to customers in Shannon Estates is not relevant, as discussed further below.

17 The relative ranking of a utility’s rates in relation to the rates of other utilities has limited  
18 relevance to determining whether the utility’s rates are just and reasonable. Section 60 of the  
19 *UCA* does not require the BCUC, in setting a rate for a utility, to have due regard to the rates of  
20 other utilities. Section 60 does not include a reference to other utilities. The criteria under  
21 sections 59 and 60 of the *UCA* focus on the particular circumstances and services of the specific  
22 utility for which rates are to be set.

23 In its Decision on FortisBC Inc’s 2012-13 Revenue Requirements Application,<sup>18</sup> the BCUC  
24 confirmed that it does not have a statutory mandate to ensure that the utilities under its  
25 jurisdiction have similar rates as follows:

26 “FortisBC operates with a different set of supply resources and with a different  
27 customer base in terms of geography, population density and the

<sup>16</sup> For example, refer to Exhibit C7-16 at page 2.

<sup>17</sup> *Ibid.*

<sup>18</sup> BCUC Order No. G-110-12 Decision at pages 20-21.

1 residential/commercial/industrial mix it faces. The Commission panel has no  
2 mandate, nor does it find it appropriate, to require FortisBC to manage its utility  
3 business to produce rates or programs identical to those of BC Hydro. The  
4 Commission Panel believes that FortisBC's responsibility is to provide safe and  
5 reliable service in a cost-effective manner consistent with British Columbia's  
6 energy objectives. To do so, FortisBC must design and manage its system based  
7 on the resources available to it and the needs of its customers. This, at times, may  
8 result in rates that are greater than those of BC Hydro and potentially times when  
9 they are less."

10 Similarly, the SETES utility operates with a different set of circumstances as compared to other  
11 utilities, including:

- 12 • resources (SETES has solar, natural gas boilers, heat pumps, effluent heat recovery,  
13 whereas other TES have only natural gas boilers);
- 14 • heating and cooling services (SETES provides three thermal energy services  
15 delivered to each individually metered unit, whereas other TES provide a single  
16 service to a single thermal energy transfer station per building); and
- 17 • customer base (SETES is an order of magnitude smaller than the other utilities in  
18 terms of customer base, and several orders of magnitude smaller than BC Hydro).

19 The SETES system has been designed and is managed to provide specific thermal energy  
20 services solely to those customers within the small community of Shannon Estates. The SETES  
21 serves a fixed development, and there is zero foreseeable growth after Phase 2 is completed. This  
22 leaves the SETES with a depreciating rate base without projected sales growth. These unique  
23 circumstances, at times, may result in rates that are greater than those of other utilities and  
24 potentially times when they are less.

25 The competitiveness of SWCRA's rates relative to service options that are not available to  
26 customers in Shannon Estates is not relevant. The question is whether the rates proposed by  
27 SWCRA are unjust or unreasonable within the meaning of the *UCA* given the cost structure of  
28 the SETES utility and the nature of services provided. As discussed in section 2, above, the

1 proposed rates are not expected to recover expenses and provide a reasonable return for many  
2 years.

3 (v) “*Avoided Capital Cost*”

4 The SRG argues that Wall Financial Corporation (“WFC”), which is the parent company of  
5 SWCRA and of the developers of Shannon Estates Phase 1 and Phase 2, avoided some \$4.95  
6 million in costs attributable to space, water heating and cooling appliances not installed in the  
7 Shannon Estates units. They also argue that the sales price of the units “likely reflects the market  
8 value of alternative units that did include the cost of space and water heating appliances”<sup>19</sup> and,  
9 in their view, it is therefore “not appropriate for SWCRA to then earn profit through rates on the  
10 full \$7.5 million cost of the SETES.”<sup>20</sup>

11 The SRG argument is novel and it is not supported by the *UCA* or regulatory principles.<sup>21</sup>

12 In our view, the SRG’s assertion that the sales price of the strata units “likely reflects the market  
13 value of alternative units that did include the cost of space and water heating appliances”<sup>22</sup> is not  
14 correct. In fact, the sales price of a particular strata unit reflects the market value of the specific  
15 unit (not of alternative units) as determined through competition within the real estate market.  
16 Further, the SRG has not provided evidence in support of its assertion; the SRG has only  
17 provided calculations based on hypothetical assumptions.<sup>23</sup>

18 Moreover, the SRG’s argument appears to have evolved in its responses to IRs – in SRG’s  
19 response to SWCRA IR 1.7.3 the SRG speculates without providing evidence or accounting  
20 analysis that strata unit buyers might have contributed to the cost of the SETES as a contribution  
21 in aid of construction (“CIAC”). In other IR responses, the SRG confirms that the strata unit  
22 sales prices were determined through competition within the real estate market, which  
23 demonstrates that the purchase price did not include any CIAC for the SETES.<sup>24</sup> The strata unit

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<sup>19</sup> Exhibit C7-16, page 6.

<sup>20</sup> *Ibid.*

<sup>21</sup> Exhibit C7-19, SRG response to SWCRA IR 7.3; and Exhibit C7-18, SRG Response to BCUC IR 6.1. In that response, the SRG queries whether buyers of strata units contributed to the cost of the SETES as a contribution in aid of construction (CIAC). The SRG does not assert that the strata unit purchase price included CIAC toward the SETES, and it clearly did not.

<sup>22</sup> Exhibit C7-16, page 6. Underlining added.

<sup>23</sup> Exhibit C7-18, SRG responses to BCUC IRs 6.2 and 6.3; Exhibit C7-19, SRG response to SWCRA IR 7.14.

<sup>24</sup> Exhibit C7-18, SRG response to BCUC IR 6.2.

1 sale agreements do not include any provision for CIAC, and the purchase price of a strata unit  
2 clearly does not include CIAC for the SETES. The SRG also includes the rental units in their  
3 calculation of “avoided capital costs” (the rental units account for one-third of SRG’s \$4.95  
4 million calculation)<sup>25</sup> and clearly the rental agreements and rent do not include CIAC for the  
5 SETES.

6 There is no connection in law or accounting between the developer’s avoided capital cost of not  
7 installing traditional heating/cooling equipment, and the actual cost of the utility equipment  
8 installed to provide thermal energy services whether or not the developer and utility have a  
9 common parent. The SRG’s “avoided capital cost” argument would require the BCUC to in  
10 effect change the terms of the strata unit sale agreements and rental agreements (*e.g.*, to imply a  
11 CIAC that does not exist) and/or require SWCRA to write off up to \$4.95 million of brand new  
12 used and useful assets that the BCUC has certified in the public convenience and necessity and  
13 which will continue to be used to provide thermal services to customers for years to come.

14 In addition, the SRG’s \$4.95 million calculation does not include any accounting for (i) the costs  
15 the developer did incur to design and install space heating/cooling and domestic hot water  
16 equipment in the buildings and units,<sup>26</sup> (ii) the costs the developer incurred to install premium  
17 energy saving measures for each of the thermal energy service types as identified in section 3,  
18 above, or (iii) other benefits the strata owners receive such as avoidance of maintenance and  
19 replacement costs for traditional equipment not installed.

20 For all of the reasons above, we submit that the SRG’s requests related to “avoided capital cost”  
21 ought to be denied.

22 *(vi) Allocation of Space Cooling Equipment Costs*

23 The BCUC asked SWCRA to quantify the SETES costs of providing space cooling, and BCUC  
24 IR 74<sup>27</sup> (and interested parties) have raised the possibility of whether the residential rental  
25 apartment customers should be charged a different monthly capacity levy on the basis that the  
26 rental apartments do not receive space cooling service.

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<sup>25</sup> Exhibit C7-19, SRG response to SWCRA IR 7.13.

<sup>26</sup> Exhibit C7-19, SRG response to SWCRA IR 7.7.

<sup>27</sup> Exhibit A-13, BCUC IR 74.

1 SWCRA is still waiting on its contractors to provide a precise break down of costs both paid and  
2 projected as they relate to space cooling functions for Phase 1 and the Phase 2 expansion. The  
3 requested information will be submitted to the BCUC as soon as possible. This section of the  
4 argument discusses the merits of different monthly capacity levies for strata building customers  
5 and rental building customers.

6 The SETES provides three thermal energy services: space heating, space cooling, and domestic  
7 hot water heating, of which rental customers only receive the services of space heating and  
8 domestic hot water heating.

9 The Rate Application proposes different consumption-dependent charges for each of the space  
10 cooling, space heating and domestic hot water heating services, and a universal monthly capacity  
11 levy charge to be applied to all customers. There are several elements to be considered in  
12 evaluating the merits of providing different monthly capacity levies for strata units (receiving all  
13 three services) and rental units (receiving no space cooling) as follows.

14 An additional layer of regulatory complexity would be added by providing a different monthly  
15 capacity levy to rental units. The monthly capacity levy rate-setting mechanism SWCRA has  
16 applied for is a universal rate to all customers based on the imperial unit conversion of the SEFC  
17 Neighbourhood Energy Utility's Class 1 Residential or Mixed Use Residential Building rate. A  
18 different capacity levy for the residential rental apartment customers would suggest a weighting  
19 factor be applied. To maintain comparable total revenue, a compensatory weighting would also  
20 need to be applied to the non-residential rental apartment customers (i.e., rental building  
21 common areas). The determination of the weighting could possibly be accomplished by  
22 separating the value of the space-cooling only equipment against the rate base and proportionally  
23 reducing the monthly capacity levy whilst simultaneously adjusting for the relative square  
24 footage for the other customers – such a method would also require periodic reassessment of its  
25 balance especially in the early years of SETES because the total number of customers is  
26 increasing and the proportion of strata unit customers is also increasing as Phase 2 is completed.

27 Some equipment is used for both space cooling and space heating (*e.g.*, heat recovery is provided  
28 by the same equipment). There is a limited amount of equipment, namely the chilled water  
29 distribution piping which is solely used for space cooling and does not provide a direct space

1 heating function. The chilled water distribution piping is, however, essential to the heat recovery  
2 function. Without the space cooling being operational, the heat recovery is not possible.  
3 Consequently, the residential rental apartment customers derive benefit from the space  
4 cooling/space heating equipment even though they are not provided space cooling service to  
5 their residences.

6 A reconfiguration of the monthly capacity levy would necessitate consideration of these two  
7 elements at least which have some non-quantitative elements to final determination.

8 *(vii) Recovery of Regulatory Costs*

9 The SRG argues that SWCRA should not be allowed to recover any of its regulatory costs for  
10 this proceeding to set rates or, alternatively, if regulatory costs are allowed the SRG proposes  
11 that the allowed costs be recovered over a longer time period than SWCRA has proposed.<sup>28</sup>

12 With respect to recoverability, the costs of public utility regulation (including the costs to the  
13 utility, ratepayers and the BCUC) can be significant and they are justified by the public benefits  
14 of regulation including essential energy services delivered safely and reliably at just and  
15 reasonable rates. It is in the public interest for the utility, ratepayer interveners and the BCUC to  
16 incur reasonable regulatory costs, and there is nothing punitive about a public utility recovering  
17 such costs in customer rates.

18 A question is what are *reasonable* regulatory costs in the case of a small thermal energy utility  
19 like the SETES? The BCUC Panel noted this issue in its Order G-52-17 Decision:

20 “To date there has been a significant amount of regulatory process for the review  
21 of an Application of this size and the Panel notes that process is not without cost  
22 and potential impact on rates. The Panel will make a determination on the  
23 recovery of regulatory costs during its deliberations; however, the Panel wishes to  
24 alert the parties that there is no certainty that all legal and consulting costs will be  
25 approved by the Panel. To the extent that these costs are approved by the Panel  
26 they will be recovered in rates and therefore paid by customers.

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<sup>28</sup> Exhibit C7-16, pages 8-9.

1 The Panel encourages all parties to consider regulatory costs and seek the minimal  
2 regulatory process necessary to address all the parties concerns in a fair and  
3 comprehensive manner. The Panel is hopeful that the remaining review of the  
4 Application can proceed, without further interruption or additional process, in  
5 accordance with the regulatory timetable attached as Appendix B to Order G-52-  
6 17.”

7 The TES Regulatory Framework Guidelines indicate that for a Stream B TES, approval of rates  
8 is governed by sections 59-61 of the *UCA* and that the applicant is also required to consider  
9 certain BCUC rate setting principles, including using the least amount of regulatory oversight  
10 and regulated cost of service rates only as a last resort to minimize regulatory burden and costs  
11 on the utility, ratepayers and the Commission.

12 The pegged rates, deferral accounts and rate riders methodology SWCRA has proposed will, if  
13 approved, avoid significant regulatory costs over time as compared to full regulated cost of  
14 service regulation.

15 With respect to this proceeding specifically, SWCRA does not have regulatory staff and, to keep  
16 costs low, has relied primarily on the engineering firm (Sterling Cooper NDY) that designed the  
17 SETES and is the expert with respect to the operation, costs and services of the SETES.  
18 Additionally, Sterling Cooper NDY produced the financial model used to project the costs,  
19 revenues and returns of the utility. Nobody is better situated than Sterling Cooper NDY to  
20 produce the financial model and respond to the questions of the BCUC and interveners about the  
21 design, operation, costs and services of the SETES. Accounting support has been provided,  
22 where needed, by WFC accounting staff. SWCRA retained legal counsel relatively late in the  
23 proceeding. Legal counsel has assisted with addressing the BCUC’s suggestions to revise the  
24 Tariff, and provided support for the various questions by the BCUC and SRG raising issues  
25 about the application of the *UCA* and principles of rate regulation.

1 This proceeding has involved disproportionate time and effort relative to the rate base and  
2 customer base of the utility. To mitigate the impact of this irregular and lengthy proceeding on  
3 customers, SWCRA proposes that 25% of the actual regulatory costs for this proceeding should  
4 be excluded from the costs to be recovered from customers. The remaining recoverable costs  
5 would be reflected in the Regulatory Deferral Account and recovered by rate rider.

6 With respect to SRG's proposal that the allowed regulatory costs be recovered over a longer time  
7 period than SWCRA has proposed, a longer recover period will mean that increased financing  
8 costs will need to be recovered from customers. Further, a long recovery period will result in a  
9 larger outstanding deficit remaining on SETES's financial ledger for longer. This large debt on  
10 account will negatively impact the ability of the utility to independently secure low interest  
11 loans. Thus this will both prolong and increase the difficulty of financial and administrative  
12 separation of the utility from its corporate affiliates.

13 *(viii) Terms and Conditions of Service (the Tariff)*

14 The original Rates Application included and requested approval of a SWCRA Thermal Energy  
15 Tariff. BCUC IR No. 3 asked several questions about the proposed Tariff and recommended  
16 various amendments. SWCRA significantly revised the Tariff, including to address the BCUC's  
17 recommendations, and submitted the revised Tariff as Appendix A2 to Exhibit B-20.

18 The revised Tariff is appropriate for the nature of the services SETES provides and the nature of  
19 the customers (being individually metered residences, commercial spaces, and rental and strata  
20 building common areas). The terms and conditions are based closely on terms and conditions the  
21 BCUC has approved for other utilities that provide a similar nature of service to a similar nature  
22 of customers (*e.g.*, BC Hydro and FortisBC with respect to their services, terms and conditions  
23 for residential and small commercial customers). SWCRA has not received any further IRs on  
24 the Tariff since it was significantly revised.

25 ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 12<sup>th</sup> DAY OF JUNE 2017.

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27 Ian D. Webb

28 Counsel for Shannon Wall Centre Rental Apartments Limited Partnership