

25th Floor
700 W Georgia St

Vancouver, BC
Canada V7Y 1B3

Tel 604 684 9151
Fax 604 661 9349

www.farris.com

Reply Attention of: Nicholas T. Hooge
Direct Dial Number: (604) 661-9391
Email Address: nhooge@farris.com

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March 20, 2018

BY ELECTRONIC FILING

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Sirs/Mesdames:

Re: FortisBC Inc. Application for Acceptance of 2018 Demand-Side Management Expenditures – Project No. 1598934

Please find enclosed for filing the Final Argument of FortisBC Inc., dated March 20, 2018, with respect to the above-noted matter.

Yours truly,

FARRIS, VAUGHAN, WILLS & MURPHY LLP

Per:



Nicholas T. Hooge

NTH/bd
Enclosure
c.c.: client
All Registered Interveners

BRITISH COLUMBIA UTILITIES COMMISSION

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

and

FortisBC Inc. 2018 Demand-Side Management Expenditures

FINAL ARGUMENT OF FORTISBC INC.
March 20, 2018

FortisBC Inc.
Regulatory Affairs Department
16705 Fraser Highway
Surrey, BC V4N 0E8
Telephone: (604) 576-7349
Facsimile: (604) 576-7074

Diane Roy,
Vice President, Regulatory Affairs

Counsel for FortisBC Inc.
Farris, Vaughan, Wills & Murphy LLP
2500 – 700 West Georgia Street
Vancouver, BC V7Y 1B3
Telephone: (604) 661-1722
Facsimile: (604) 661-9349

Nicholas T. Hooge

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PART 1 - OVERVIEW

1. On November 15, 2017, FortisBC Inc. (**FBC** or the **Company**) filed an application with the British Columbia Utilities Commission (**BCUC** or the **Commission**) for acceptance of its schedule of Demand Side Management (**DSM**) expenditures for 2018 (the **Application**).
2. In the Application, FBC seeks the Commission's acceptance, pursuant to s. 44.2 of the *Utilities Commission Act*, R.S.B.C. 1996, c. 473 (the *UCA*), of its anticipated DSM expenditures of \$7.9 million for 2018. A breakdown, by Program Area, of the expenditures for which approval is sought is set out in Table 3-1 of FBC's response to BCUC Information Request (**IR**) 1.1.1 (Ex. B-2) and is reproduced below:

Table 3-1: 2017 Approved and 2018 DSM Plan Expenditures & Savings

	Program Area	2017 Approved		2018 Plan		2018/17 Difference		
		Savings MWh	Cost (\$000s)	Savings MWh	Cost (\$000s)	TRC ¹ B/C Ratio	Cost (\$000s)	% Diff
1	Sector							
2	Residential	10,493	2,718	7,132	2,486	1.4	-231.6	-9%
3	Commercial	13,666	3,131	19,165	3,473	2.0	341.6	11%
4	Industrial	1,556	309	1,188	496	2.8	187.2	61%
5	Program subtotal	25,715	6,158	27,486	6,456	1.8	297.2	5%
6	Supporting Initiatives		674		742		67.9	10%
7	Portfolio		777		743		-34.2	-4%
8	Total		7,610		7,940	1.6	330.8	4%

3. FBC provides this Final Argument pursuant to Commission Order G-53-18, establishing the remainder of the regulatory timetable for the Application. For the reasons stated in the Application, in the Supporting Information and Commentary provided in response to BCUC IR 1.1.1 and, as set out in this Final Argument, FBC submits that its 2018 DSM Plan (being Appendix "A" to the response to BCUC IR 1.1.1) and the programs and expenditures outlined therein comply with the legal framework established under s. 44.2(5) of the *UCA*

¹ Total Resource Cost (TRC) based on net savings and costs, adjusted by program NTGR (net to gross ratio).

and the *Demand-Side Measures Regulation*, B.C. Reg. 326/2008, as amended² (the **DSM Regulation**). The Commission should, accordingly, accept the filing of the 2018 DSM Plan and the schedule of expenditures it contains.

PART 2 - BACKGROUND AND RELATED COMMISSION PROCESSES

A. Introduction

4. The 2018 DSM Plan reflects a continuation of FBC's approved DSM plans and budgets for prior years and is based on the levels of spending and the savings target in the "High" DSM scenario selected for the Company's 2016 Long Term Electric Resource Plan (**2016 LTERP**) and associated Long Term Demand-Side Management Plan (**LT DSM**).
5. A review of the regulatory context in which the Application was filed is set out below.

B. 2017 DSM Plan

6. In its decision regarding FBC's application for acceptance of its 2015-2016 DSM expenditures (the **2015-2016 DSM Plan**), the Commission encouraged FBC to file DSM expenditure schedules for subsequent years after the Commission's review and decision on FBC's next long term resource plan filing pursuant to section 44.1 of the *UCA*.³ At the time, the deadline for that filing was June 30, 2016.⁴ Given this timing, the Commission recommended that FBC "file for acceptance of a shorter DSM period (i.e. for 2017 only) in order to bridge the gap".⁵
7. The deadline for FBC's 2016 LTERP filing was subsequently extended to November 30, 2016 by Commission Order G-43-16. This was in part to allow for the completion of the initial, base services phase of the provincial dual-fuel Conservation Potential Review (**BC CPR**), jointly undertaken by FBC, British Columbia Hydro and Power Authority (**BC Hydro**), and FortisBC Energy Inc. (**FEI**).

² The *DSM Regulation* was most recently amended pursuant to B.C. Reg. 117/2017, dated March 24, 2017.

³ BCUC Decision and Order G-186-15, dated December 3, 2014 (**2015-16 DSM Decision**), p. 33

⁴ BCUC Order and Decision G-110-12, dated August 15, 2012 (**2012 RRA/ISP Decision**), p. 149 (Directive #54)

⁵ 2015-16 DSM Decision, p. 33

8. Further to the Commission's recommendation, FBC filed an application on August 8, 2016 for approval of one year of DSM expenditures for 2017. FBC's 2017 DSM Plan proposed expenditures of \$7.6 million and targeted savings of 25,715 MWh. FBC filed its Final Argument on October 14, 2016 and its Reply Argument on November 2, 2016; the entirety of the regulatory process prior to the Commission's decision occurred in advance of the filing of the 2016 LTERP and LT DSM Plan.
9. The Commission accepted the 2017 DSM Plan pursuant to Order G-9-17, dated January 25, 2017.

C. 2016 LTERP and LT DSM Plan

10. The 2016 LTERP and LT DSM Plan were filed on November 30, 2016. The LT DSM Plan includes FBC's assessment of the appropriate level of cost-effective DSM resource acquisition to meet its resource needs over the LTERP's 20-year planning horizon. The spending and savings targets for the first three years of the LT DSM Plan largely reflect an extension of FBC's previously approved 2015-2016 DSM Plan and 2017 DSM Plan. The LT DSM Plan contemplates expenditures of \$7.9 million and annual savings of 26.4 GWh for 2018.⁶
11. Thereafter, beginning in 2021, the LT DSM Plan calls for a ramp-up in DSM spending and savings, which would increase FBC's load growth offset from DSM to 77 percent (averaged over the planning horizon of the LTERP/LT DSM Plan).⁷ This approach will allow FBC to optimize use of Tranche 1 Energy from its Power Purchase Agreement with BC Hydro (the **PPA**) in the short term.⁸
12. The regulatory review process for the 2016 LTERP and LT DSM Plan is still ongoing. At the time they were filed, FBC anticipated filing a multi-year DSM expenditure schedule application in mid-2017, following a Commission decision on the 2016 LTERP and LT

⁶ Response to BCUC IR 1.1.1, Ex. B-2, p. 2

⁷ *Ibid.*

⁸ *Ibid.*

DSM Plan.⁹ This was roughly consistent with the initial Regulatory Timetable adopted in that process, which scheduled completion of Final Argument by June 22, 2017 if there was no intervenor evidence and August 10, 2017 if there was.¹⁰

13. The regulatory process for the 2016 LTERP and LT DSM Plan was extended a number of times through amendments to the Regulatory Timetable. This was for various reasons, including the issuance of Panel IRs,¹¹ late filed intervenor evidence requiring additional IRs,¹² and the filing of an Errata by FBC.¹³ As a result, the Final Argument process was not completed until November 24, 2017.
14. Given this timing, and with 2018 approaching, FBC elected to file the present Application for approval of another single year DSM expenditure schedule, in order to continue offering its existing DSM programs without any market disruption.¹⁴ This, FBC submits, is a more prudent approach than attempting to file a multi-year DSM expenditure schedule application without the benefit of the Commission's decision on the 2016 LTERP and LT DSM Plan. This approach is also consistent with the Commission's previous recommendation of a "bridge" DSM filing pending the 2016 LTERP and its prior discussion of the relationship between long term resource planning and DSM expenditure schedule filings in its decision regarding FBC's 2015-16 DSM Plan:

The Commission Panel considers that, ideally, a utility should first file a LTRP with a DSM Plan under section 44.1(8)(c) and then file a DSM expenditure schedule. This will allow the utility to receive guidance regarding the overall size and approach of the DSM funding proposal prior to filing the detailed DSM expenditure schedule. This preferred order of filing is reflected in the UCA – the Commission is required for DSM expenditure filings to consider the most recent LTRP filing by the utility in determining whether to accept the DSM expenditure schedule, and not vice versa.¹⁵

⁹ *Ibid.*

¹⁰ BCUC Order G-197-16, Appendix A

¹¹ BCUC Order G-102-17, Appendix A

¹² BCUC Order G-107-17, Appendix A

¹³ BCUC Order G-139-17, Appendix A

¹⁴ Response to BCUC IR 1.1.1, Ex. B-2, p. 2

¹⁵ 2015-16 DSM Decision, p. 33 (underlining added)

D. CPR Additional Scope Services and Market Potential

15. At the time the 2016 LTERP and LT DSM were filed, FBC had received its base services CPR report from Navigant Consulting (**Navigant**) addressing energy efficiency potential in its service territory. The CPR report that was filed as an appendix to the LT DSM Plan was based on economic potential; however, FBC uses market potential, not economic potential, as an input to its detailed DSM planning because it represents achievable conservation potential, not technical or economic potential.¹⁶ The CPR base services report was sufficient for the purposes of developing the LT DSM Plan, which contains high-level spending and savings targets and pro-forma budgeting only. On the other hand, in FBC's view the CPR base services report was incomplete for the purposes of compiling a DSM expenditure schedule, with program and measure level details.¹⁷
16. In the LTERP process, FBC noted that the next and final phase of the BC CPR would include additional scope services from Navigant, namely market potential, fuel switching potential and demand response – at the time, reports on these matters were anticipated to be complete in approximately mid-summer of 2017.¹⁸ Ultimately, the market potential study was not completed until February 2018 (i.e. after FBC filed both this Application and its response to BCUC IR 1.1.1) and the fuel switching and demand response reports are now expected to be completed in the second quarter of 2018.¹⁹ Consequently, the 2018 DSM Plan does not directly incorporate the results of the previously filed CPR report, but delaying preparation of the 2018 DSM Plan to incorporate the market potential results would not have allowed for timely acceptance of the present Application.²⁰ Similarly, because the market potential report was not completed until recently, it is not feasible for FBC to evaluate and design new DSM measures and programs in a reasonable timeframe for acceptance of the 2018 DSM Plan.²¹

¹⁶ Response to BCUC IR 2.4.1, Ex. B-3, p. 5-6

¹⁷ *Ibid.*

¹⁸ BCUC IR 2.4.5, Ex. B-3, p. 10

¹⁹ Response to BCUC IRs 2.4.3 and 2.4.5, Ex. B-3, p. 9 and 10

²⁰ Response to BCUC IR 2.4.1, Ex. B-3, p. 6

²¹ *Ibid.*

17. FBC anticipates filing the Navigant market potential report with its forthcoming 2019 multi-year DSM expenditure application, which will take into account the market potential results.²²

E. 2017 DSM Results

18. The performance of FBC's DSM programs in 2017 was strong. Based on preliminary actual results, FBC achieved savings of 27,663 MWh for the year, at the portfolio level, compared to an approved target of 25,715 MWh in the 2017 DSM Plan.²³ Net DSM spending in 2017 was \$7.3 million, compared to the approved budget of \$7.6 million in the 2017 DSM Plan, or approximately 96 percent of plan.²⁴ With the inclusion of over \$200,000 in co-funding from project partners for DSM pilot projects, the portfolio level [activities] spend in 2017 was within 1 percent of plan.²⁵

19. Sector level results for 2017 are discussed in detail, below, at paragraphs 53-63.

PART 3 - LEGAL & REGULATORY FRAMEWORK

A. *UCA, section 44.2*

20. FBC's Application is filed pursuant to section 44.2 of the *UCA*, which provides that a utility may file "an expenditure schedule containing ... (a) a statement of the expenditures on demand-side measures the public utility has made or anticipates making during the period addressed by the utility". Under s. 44.2(2), a utility cannot recover DSM expenditures in its rates unless the expenditures are made pursuant to an expenditure schedule the Commission has accepted for filing.

21. Under section 44.2(3) of the *UCA*, the Commission must accept the expenditure schedule if it considers that making the expenditures included in the schedule would be in the public

²² Response to BCUC IR 2.4.3, Ex. B-3, p. 9

²³ Response to BCOAPO IR 1.1.1, Ex. B-4, p. 1

²⁴ *Ibid.*

²⁵ Response to BCOAPO IR 1.1.2, Ex. B-4, p. 2

interest. Section 44.2(4) allows the Commission to accept or reject part of an expenditure schedule.

22. In considering whether a DSM expenditure schedule is in the public interest, the Commission must consider the following criteria under section 44.2(5):

- (a) the applicable of the British Columbia's energy objectives;
- (b) the most recent long-term resource plan filed by the public utility under section 44.1, if any;
- (c) the extent to which the schedule is consistent with the applicable requirements under sections 6 and 19 of the *CEA* (note that neither of these provisions apply to FBC for the purposes of this filing);
- (d) whether the demand-side measures are cost-effective within the meaning prescribed by regulation, if any; and
- (e) the interests of persons in British Columbia who receive or may receive service from the public utility.

23. Each of these considerations is discussed in this Final Argument.

B. *Clean Energy Act*

24. As noted above, the Commission is required to consider “the applicable of British Columbia’s energy objectives” in reviewing FBC’s 2018 DSM expenditure schedule. The energy objectives are set out in section 2 of the *Clean Energy Act*, S.B.C. 2010, c. 22 (the *CEA*).

25. In prior processes, the Commission has discussed the following as being the most relevant energy objectives for the purposes of FBC’s DSM expenditure schedule filings:²⁶

²⁶ 2015-16 DSM Decision, p. 1

- to take demand-side measures and to conserve energy (*CEA*, s. 2(b));
- to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources (*CEA*, s. 2(d));
- to reduce BC greenhouse gas emissions by the amounts and at the time intervals prescribed in s. 2(g)(i)-(v) of the *CEA*;
- to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia (*CEA*, s. 2(h));
- to encourage communities to reduce greenhouse gas emissions and use energy efficiently (*CEA*, s. 2(i)); and
- co-ordination of DSM activities.²⁷

26. As described in further detail below, the programs and initiatives included in FBC's 2018 DSM Plan support these energy objectives.

27. With the amendment of the *Greenhouse Gas Reduction (Clean Energy) Regulation*, B.C. Reg. 102/2012 (*GGRR*) on March 22, 2017, gas-to-electricity fuel switching programs are now encompassed within the "prescribed undertaking – electrification" in the *GGRR*.²⁸ As FBC submitted in argument in the LTERP proceeding, treating fuel switching as DSM is not compatible with the amended *GGRR*. Fuel switching is now subject to a different cost effectiveness methodology under s. 4(1) of the *GGRR* than applies to DSM measures under the *DSM Regulation* and, if pursued, fuel switching measures and programs would now be eligible for cost recovery under s. 18(2) of the *CEA*.²⁹

²⁷ FBC notes that this objective is not explicitly stated in the *CEA*, but was considered to be a relevant objective in the Commission's review of the 2015-16 DSM Plan.

²⁸ *GGRR*, s. 4(3)(b)-(d)

²⁹ Response to BCUC IR 2.4.5.2, Ex. B-3, p. 11

28. Based on this new legislative treatment, the energy objective in section 2(h) of the *CEA* is no longer an “applicable” energy objective for the purposes of the Commission’s consideration of FBC’s DSM expenditure schedule filings under s. 44.2(5) of the *UCA*.

C. The *DSM Regulation*

i. Cost Effectiveness

29. Under section 44.2(5)(d) of the *UCA*, the Commission is required to consider whether the DSM expenditures proposed by FBC are “cost-effective” within the meaning of the *DSM Regulation*.

30. Section 4(1) of the *DSM Regulation* gives the Commission discretion to determine cost-effectiveness based on: (a) a review of each individual DSM measure; (b) a comparison of DSM measures in the portfolio; or, (c) the DSM portfolio as a whole. In previous processes, the Commission has consistently opted to review the cost-effectiveness of FBC’s DSM expenditure schedules at the portfolio level.³⁰ In the 2015-16 DSM Decision, the Commission explained its approach under s. 4(1)(c):

The Commission has the option to either apply the TRC/mTRC test to each individual program, or to apply the test to the portfolio as a whole. The Commission has opted in the past to apply this test on a portfolio basis. This provides FBC with the flexibility to undertake programs that are expected to provide a net BC benefit but where energy savings are hard to measure or low in the short term, provided there are other programs in its portfolio that provide offsetting benefits and/or savings.³¹

31. FBC submits that a portfolio level approach to cost effectiveness remains appropriate for review of the 2018 DSM Plan.

32. A combination of sections 4(1.1) and (1.5) of the *DSM Regulation* establish the tests the Commission must use in determining cost-effectiveness. In effect, at least 90 percent of the DSM expenditures in the portfolio must pass the total resource cost (**TRC**) test. In addition, up to 10 percent of DSM expenditures in the portfolio are permitted to pass a modified total

³⁰ 2012 RRA/ISP Decision, p. 136; 2015-16 DSM Decision, p. 4

³¹ 2015-16 DSM Decision, p. 4

resource cost (**mTRC**) test. The TRC is the ratio of the benefits of a DSM measure divided by the cost of the measure, including the utility's program costs.³² The benefits are the "avoided costs", calculated as the present value over the measures' effective life of: (i) the energy savings, valued at the long run marginal cost (**LRMC**); and (ii) the demand savings, valued at the deferred capital expenditure (**DCE**) cost.³³ The energy and demand savings are grossed-up by the avoided transmission and distribution energy losses (i.e. line losses) before the benefits are calculated.³⁴

33. The mTRC modifies the TRC to include consideration of non-energy benefits to the utility and customers or, if no such benefits are factored in, allows for a 15 percent increase in the benefits of the expenditure portfolio.³⁵
34. FBC has followed the cost effectiveness testing methodology set out in the *DSM Regulation* for the purposes of developing the 2018 DSM Plan.

ii. Adequacy

35. The *DSM Regulation* also, in section 3, defines the criteria for the Commission's consideration of whether a long term resource plan shows that a utility "intends to pursue adequate ... [DSM] measures" under section 44.1(8) of the *UCA*. In practice, the "intention" reflected in a long term resource plan is carried into effect through the inclusion of measures in annual DSM expenditure schedules that satisfy the requirements of section 3 of the *DSM Regulation*. Prior to a recent amendment, those requirements were fulfilled through the implementation of DSM measures that address specific issues related to low-income households, rental accommodations, and educational programs for students enrolled in schools and post-secondary institutions in a utility's service area.³⁶
36. A March 2017 amendment to the *DSM Regulation* added two further adequacy criteria to section 3(1), namely:

³² Response to BCUC IR 1.1.1, Ex. B-2, p. 14

³³ *Ibid.*

³⁴ *Ibid.*

³⁵ *DSM Regulation*, ss. 4(1.1)(b) and (c)

³⁶ *DSM Regulation*, ss. 3(1)(a)-(d)

- Pursuant to s. 3(1)(e), one or more “specified” DSM measures, as set out in paragraph (3) of the definition in section 1, representing no less than 1 percent of per year DSM expenditures. These specified DSM measures under s. 3(1)(e) are financial or other resources that support the development of or compliance with standards respecting energy conservation or efficient use of energy; and
- Pursuant to s. 3(1)(f), DSM measures intended to result in the adoption by local governments and first nations of a step code or more stringent requirements within a step code.

37. As described in the Application, FBC’s 2018 DSM expenditure schedule includes funding on measures that satisfy both of these new adequacy requirements in the *DSM Regulation*.³⁷

PART 4 - REVIEW OF FBC’S 2018 DSM EXPENDITURE PORTFOLIO

A. Consistency with the 2016 LTERP

38. In assessing the Application, the Commission is required to consider, per section 44.2(5)(b) of the *UCA*, the most recent long-term resource plan “filed by” FBC under section 44.1. FBC’s most recently “filed” plan is the 2016 LTERP. Accordingly, while the 2016 LTERP is yet to be accepted by the Commission under section 44.1(6), it is the long term resource plan against which the 2018 DSM Plan must be evaluated. FBC notes as well that each of the BC Old Age Pensioners’ Organization, et al. (**BCOAPO**), BC Sustainable Energy Association and Sierra Club BC (**BCSEA**), and the Commercial Energy Consumers Association of BC (**CEC**) expressed support for the High DSM scenario in their written submissions filed in the 2016 LTERP/LT DSM Plan proceeding.³⁸

39. In FBC’s submission, the measures included in the 2018 DSM Plan, as well as its proposed budget and savings target are entirely consistent with the 2016 LTERP. Specific points of consistency are as follows:

³⁷ Ex. B-1, p. 4

³⁸ Response to BCUC IR 1.1.1, Ex. B-2, p. 2

- (a) The proposed DSM expenditures of \$7.9 million in 2018 are the same as the proforma budget contemplated by the High scenario selected for the LT DSM Plan.³⁹
- (b) The target energy savings of 27.5 GWh in the 2018 DSM Plan are an increase over the DSM savings of 26.4 GWh contemplated for 2018 in the LT DSM Plan.⁴⁰
- (c) Based on the gross load forecast from FBC's Annual Review for 2018 Rates, the targeted energy savings in the 2018 DSM Plan reflect approximately 100 percent of forecast load growth in 2018.⁴¹ This compares favourably to the 66 percent load growth offset contemplated for 2018 in the LT DSM Plan.⁴²
- (d) The 2018 DSM Plan uses an LRMC for clean or renewable BC resources of \$100 per MWh, as developed for the 2016 LTERP, for the purposes of cost-effectiveness evaluation. Likewise the DCE value of \$79.85 per kW-yr is the same as FBC used for the purposes of the 2016 LTERP (and as previously approved by the Commission).⁴³
- (e) The DSM measures included in the 2018 DSM Plan are consistent with the measures assessed and the benefit/cost methodology used in the 2016 LTERP.⁴⁴

B. Cost-Effectiveness

40. As noted above, FBC used the LRMC value of \$100 per MWh developed for the 2016 LTERP for the purposes of evaluating the cost-effectiveness of the 2018 DSM Plan. While the 2016 LTERP has not received Commission acceptance, this value is the most up-to-date and reasonable LRMC for the Commission to use in assessing the cost-effectiveness of the 2018 DSM Plan. By comparison, a BC Hydro regulatory filing in 2016 indicated that BC

³⁹ *Ibid.*

⁴⁰ Response to BCUC IR 1.1.1., Ex. B-2, p. 2, 11 (Table 3-1)

⁴¹ Response to BCUC IR 2.3.1, Ex. B-3, p. 4

⁴² Response to CEC IR 1.1.4, Ex. B-7, p. 3

⁴³ Response to BCUC IR 1.1.1, Ex. B-2, p. 6

⁴⁴ Response to BCUC IR 1.1.1, Ex. B-2, p. 5

Hydro's LRMC, including energy and capacity, is approximately \$106 per MWh.⁴⁵ Given the proximity of this figure to FBC's \$100 per MWh LRMC, no sensitivity runs were undertaken.⁴⁶

41. Based on this LRMC, the TRC test results for the 2018 DSM show a benefit/cost (**B/C**) ratio of 1.6 at the portfolio level.⁴⁷ In other words, the B/C ratio is above unity and the 2018 DSM Plan passes the TRC test. This reflects a slight reduction in cost effectiveness compared to the approved 2017 DSM Plan, which had a portfolio level TRC of 2.0 – albeit based on a LRMC value of \$112 per MWh derived from FBC's 2012 Long Term Resource Plan (**2012 LTRP**).⁴⁸ Using the 2012 LTRP LRMC value of \$112 per MWh to evaluate the 2018 DSM Plan results in a marginally higher B/C ratio of 1.7 at the portfolio level.⁴⁹
42. Sector and program level TRC test results are provided in Table A8-1 of the 2018 DSM Plan and FBC notes that each program area is cost effective.⁵⁰ Two measures included in the 2018 DSM Plan require the mTRC test in order to be considered cost effective under the *DSM Regulation*: the Residential Heat Pump and the Customer Engagement Tool (**CET**), which total \$0.3 million of the proposed budget, or 4.2 percent.⁵¹ This is within the specified budgetary limit set by s. 4(1.5)(b)(iv) of the *DSM Regulation*.

C. Adequate DSM Measures

43. The 2018 DSM Plan includes a variety of measures and programs that satisfy the “adequacy” criteria set out in s. 3(1) of the *DSM Regulation* (described above at paragraphs 35-36).
44. FBC's Low Income, Rental Accommodation, and Education programs are summarized at Sections 2.4.1, 2.4.2, and 2.4.3 of FBC's Response to BCUC IR 1.1.1. These programs satisfy the criteria described in section 3(1)(a)-(d) of the *DSM Regulation*.

⁴⁵ Response to BCUC IR 1.1.1, Ex. B-2, p. 15

⁴⁶ *Ibid.*

⁴⁷ Response to BCUC IR 1.1.1, Ex. B-2, p. 11 (Table 3-1)

⁴⁸ Response to CEC IR 1.1.2, Ex. B-7, p. 2

⁴⁹ Ex. B-1, p. 5

⁵⁰ Response to BCUC IR 2.4.4, Ex. B-3, p. 9

⁵¹ Response to BCUC IR 1.1.1, Ex. B-2, p. 15-16

45. With respect to the new adequacy requirement set out at s. 3(1)(e) of the *DSM Regulation*, FBC’s 2018 DSM Plan includes funding of \$80,000 for Codes and Standards (**C&S**) under its “Supporting Initiatives” sector. This represents 1 percent of the total expenditure schedule of \$7.9 million, in conformity with section 3(1)(e) of the *DSM Regulation*.⁵² FBC believes this level of C&S spending is appropriate at present.⁵³ The C&S budget will be allocated to supporting energy efficiency products or installation standards produced by the Canadian Standards Association, advancing product or building codes, as well as FBC resources used to advance C&S generally.⁵⁴ FBC notes that, consistent with BC Hydro’s practice, it has not estimated energy savings attributable to government policy instruments developed with FBC’s support that have resulted in energy conservation.⁵⁵
46. The 2018 DSM Plan also satisfies the adequacy requirement in section 3(1)(f) through Supporting Initiatives, which includes funding for Community Energy Planning (**CEP**) assistance. Local governments, including First Nations, can access CEP assistance for the adoption of the progressive BC Energy Step Code for new construction using FBC’s New Home Program under its Residential DSM programs.⁵⁶

D. Applicable BC Energy Objectives

47. The following are the BC energy objectives FBC submits are applicable for the purposes of evaluating the 2018 DSM Plan and how they are supported thereby:

- “[T]o take demand-side measures and to conserve energy” (*CEA*, s. 2(b)).

FBC’s DSM proposals are largely a continuation of previously approved levels of DSM spending and savings and clearly show that FBC is taking DSM measures and helping to conserve energy in the province.

- “[T]o use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency” (*CEA*, s. 2(d)).

⁵² Response to BCUC IR 1.1.1, Ex. B-2, p. 8

⁵³ Response to BCUC IR 2.12.4, Ex. B-3, p. 37

⁵⁴ Response to BCUC IR 1.1.1, Ex. B-2, p. 8; see also Response to BCUC IR 2.12.2, Ex. B-3, p. 36

⁵⁵ Response to BCUC IR 2.12.1, Ex. B-3, p. 35

⁵⁶ Response to BCUC IR 1.1.1, Ex. B-2, p. 8-9

FBC supports pilot projects for new DSM technologies and the 2018 DSM Plan includes funding for pilot projects and innovative technology projects within Portfolio Expenditures.⁵⁷ FBC is also partnering with the BC government and BC Hydro to perform a study on air source heat pump installation practices, in an effort to improve their performance.⁵⁸

- “[T]o encourage communities to reduce greenhouse gas emissions and use energy efficiently” (*CEA*, s. 2(i)).

Local government and institutional strategic energy planning, as well as community education and outreach are enabled through FBC’s Supporting Initiatives.⁵⁹ As noted above, the CEP assistance program also helps encourage efficient energy use and conservation in communities.

- To coordinate DSM activities with other public utilities.⁶⁰

FBC continues to work collaboratively with other public utilities on DSM related activities. The BC CPR, a collaboration with BC Hydro and FEI, is a recent example of such initiatives. Other collaborative activities include the Home Renovation Rebate partnership with FEI and BC Hydro,⁶¹ the New Home program in partnership with FEI,⁶² and the Rental Apartment Program in collaboration with FEI,⁶³

48. As described above, the energy objective related to fuel switching is no longer applicable to consideration of FBC’s DSM expenditure schedules, following the amendments to the *GRR* described above. FBC did not consider including fuel-switching measures in the 2018 DSM Plan; if pursued, a fuel switching program would be implemented under the *GRR* and s. 18 of the *CEA*.⁶⁴

E. The Interests of Present and Future FBC Ratepayers

49. The final consideration under the *UCA* is the interests of persons in British Columbia who receive or may receive service from FBC (s. 44(5)(e)).

⁵⁷ Response to BCUC IR 1.1.1, Ex. B-2, p. 5 and Appendix A, p. A17; Response to BCUC IR 2.13.1, Ex. B-3, p. 38

⁵⁸ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A6

⁵⁹ Response to BCUC IR 1.1.1, Ex. B-2, p. 5

⁶⁰ 2015-16 DSM Decision, p. 12, 15

⁶¹ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A5

⁶² Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A7

⁶³ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A8

⁶⁴ Response to BCUC IRs 2.4.5.2 and 2.4.5.2.1, Ex. B-3, p. 11

50. FBC submits that the proposed DSM programs and expenditures in the 2018 DSM Plan support the interests of its ratepayers and potential ratepayers. The 2018 DSM Plan was developed using FBC's guiding principles for DSM planning, which are as follows:⁶⁵

- (a) The DSM Plan will be customer-focused by offering a range of measure choices with programs that address the key end-uses of the principal customer rate classes;
- (b) The DSM Plan will be cost-effective by including only those measures, with the exception of adequacy measures, that have a TRC B/C ratio greater than unity on a portfolio basis; and
- (c) The DSM Plan will be compliant with the applicable sections of the *UCA*, the *CEA* and the *DSM Regulation*.

51. The DSM programs comprising the 2018 DSM Plan are largely continuations, or enhancements, of existing programs that were included in the 2017 DSM Plan and previously approved by the Commission.⁶⁶ In its decision regarding the 2017 DSM Plan, the Commission determined that "the DSM programs contained in the 2017 DSM expenditure schedule meets the criteria for acceptance under section 44.2" and that it "considers that making the expenditures referred to in the schedule is in the public interest as set out in the *UCA*".⁶⁷

52. FBC submits that, being a continuation of the 2017 accepted programs and expenditures, the 2018 DSM Plan is also in the interests of FBC's present and future ratepayers and in the public interest. Subject to the inherent risk in the voluntary nature of DSM, the 2018 DSM Plan also represents a plan that FBC expects to be able to deliver upon, based on the Company's DSM expenditures and savings profiles over the 2015-2017 period.⁶⁸

⁶⁵ Response to BCUC IR 1.1.1, Ex. B-2, p. 11-12

⁶⁶ Response to BCUC IR 1.1.1., Ex. B-2, p. 11

⁶⁷ BCUC Order and Decision G-9-17, p. 5

⁶⁸ Response to BCUC IR 2.4.7.1, Ex. B-3, p. 13

PART 5 - REVIEW OF DSM PROGRAM SECTORS

A. Residential Sector Budget and Savings

53. FBC's 2018 DSM Plan includes a Residential sector budget of \$2,486 thousand and target energy savings of 7,132 MWh.⁶⁹ This represents a decrease in proposed spending of \$232,000 compared with the 2017 DSM Plan and a reduction in anticipated savings of 3,361 MWh.⁷⁰
54. FBC considers the budget reduction compared to the 2017 DSM Plan to be appropriate in light of market conditions and its experience with DSM programs in this sector in 2017.⁷¹ This is reflected in the fact that, compared with FBC's actual DSM results in 2017, the residential budget in the 2018 DSM Plan is actually an increase of \$595,000.⁷²
55. The largest variance in residential sector spending between plan and actual in 2017 was in relation to the Low Income program, which is the largest proportion of the residential program.⁷³ Spending on the Low Income program was less than 50 percent of plan and this program achieved less than 30 percent of its savings target.⁷⁴ As FBC explained in its IR responses, this variance was primarily due to the program growth budgeted for in the 2017 DSM Plan, after strong performance in 2016; however, FBC now believes that the strong 2016 performance was because 2016 was the first full year of the Energy Conservation Assistance Program (**ECAP**) and it was received well by an underserved market.⁷⁵ 2017 reflected a plateau in customer participation in the Low Income program, which experience was taken into account in budgeting for the 2018 DSM Plan.⁷⁶
56. FBC does not consider the budget reduction compared to the 2017 DSM Plan to be a scaling back of program resources, but rather as reflective of what FBC reasonably believes to be

⁶⁹ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A5 (Table A2)

⁷⁰ *Ibid.*

⁷¹ Ex. B-1, p. 5

⁷² Response to BCOAPO IR 1.1.1, Ex. B-4, p. 1

⁷³ Response to BCOAPO IR 1.1.2, Ex. B-4, p. 1

⁷⁴ *Ibid.*

⁷⁵ Response to BCOAPO IR 1.1.2, Ex. B-4, p. 1-2

⁷⁶ *Ibid.*

sufficient to service all eligible participants.⁷⁷ FBC has numerous steps it intends to take in 2018 to maximize participation in the Low Income program, as described in detail in response to BCSEA IR 1.2.2. If additional opportunities to promote customer participation are identified during the year, FBC will evaluate expanding on these efforts. Similarly, if outreach efforts cause participation to exceed projections, FBC will determine whether funds can be reallocated from other program areas.⁷⁸

57. The other large difference contributing to a reduction in planned savings in the Residential sector in 2018 compared to 2017 is with respect to the CET program. In particular the implementation of the customer engagement portal and home energy reports measure was delayed from 2017, resulting in some expenditures being shifted to 2018, and all savings shifting to 2019.⁷⁹ As a result, planned savings for CET dropped from 3,097 MWh in 2017 (when it was expected the measure would be implemented), to 240 MWh in 2018 (now that it is known the savings for the above noted measure will not be realized until 2019).

58. Given the foregoing explanations, FBC submits that the Residential sector DSM expenditures planned for 2018 are reasonable and appropriate and should be accepted.

B. Commercial Sector Budget and Savings

59. FBC's 2018 DSM Plan includes a Commercial sector budget of approximately \$3,473 thousand and targeted savings of 19,165 MWh. Both of these are increases over the 2017 DSM Plan.

60. The main areas with significant differences are (a) the Building Improvement Program, where expenditures are budgeted to increase from \$362,000 in the 2017 DSM Plan to \$988,000 in the 2018 DSM Plan (with a commensurate planned savings increase from 2,931 MWh to 5,290 MWh); and (b) the Lighting program, where the budget has decreased from

⁷⁷ Response to BCSEA IR 1.2.1, Ex. B-5, p. 3

⁷⁸ Response to BCSEA IR. 1.2.3, Ex. B-5, p. 4

⁷⁹ Response to BCUC IR 2.8.3, Ex. B-3, p. 24-25

approximately \$1.97 million in 2017 to \$1.75 million in 2018, but savings are projected to increase from 10,592 MWh to 13,620 MWh.⁸⁰

61. FBC explained these changes in its IR responses. The increased expenditures for the Building Improvement Program are the result, firstly, of increased incentive commitments signed in 2017 for several large building improvement projects due to increased construction activity in the Kelowna area.⁸¹ In addition, FBC has put various new prescriptive building improvement offers into the market and is offering higher rebates to encourage customers and trade allies to adopt and build support for these measures.⁸² The reduction in commercial lighting expenditures, but with increased savings is driven by large reductions in the cost of LED lighting products that have decreased the amount of incentive and program support necessary to achieve similar levels of electricity savings.⁸³ In addition, the entry of new low-cost LED products into the market require lower utility incentive spend to achieve similar savings as compared to traditional luminaire counterparts.⁸⁴

62. FBC submits that the Commercial sector spending and target savings are reasonable and should be accepted.

C. Industrial Sector Budget and Savings

63. The 2018 DSM Plan includes an Industrial sector budget of approximately \$496 thousand and a savings target of 1,888 MWh. This represents a budget increase of approximately \$70,000 and a decrease in target energy savings of 368 MWh compared to the 2017 DSM Plan.⁸⁵ The increased spending is a result of an increase in the Industrial incentive rate to a nominal \$0.25 per kWh saved for qualifying projects (up from \$0.15 per kWh), to fund

⁸⁰ Response to BCUR IR 1.1.1, Ex. B-2, Appendix A, p. A10 (Table A3-1)

⁸¹ Response to BCUC IR 2.10.3, Ex. B-3, p. 30

⁸² *Ibid.*

⁸³ Response to BCUC IR 2.10.2, Ex. B-3, p. 28

⁸⁴ *Ibid.*

⁸⁵ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A13 (Table A4) and Response to ICG IR 1.6.1, Ex. B-6, p. 8

facility-wide energy efficiency assessments and detailed, system-specific feasibility studies for qualifying customers, and for increased staff resourcing.⁸⁶

D. Evaluation Measurement, and Verification

Evaluation, measurement, and verification (**EM&V**) are important aspects of managing a DSM portfolio. They are necessary to ensure that the DSM program expenditures will yield the target savings expected and that the programs are operating effectively. There are two major aspects to EM&V: Measurement & Verification (**M&V**), which involves vetting individual DSM projects; and Monitoring & Evaluation (**M&E**), which is the periodic review of DSM programs that may encompass many individual DSM projects over a multi-year span.

64. FBC's proposed budget for EM&V of \$0.35 million aligns with the Company's EM&V Framework and industry general practice on M&E activities, representing 4.3 percent of the total 2018 DSM expenditure schedule.⁸⁷ Table A6-2 of FBC's Response to BCUC IR 1.1.1 (Appendix A) contains a detailed listing of the M&E study types for the 2018 DSM Plan and their associated expenditures.

PART 6 - CONCLUSION

65. For all of the foregoing reasons, FBC submits that making the expenditures in its DSM expenditure schedule for 2018 would be in the public interest and that the Commission should accept the 2018 DSM expenditure schedule pursuant to s. 44.2(3) of the *UCA*. A draft order is attached as Appendix D to the Application.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

March 20, 2018



Nicholas T. Hooge
Counsel for FortisBC Inc.

⁸⁶ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A13

⁸⁷ Response to BCUC IR 1.1.1, Ex. B-2, Appendix A, p. A18