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By Electronic Filing

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

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

**Re: FortisBC Energy Inc. 2019-2022 Demand Side Management Expenditures Plan
Project No. 1598964**

In accordance with the regulatory timetable for this proceeding set out in Order G-138-18, we enclose for filing the electronic version of the Final Argument of FortisBC Energy Inc.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

original signed by:

Christopher Bystrom
Professional Law Corporation
CRB/gvm

Enclosure



BRITISH COLUMBIA UTILITIES COMMISSION
IN THE MATTER OF THE UTILITIES COMMISSION ACT,
R.S.B.C. 1996, CHAPTER 473 (THE “ACT”)

and

FORTISBC ENERGY INC.

2019-2022 DEMAND SIDE MANAGEMENT EXPENDITURES PLAN

FINAL ARGUMENT OF
FORTISBC ENERGY INC.

October 11, 2018

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PART ONE: INTRODUCTION

A. Application and Proceeding Overview

1. FortisBC Energy Inc. (FEI) filed its 2019-2022 Demand Side Management Expenditures Plan Application (Application) on June 22, 2018. FEI's 2019-2022 Demand Side Management Plan (DSM Plan) represents the continuation of FEI's demand-side management (DSM) activities that have been ramping up since 2009. Over successive BCUC approvals, and years of providing DSM programs to customers, FEI's DSM activities have been refined and have matured. As demonstrated by FEI's Annual Reports to the Commission, FEI has established a track record of providing cost effective DSM programs to customers that meet industry best practice and approaches. From 2016 to 2017, FEI's DSM expenditures have exceeded \$30 million annually, and FEI is projecting that it will exceed its approved budget for the first time in 2018.¹ FEI's latest DSM Plan has benefited from in-depth consultation with stakeholders and the recent province-wide B.C. Conservation Potential Review (BC CPR),² and ramps up activities in alignment with government policy and the needs of customers.

2. After FEI filed its Application, the BCUC established a regulatory timetable by Order G-138-18 consisting of a round of information requests and written argument. Six interveners registered in the proceeding. Four interveners issued information requests to FEI, including the British Columbia Old Age Pensioners' Organization (BCOAPO), BC Sustainable Energy Association and Sierra Club (BCSEA-SCBC), Commercial Energy Consumer Association of BC (CEC) and MoveUP. FEI responded to the information requests on September 20, 2018.

3. Over the course of the proceeding to date, the following entities filed letters of support for the DSM Plan:³

¹ As noted in Exhibit B-2, BCUC IR 1.17.2, FEI currently intends to file an application for acceptance of its DSM expenditures in excess of its approved amounts in advance of year end.

² Exhibit B-1, Appendices D and E.

³ Exhibit E-1 to E-14.

- The Ministry of Energy, Mines and Petroleum Resources
- City of Vancouver
- City of North Vancouver
- City of Richmond
- City of Kelowna
- City of Kamloops
- District of West Vancouver
- District of Summerland
- Regional District of Central Kootenay
- Township of Langley
- Nelson Hydro
- BC Advanced Conservation & Efficiency Association
- Home Performance Stakeholder Council
- Hearth, Patio & Barbecue Association of Canada

4. Pursuant to the approved regulatory timetable for this proceeding, FEI files this Final Argument in support of its DSM Plan. In this Final Argument, FEI has sought to address the main topics canvassed in the proceeding and how FEI's proposed DSM Plan meets the requirements of the *Utilities Commission Act* (UCA). In the following sections, FEI summarizes the approvals it is seeking and the legal framework for the acceptance of DSM expenditures. This is followed by detailed submissions on why FEI's proposals should be approved as filed.

B. Approvals Sought

5. FEI requests acceptance pursuant to section 44.2 of the UCA of the DSM expenditure schedule from 2019 to 2022 shown in Table 6-1 of the Application, as reproduced below:⁴

FEI DSM Expenditures - 2019-2022 Forecast, Shown in As Spent Dollars⁵

| Program Area | Utility Expenditures (\$000s) | | | | |
|-------------------------------------|-------------------------------|---------------|---------------|---------------|----------------|
| | All Spending | | | | |
| | 2019 | 2020 | 2021 | 2022 | Total |
| Residential | 23,521 | 25,722 | 28,476 | 31,383 | 109,101 |
| Commercial | 13,837 | 17,355 | 27,437 | 31,074 | 89,703 |
| Industrial | 3,103 | 3,152 | 3,644 | 3,708 | 13,607 |
| Low Income | 6,630 | 6,795 | 6,984 | 7,217 | 27,626 |
| Conservation Education and Outreach | 7,155 | 7,353 | 8,578 | 9,433 | 32,518 |
| Innovative Technologies | 2,043 | 2,202 | 2,631 | 3,062 | 9,938 |
| Enabling Activities | 8,426 | 8,322 | 9,231 | 8,921 | 34,900 |
| Portfolio Level Activities | 1,635 | 1,676 | 1,822 | 1,979 | 7,112 |
| ALL PROGRAMS | 66,350 | 72,577 | 88,803 | 96,775 | 324,505 |

6. FEI is also seeking the following three related approvals.

7. First, as set out in Section 9.1, FEI is seeking approval to continue the current funding transfer rules, and add an additional funding rule to allow FEI to rollover unspent expenditures in a Program Area to the same Program Area in the following year. Together, the proposed funding transfer rules are as follows:

- (a) Funding transfers up to a maximum of 25 percent from one approved Program Area to another approved Program Area are permitted without prior approval of the BCUC;

⁴ As corrected in Exhibit B-1-1.

⁵ Requested expenditures listed include inflation as indicated in Appendix A, Exhibit 2.

- (b) In cases where a proposed transfer out of an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval is required.
- (c) In cases where a proposed transfer into an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval is required.
- (d) The transfer of any amount of funds from an approved Program Area to Innovative Technologies requires prior BCUC approval.
- (e) Funding transfers or the “rollover” of unspent expenditures in a Program Area to the same Program Area in the following year are permitted without prior approval of the BCUC.

8. Second, as set out in Section 9.2, FEI is seeking approval of the forecast rate base additions accounting treatment consisting of the following:

- (a) rename the rate base and non-rate base “Energy Efficiency and Conservation” deferral accounts as the rate base and non-rate base “DSM” deferral accounts;⁶
- (b) forecast rate base additions to the rate base DSM deferral account of \$30 million, on a net-of-tax basis, for each of the years 2019 through 2022;
- (c) the difference between the \$30 million forecast and actual expenditure levels, up to the approved amounts, are accounted for in FEI’s non-rate base DSM Deferral account, attracting a weighted average cost of capital (WACC) return, in the year they are expended; and
- (d) the closing balance of the non-rate base DSM Deferral account is transferred to FEI’s rate base DSM Deferral account at the beginning of the following forecast year.

9. Third, as set out in Section 9.3, FEI is seeking approval of a 16-year amortization period for DSM expenditures.

10. An updated draft Order is attached as Appendix A to this Final Argument.

⁶ Exhibit B-2, BCUC IR 1.22.1.

C. Legal Framework for the Acceptance of DSM Expenditures

11. DSM expenditures are subject to a specific legal framework in the UCA. Notably, pursuant to section 44.2(2) of the UCA, the BCUC may not approve rates for the purpose of recovering DSM expenditures unless the expenditures have been the subject of an expenditure schedule filed and accepted pursuant to section 44.2(1)(a) of the UCA. Therefore, FEI has filed its proposed DSM expenditure so that FEI will be permitted to include the recovery of DSM expenditures in its applied-for rates. FEI recovers its DSM expenditures in rates through rate base and non-rate base deferral account mechanisms designed to ensure that FEI will only recover actual expenditures, as discussed in section 9.2 of the Application and below in this Final Argument. The above framework and use of deferral accounts means that acceptance of FEI's DSM Plan is, in effect, an approval of a budget cap on the amount of DSM spending that FEI can recover in rates.

12. Pursuant to section 44.2(3) and (4) of the UCA, the BCUC must accept a DSM expenditure schedule if it considers the schedule to be in the public interest, or reject the schedule. The BCUC may also accept or reject a part of the schedule. The BCUC has previously found that section 44.2 of the UCA does not provide the BCUC with the authority to direct a utility to file a DSM expenditure schedule, make additions to a DSM expenditure schedule, or change the design of a particular DSM program.⁷ However, as noted in the paragraph above, a utility would not be able to recover DSM costs in final rates unless the costs have been accepted by the BCUC under section 44.2.

13. In considering whether a demand-side measure expenditure schedule put forward by a public utility (other than BC Hydro) is in the public interest, the BCUC must consider the following criteria according to section 44.2(5):

- (a) the applicable of British Columbia's energy objectives,

⁷ Order G-47-18, dated March 1, 2018, BC Hydro and Power Authority F2017-F2019 Revenue Requirements Application, Decision at page 73.

- (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 9 of the Clean Energy Act,
- (d) if the schedule includes expenditures on demand-side measures, 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.

14. Sections 6 and 9 of the *Clean Energy Act* as referred to in (c) above are not applicable to this Application. The meaning of cost-effectiveness for the purpose of (d) above is prescribed by the Demand-Side Measures Regulation (DSM Regulation). Cost effectiveness and the other applicable factors listed above are addressed in FEI's Application and in this Final Argument below.

15. FEI also designs its DSM Plan to meet the adequacy requirements of Section 3 of the DSM Regulation, which apply to a long-term resource plan filed under section 44.1 of the UCA.

16. In FEI's submission, its DSM Plan promotes BC's energy objectives, is cost-effective and adequate pursuant to the DSM Regulation, directionally aligns with FEI's most recent long-term resource plan, and is in the interests of customers. FEI therefore submits that its proposed expenditure schedule should be accepted.

PART TWO: DSM PLAN IS IN THE PUBLIC INTEREST

A. Introduction

17. FEI's proposed DSM Plan included as Attachment 1 of the Application⁸ describes FEI's proposed DSM expenditures from 2019 to 2022, including programs, enabling activities, and cost effectiveness results. As detailed in the sections below:

- (a) The DSM Plan has been developed based on appropriate principles and in collaboration with third party industry experts, with the benefit of in-depth consultation with stakeholders, reflects an integrated approach with other utilities in the province and covers an appropriate length of time.
- (b) The DSM Plan expenditures are appropriately based on a bottom-up approach driven by government policy and opportunities identified by the BC CPR and other third party studies, with new initiatives driving a significant portion of new savings.
- (c) The DSM Plan is cost effective pursuant to section 4 of the DSM Regulation.
- (d) The DSM Plan is "adequate" pursuant to section 3 of the DSM Regulation.
- (e) The DSM Plan is aligned with FEI's 2017 Long Term Gas Resource Plan (LTGRP).
- (f) The DSM Plan is subject to appropriate Program Evaluation, Measurement and Verification.

18. Each of the above points are addressed in the sections below.

B. Development of the DSM Plan Based on Appropriate Principles, Expertise, Consultation, Integration with other Utilities, and Length of Term

(a) Guiding Principles

19. Consistent with FEI's previous DSM plans, FEI's current DSM Plan is guided by the following 11 principles:

⁸ Exhibit B-1, Appendix A of the Application, as amended in Exhibit B-1-1.

1. Programs will have a goal of being universal, offering access to energy efficiency and conservation for all residential, commercial and industrial customers, including low income customers.
2. Conservation and Energy Management (C&EM) expenditures will have a goal of incentive costs exceeding 50 percent of the expenditures in a given year.
3. C&EM expenditure schedule plans and results will be analyzed on a program, sector and portfolio level basis, with acceptance based at the portfolio level.
4. The combined Total Resource Benefit/Cost, including the Modified Total Resource Benefit/Cost where applicable, of the Portfolio will have a ratio of 1 or higher.
5. FEI will submit its annual DSM Report to the BCUC, by the end of the first quarter of each year that details the results of the previous year's activity.
6. The DSM Plan will be compliant with the applicable sections of the UCA and the Clean Energy Act, and with the DSM Regulation as amended from time to time.
7. FEI will seek collaboration for programs from other parties, such as governments, other utilities, and equipment suppliers and manufacturers in recognition of the broader societal benefits resulting from successful program development and implementation.
8. Conservation Education and Outreach will be an integral part of FEI's DSM activities.
9. DSM expenditure schedules will be multi-year so as to create the funding certainty necessary to support effective implementation in the marketplace – this Application requests funding for a four-year Portfolio of DSM programs.

10. Programs will support market transformation by incenting efficient measures through customers and/or trade allies (contractors, equipment manufacturers, distributors, retailers, etc.), developing trade ally capacity, and supporting codes and standards development and implementation.
 11. FEI will retain a DSM stakeholder group, comprised of government, industry, trades, manufacturers, non-governmental organizations, advocacy groups, other utilities and customers to provide it with strategic advice. Additionally, FEI will undertake program area specific stakeholder consultation(s) on effective program design and implementation.
20. Adherence to the above principles helps ensure FEI's DSM activities remain compliant with legislation, based on collaboration and consultation with stakeholders, beneficial for all customer groups, aimed at market transformation, and transparently reported to the BCUC on a planned and actual basis.

(b) Expert Input from ICF and other Third Parties

21. FEI developed the DSM Plan in collaboration with ICF Canada (ICF), an energy efficiency consulting firm. As stated in the DSM Plan:⁹

The information presented in this report was compiled in a similar manner as the FEI 2014-2018 and 2012-2013 Energy Efficiency and Conservation (EEC) Plans filed in 2013 and 2011, respectively. The process involved a collaborative working effort between FEI DSM program personnel and staff from ICF, an energy efficiency consulting firm that also assisted FEI with the previous two rounds of DSM planning. ICF staff have broad experience in the entire energy efficiency program cycle, from conservation potential studies and technology assessments to DSM planning, program design, and program implementation.

⁹ Exhibit B-1, Appendix A, p. 1.

This includes supporting DSM programs in Ontario, turn-key implementation of commercial energy efficiency programs in Alberta and Saskatchewan and an industrial program in Saskatchewan, and turn-key implementation of more than 30 programs in various jurisdictions in the US.

22. As described in the DSM Plan, the collaborative approach for DSM planning included the following:

- FEI program managers identified and provided a description of the individual programs included within their respective portfolios, including eligible measures, target markets and potential delivery partners.
- Drawing on a combination of previous FEI DSM market experience, relevant technology and market studies, and, in some cases, professional estimates, FEI DSM managers completed Profiles for each program within their portfolio. Individual Profiles are included in the body of this report.
- ICF staff worked from the Program Profiles provided by FEI staff and populated the cost-effectiveness model. Initial results were generated at the level of total DSM program portfolio, program area (e.g., Residential, Commercial, etc.) and individual program.
- The initial results were reviewed collaboratively and revisions were made, as necessary; and
- The final results were compiled into the DSM Plan (Appendix of Exhibit B-1).

23. FEI also used other third party consultants to assist in developing its DSM Plan where needed. For example, in 2017, FEI retained the Posterity Group to develop industrial prescriptive measures identified in the CPR and to recommend additional industrial prescriptive measures for the Industrial Prescriptive Program.¹⁰ FEI also commissioned a third party consultant to review the methods, data sources, and assumptions used by FEI to estimate free ridership and spillover for its energy efficiency programs. This study was commissioned to

¹⁰ Exhibit B-2, BCUC IR 1.15.1; Exhibit B-3, BCSEA IR 1.22.1.

ensure that the Net-to-Gross (NTG) adjustments are reasonable, defensible, and calculated using industry best practices.¹¹

24. The use of ICF and other third party industry experts ensures that FEI's DSM Plan reflects industry best practices and benefits from the experience from DSM programs in other jurisdictions.

(c) In-Depth Consultation

25. FEI developed the DSM Plan with the help of information gathered through consultation with various program stakeholders and interested parties. FEI conducts ongoing program consultation with stakeholders in the ordinary course of business and as required for program management and program design. In addition, FEI spent approximately one year prior to the Application filing date conducting consultation on the DSM Plan.¹² FEI described the in-depth consultation process as follows:¹³

FEI engaged in and documented over 110 interactions and consultations related to the DSM Plan. Examples of entities consulted with include: communities, customers, contractors, manufacturers, government, First Nations, vendors, interest groups, and the Energy Efficiency and Conservation Advisory Group (EECAG). The forms of consultations included workshops, surveys, in-person interviews, webinars, and conference calls. FEI also provided confidential draft versions of the DSM Plan to EECAG members for review and input.

Most of the key learning from these consultations was market data refinement which was then considered and assessed within program plans and profiles within the DSM Plan. The feedback also included ideas for program design and how to expand programs and program reach. A consistent piece of feedback

¹¹ Exhibit B-5, CEC IR 1.13.8.

¹² Exhibit B-2, BCUC IR 1.11.1.

¹³ Exhibit B-1, p. 21.

received from the consultations was general endorsement for how DSM is managed and operated by FEI. Satisfaction appeared to be high for FEI in this area and none of the consultations suggested that any significant change in approach was required.

FEI also received directional feedback from the consultations. This feedback included the following:

- Expand alignment with industry influencers;
- Support BC Energy Step Code for new construction;
- Support deeper retrofits;
- Provide building envelope support;
- Consider upstream incentives;
- Support pre-commercial technologies;
- Do more in the Industrial program area;
- Pursue attribution for Codes & Standards; and
- Support Energy Advisors.

All of this feedback was taken into account in the development of the DSM Plan.

26. The use of feedback from the consultation effort to inform the DSM Plan is evident at multiple levels, including the incentive levels for various programs.¹⁴ The success of the consultation activities is also evident from the letters of support filed by numerous entities in this proceeding.¹⁵

(d) Collaboration with Utilities and Other Parties

27. FEI's proposed DSM Plan also reflects deep collaboration with FortisBC Inc. (FBC), BC Hydro and Power Authority (BC Hydro) and Pacific Northern Gas (PNG), as well as with other industry stakeholders.

¹⁴ BCUC IR 1.9.1.1;

¹⁵ Exhibit E-1 to Exhibit E-14.

28. FEI continuously works with its sister company FBC to find ways to integrate operational aspects of their DSM programs to streamline operations, reduce costs and add value for customers. For example, FEI and FBC jointly promote and administer the New Home Program in the following areas:¹⁶

- Co-development of the program structure, process and procedures;
- Day-to-day administration of the program;
- Co-fund the development of marketing and communications pieces and cost share media buys in the combined FEI and FBC service territory;
- Co-fund and share program evaluation and survey results to monitor program health and to identify improvement opportunities;
- Share technological infrastructure including online application forms, databases and websites; and
- Co-fund builder and energy advisor training with other program partners where applicable.

29. FEI also has a robust working partnership with BC Hydro and FBC. This partnership has included, and will continue to include, the following:¹⁷

- The Home Renovation Program is offered as a single customer-facing program;¹⁸
- Regularly scheduled meetings to facilitate knowledge sharing, identify program trends, and discuss areas of opportunity and challenges to enable continuous program improvement;
- Leverage each partner's marketing channels to drive program awareness;
- In partnership with industry partners, the utilities facilitate the quality installation of energy-efficiency equipment through various initiatives

¹⁶ Exhibit B-4, BCSEA IR 1.12.1.

¹⁷ Exhibit B-4, BCSEA IR 1.9.1.

¹⁸ Other third parties that provide time limited rebates, such as retailers and government, may also integrate their rebates into the Home Renovation Program platform. Exhibit B-4, BCSEA IR 1.9.3.

such as the development of quality installation guides, contractor training, and Program Registered Contractor directories;

- Support industry partners such as the Home Performance Stakeholder Council and its efforts to address the various interests, opportunities, and challenges that exist in the home performance industry; and
- Co-fund and share program evaluation and survey results to monitor program health and to identify improvement opportunities.

30. FEI and BC Hydro have also now agreed to jointly run the Industrial Strategic Energy Management (SEM) program starting in 2019. A joint approach to this program reflects industry best practice, and will minimize customer confusion and achieve cost-efficiencies.¹⁹

31. FEI, FBC and BC Hydro estimate total incremental cost efficiencies of approximately \$21.5 million as a result of working together. These incremental cost efficiencies occur as a direct result of the partnership over the April 1, 2013 to March 31, 2018 time period.²⁰

32. FEI also collaborates with other parties including government (local governments, provincial and federal, and BC Housing), various associations and other industries stakeholders.²¹ The expected benefits of establishing collaborations with other parties include:²²

- Increased breadth and depth of offer when working with co-funding partners;
- Providing customers with a single province-wide offer to improve ease of access;
- Partnerships for upstream incentives;

¹⁹ Exhibit B-2, BCUC IR 1.15.1. Exhibit B-4, BCSEA IR 1.23.2.

²⁰ Exhibit B-5, CEC IR 1.8.3.

²¹ Exhibit B-5, CEC IR 1.8.1.

²² Exhibit B-5, CEC IR 1.8.2.

- Cost efficiencies on incentives, administration, communications, evaluation, and trades training expenditures;
- Increased awareness through use of external marketing channels drives program participation;
- Consistent and unified messaging resulting in improved energy literacy;
- Program messaging is heard through local and trusted sources such as local government or service providers;
- Greater program uptake in the harder to reach segments such as low income, Indigenous communities and new Canadians;
- Program development improvements made through industry insights to the benefits of customers, builders and trades; and
- Work with industry and partners to work on trades training for improved equipment performance and longevity in addition to improved building performance overall.

33. FEI submits that its collaboration with other utilities and parties is a cost-effective approach that improves the overall quality of its DSM Plan in numerous ways for the benefit of customers.

(e) Four Years is an Appropriate Length

34. The four-year period covered by the DSM Plan is an appropriate length for a number of reasons. First, the four-year period maintains certainty in the market that FEI will be able to offer the programs listed in the DSM Plan over an extended time. This allows external parties such as contractors, manufacturers and other program partners to better support DSM initiatives knowing that they will be established for the long term.²³ It also allows FEI's partners to build deeper program knowledge, and more customers to become aware of FEI's programs

²³ Exhibit B-1, p. 20.

through sustained program communications and customer word of mouth.²⁴ FEI explained the importance of a long-term approach to DSM programs as follows:²⁵

Many initiatives across program areas demonstrate the benefits of longer term funding commitments. It takes time to build customer awareness, educate contractors/builders about program eligibility rules and ensure that suppliers have available qualifying products. Capital planning and budgeting for large projects (commercial, industrial, residential and social housing developments) may take place over a multi-year planning cycle. Stable funding ensures energy efficiency is built into the project plans and throughout the buildout. Many programs are reliant on partnerships and delivery agents that require an ongoing funding source to provide stability in the market. It takes significant resources to build infrastructure to support rebate administration and therefore it is beneficial to know that the investment will pay off over time. Initiatives to support Quality Installation and contractor/builder accreditation are long term projects requiring support from utilities and other partners. School Education programs require time to develop curriculum-connected content that aligns with the Ministry of Education requirements and to successfully promote the resource to teachers. In summary, long term stability of DSM funding benefits initiatives across the entire DSM portfolio.

35. A second key reason for the proposed length of the DSM Plan is that a four-year period approach promotes regulatory efficiency, enabling FEI to take advantage of program momentum and allows DSM staff to focus their time and attention on program development and operation.²⁶ Third, the four-year DSM Plan aligns with the long-term gas resource planning cycle and with FBC's long term electric resource planning cycle and recently filed DSM plan. This

²⁴ Exhibit B-5, CEC IR 1.5.1.

²⁵ Exhibit B-5, CEC IR 1.5.3.

²⁶ Exhibit B-1, p. 20.

alignment promotes regulatory and internal operational efficiency related to both FEI and FBC's DSM Plan applications.²⁷

36. FEI therefore submits that a long-term DSM Plan as proposed is beneficial and will increase the likelihood that its DSM programs will proceed as planned.

C. DSM Plan Spending is Appropriately based on Bottom-Up Approach Driven by Government Policy, Conservation Potential Review and other Third Party Studies, and Impact of New Initiatives

37. FEI's proposed DSM expenditures for the 2019-2022 period are described in the DSM Plan in Appendix A of the Application, which includes the following program areas: Residential, Low Income, Commercial, Conservation Education and Outreach, Industrial, Innovative Technologies, and Enabling Activities. The DSM Plan covers all of FEI's natural gas service territory.²⁸

38. FEI's DSM Plan includes a significant increase in DSM expenditures. The level of expenditures was driven by FEI's bottom up development of programs in alignment with government objectives and policy and customer needs. FEI is undertaking a number of new initiatives in the DSM Plan as a result of various drivers for expanded DSM activity, including opportunities identified in the BC CPR and other third party studies, changes to the DSM Regulation, and existing escalating program activity. All of these drivers support the level of expenditures outlined in FEI's DSM Plan.²⁹

²⁷ Exhibit B-5, CEC IR 1.5.1.

²⁸ Exhibit B-1, Appendix Z, p. 1.

²⁹ Exhibit B-2, BCUC IR 1.22.3.4.

(a) Government Policy a Significant Driver of Increased DSM Activity

39. Government policy is a significant driver of the increase in DSM activity in FEI's DSM plan. Notably, BC's 2016 Climate Leadership Plan set direction to FEI to increase incentives by at least 100 percent, stating:³⁰

TAKING ACTION: EXPANDING INCENTIVES TO PROMOTE ADOPTION OF EFFICIENT GAS EQUIPMENT

Gas fired equipment is used for a variety of purposes, from space and water heating in industrial processes, to home fireplaces and commercial cooking equipment. FortisBC offers incentives to promote adoption of more efficient gas equipment for the residential, commercial and industrial sectors.

Now the Province is taking action to amend the Demand-Side Measures Regulation and allow FortisBC to expand their incentives by at least 100 per cent, to encourage further adoption of technologies that reduce the emissions of gas fired equipment.

40. Consistent with the above, the DSM Regulation was amended in 2017 to increase the incentives FEI can cost-effectively offer. The DSM Regulation changes enable increased activity in support of the BC Energy Step Code, Low Income programs, codes and standards, and programs that require use of the Modified Total Resource Cost test (MTRC).³¹

41. FEI has responded to the Province's direction. As shown in Table 3-3 of the Application, FEI's planned incentive expenditures in 2019 have increased by 103% compared to 2016 actual levels.³² While the 2017 amendments to the DSM Regulation contributed to

³⁰ Exhibit B-4, Attachment 1.1, p. 32.

³¹ Exhibit B-1, p. 3.

³² Exhibit B-1, p. 10.

allowing this increase, other factors such as new measures and participation levels are also driving the increase, as discussed further below.³³

42. Other federal and provincial government policies have continued to support an increase in energy efficient gas appliances to reduce GHG emissions:

- With the introduction of the Pan Canadian Framework on Clean Growth and Climate Change in 2016, Federal Government policy has a focus on improving building energy efficiency and increasing space and water heating equipment efficiency to reduce GHG emissions.³⁴
- In December 2017, the Government of Canada announced a partnership with the Government of BC for energy efficiency and climate action in the province. This includes funding toward a Building Energy Retrofit Partnership that will provide financial incentives to households and businesses to undertake retrofits that reduce greenhouse gas emissions and energy bills. FEI is currently in discussion with the Ministry of Energy, Mines, and Petroleum Resources regarding the integration of the Retrofit Partnership with the current FEI program portfolio.³⁵
- In May 2018, the BC Government announced the replacement of the 2007 Greenhouse Gas Reduction Targets Act with the Climate Change Accountability Act. It set new carbon emission reduction targets from 2007 levels of 40 percent by 2030, 60 percent by 2040 and retained the target of 80 percent by 2050.³⁶

43. FEI's DSM Plan supports federal and provincial government policy to reduce carbon emissions through increasing the use of higher efficiency natural gas equipment and encouraging improved overall building energy efficiency. As shown in Table 3-4 of the

³³ Exhibit B-2, BCUC IR 1.12.2, 1.13.2, 1.16.1.

³⁴ Exhibit B-2, BCUC IR 1.12.2, 1.13.2, 1.16.1.

³⁵ Exhibit B-2, BCUC IR 1.14.1.

³⁶ Exhibit B-1, p. 10.

Application, the DSM Plan results in cumulative natural gas savings of 4,067,599 GJ and GHG emission reductions of 209,888 tonnes.³⁷

44. FEI submits that government direction and policy weighs heavily in favour of FEI's proposal to increase its investment in cost-effective DSM programs.

(b) British Columbia Conservation Potential Review and other Third Party Studies

45. Another key input into the DSM Plan has been the British Columbia Conservation Potential Review (BC CPR). The BC CPR was completed in 2017 by FEI, FBC, BC Hydro and PNG. The purpose of the BC CPR was "to examine available energy efficiency technologies, understand the inventory of energy equipment in a utility's service area, and determine the conservation potential that exists."³⁸ The BC CPR identifies technology and market opportunities as well as the scope of market energy savings potential across the study period. FEI used the BC CPR to help determine the measures to target in its DSM Plan, and ensure that the forecast aggregate expenditures and energy savings for program areas was reasonable.³⁹

46. The CPR lead to the development of numerous new measures in the DSM Plan, which has contributed to the increase in proposed DSM activity. For example, measures identified by the CPR and incorporated into the Commercial Program Area include: High efficiency furnaces, HVAC Controls, Condensing Unit Heaters, Roof Insulation, Vortex Deaerators, Underfired Broilers, and recirculation controls.⁴⁰ Measures identified by the CPR and incorporated into the industrial Program Area were: Industrial energy management; Industrial insulation; Direct contact water heaters; Replace steam traps; and Unit heaters.⁴¹

³⁷ Exhibit B-1-1, Table 3-4.

³⁸ Exhibit B-2, BCUC IR 1.2.1.

³⁹ Exhibit B-2, BCUC IR 1.2.1.

⁴⁰ Exhibit B-5, CEC IR 1.13.2.

⁴¹ Exhibit B-5, CEC IR 1.15.1.

47. More generally, all cost-effective measures identified by the BC CPR (i.e. all residential measures that pass the MTRC and all commercial and industrial measures that pass the TRC during at least one of the 20 years of its study horizon) are included in the DSM Plan, except as noted in response to BCUC IR 1.2.1, such as some measures which were found not to be cost-effective in pilot programs, and others that are still under consideration.⁴²

48. The CPR therefore provides a solid foundation for the DSM Plan, and assurance that FEI's DSM Plan is appropriately targeting the conservation potential in the Province.

(c) Bottom-Up Development of DSM Plan

49. The DSM Plan was developed from the bottom-up, based on a forecast of specific DSM programs and measures designed to achieve energy savings and support market transformation to higher efficiency equipment and buildings, while ensuring compliance with the DSM Regulation.⁴³ FEI forecasted expenditures, energy savings and cost-effectiveness based on the operational delivery considerations for specific programs consisting of a bundle of multiple measures.⁴⁴ For example, the distribution of participants across measures in the DSM Plan is based on a detailed bottom-up analysis of numerous operational factors;⁴⁵ incentive spending is determined by the incentive levels required to achieve participation and forecast program uptake; non-incentive spending is determined using operational delivery considerations and promotional elements required for specific programs.⁴⁶

50. In summary, the overall level of DSM spending flows out of FEI's bottom-up approach, being determined by the incentive levels required to achieve participation, forecast program uptake, and the non-incentive spend required to support program uptake as well as

⁴² Exhibit B-2, BCUC IR 1.2.1.

⁴³ Exhibit B-4, BCOAPO IR 1.2.2.

⁴⁴ Exhibit B-2, BCUC IR 1.2.2.

⁴⁵ Exhibit B-2, BCUC IR 1.2.5.1.

⁴⁶ Exhibit B-3, BCOAPO IR 1.2.2.

achieve compliance with the DSM Regulation. FEI's bottom up approach demonstrates that the planned expenditures are based on operationally achievable program targets.

(d) New Initiatives Driving Increase in DSM Activity

51. Most of the programs in the DSM Plan are a continuation of existing programs as shown in Table 6-2 of the Application. The DSM Plan includes one new program and one new enabling activity. In addition, many existing programs include other new initiatives such as program design elements, operational improvements and new measures. FEI provides a list of all new initiatives in response to CEC IR 1.19.1.⁴⁷ The following describes the new program and new enabling activity in the DSM Plan, and how these and other new initiatives are a significant driver of the increase in new DSM activity.

Industrial Strategic Energy Management Program

52. The BC CPR identified the top industrial measure as "Energy Management". FEI worked with consultants, customers and other utilities through direct engagement, workshops and research to determine how to support industrial energy management. The leading solution advanced was to develop an industrial SEM Program. It was also determined that it was industry best practice for natural gas industrial SEM programs to be conducted in partnership with electric utilities. FEI therefore collaborated with BC Hydro to develop the framework for an addition to BC Hydro's existing Industrial SEM cohort and industrial energy management program offers. FEI began piloting the joint Industrial SEM cohort with six participants in 2018. The information learned formed the basis of the Industrial SEM program proposed in the Application.⁴⁸

53. This new program is described in the DSM Plan as follows:

The Strategic Energy Management (SEM) program is a new program to encourage larger industrial customers to use natural gas more efficiency. The

⁴⁷ Exhibit B-5, CEC IR 1.19.1.

⁴⁸ Exhibit B-2, BCUC IR 1.115.1.; Exhibit B-4, BCSEA IR 1.2.2.

SEM program will provide customers with tools and coaching to encourage them to implement both operational savings projects and larger capital retrofits. FortisBC may run the SEM program jointly or in partnership with the existing BC Hydro industrial SEM program. Two separate tracks are planned to be available:

- **Individual Support (Large Customers):** FEI will look to provide individual incentives and support for energy modeling, monitoring, targeting, reporting and coaching for industrial customers that have an existing energy manager.
- **Cohort Support (Medium Customers):** For industrial customers without dedicated energy managers, FEI will bring together a group of industrial customers to work together and share knowledge related to building energy management in their facilities and receive group energy coaching and training.

54. FEI has confirmed that it will run the Industrial SEM Program jointly with BC Hydro.⁴⁹ As an “energy management program”, the Industrial SEM Program is a “specified demand-side measure” and therefore must be evaluated on a portfolio basis pursuant to the DSM Regulation.

Community Energy Specialist Program

55. This new enabling activity was designed to support the development of energy plans, including BC Energy Step Code support, and raise awareness of and participation in FEI's programs within municipalities and regional districts.⁵⁰ The DSM Plan describes the program as follows:⁵¹

This program funds Senior Energy Specialist positions in municipalities and regional districts, up to \$100,000 per year based on an annual contract. C&EM contributes \$50,000 of this funding amount with the other \$50,000 coming from

⁴⁹ Exhibit B-5, BCSEA IR 1.23.2.

⁵⁰ Exhibit B-5, CEC IR 1.19.1.

⁵¹ Exhibit B-1, Appendix A, p. 56.

FEI's External Relations department. Senior Energy Specialists lead policy development and implementation as communities develop or refresh their sustainability and energy plans including BC Energy Step Code support where applicable and raise awareness of and participate in FEI's C&EM programs. The estimated cost here includes assumption of 15 participants per year. FEI considers this to be an energy management program, and hence a specified demand-side measure, as defined in the DSM Regulation.

56. As a "specified demand-side measure", the Community Energy Specialist Program must be evaluated on a portfolio basis pursuant to the DSM Regulation.

New Activity Driving Growth

57. New activities in the Residential, Commercial and Industrial program areas are significant drivers of growth in the DSM Plan, while the increases to the Low Income Program area that occurred prior to 2019 are sustained over the DSM Plan period.⁵²

58. In the Residential program area, new measures such as combination systems, direct vent wall furnaces, drain water heat recovery, communicating thermostats, and HVAC zone controls are expected to provide gas savings of 36,826 GJ in 2019. The Residential program area is also projected to see an increase in savings from fireplaces and the New Home Program, due in large part to the introduction of the BC Step Code.⁵³

59. In the Commercial program area, the introduction of measures such as furnaces, roof insulation, kitchen demand control ventilation, vortex deaerators, and gas underfired broilers are projected to produce an additional 16,570 GJ of savings in 2019 compared to 2017. The remaining increase in projected gas savings is a result of net growth overall in existing measures.⁵⁴

⁵² Exhibit B-3, BCOAPO IR 1.2.1 and 1.3.1.

⁵³ Exhibit B-6, MoveUP IR 1.1.1.

⁵⁴ Exhibit B-6, MoveUP IR 1.1.1.

60. In the Industrial program area, the SEM Program and additions to the Prescriptive Program are significant drivers of growth in activity.⁵⁵ Expected savings from the new Industrial SEM Program alone are projected to provide 92,800 GJ of gas savings in 2019.⁵⁶ Other new measures in the Industrial program area include air curtains, direct contact water heaters, as well as pipe and tank insulation.⁵⁷

61. In total, new measures are projected to provide an additional 236,380 GJ of gas savings in 2019, which alone would lead to a 44 percent increase in savings between 2017 and 2019.⁵⁸ FEI has responded to numerous information requests seeking details on its programs, including on how incentive levels were determined and the rationale for levels of forecast spending.⁵⁹ As demonstrated by these responses, FEI's programs are robust and are designed according to industry standards, with the benefit of expert input, consultation and collaboration with industry partners. FEI submits that its robust DSM Plan, including new initiatives, supports the applied-for level of DSM expenditures.

D. DSM Plan is Cost Effective Pursuant to the DSM Regulation

62. As noted above, section 44.2 of the UCA requires the BCUC to consider whether a DSM expenditure schedule is cost effective pursuant to the DSM Regulation. This section of the argument describes the different cost effectiveness tests and FEI's approach to cost-effectiveness, which is consistent with past BCUC approvals.

(a) Overview of Cost Effectiveness Tests and Results

63. FEI reports on a industry standard cost-effectiveness tests to monitor programs, program areas and the portfolio as a whole. The standard cost-effectiveness tests are the Total

⁵⁵ Exhibit B-1, Appendix A, section 5; Exhibit B-2, BCUC IR 1.22 and 1.23.

⁵⁶ Exhibit B-6, MoveUP IR 1.1.1.

⁵⁷ Exhibit B-6, MoveUP IR 1.1.1.

⁵⁸ Exhibit B-6, MoveUP IR 1.1.1.

⁵⁹ Exhibit B-2, BCUC IR 1.12 to 1.13; Exhibit B-4, BSCEA IR 1.4, 1.5 and 1.10 to 1.27.

Resource Cost Test (TRC), the Utilities Cost Test (UCT)⁶⁰, the Participant Cost Test (PCT), and the Ratepayer Impact Test (RIM).⁶¹ Test results are reported as a benefit/cost ratio, with a ratio of 1.0 (unity) or higher indicating that benefits are equal to or greater than the costs. FEI provides a description of each cost-effectiveness test and how they are calculated in response to CEC IR 1.22.1 (Exhibit B-5).

64. The DSM Regulation prescribes the use of a combination of the TRC and a Modified Total Resource Cost test (MTRC). In the MTRC, the DSM Regulation stipulates an alternative avoided cost of energy and non-energy benefits adder to be used on the benefits side of the ratio. The DSM Regulation also stipulates a low income benefits adder to be added to the benefits side of the TRC and MTRC ratios for all low income programs. Finally, the DSM Regulation stipulates that only 40% of the portfolio may be deemed cost effective using the MTRC, with the remaining portion subject to the TRC. In its cost effectiveness results, FEI refers to the mixed MTRC/TRC calculation as the “Portfolio” cost test.

65. The cost-effectiveness results for each of the Program Areas and the total DSM Portfolio are presented in Exhibit 6 of the DSM Plan, as follows:

| Program Area | Incremental Annual Gas Savings, Net (GJ) | | | | Cumulative Annual Gas Savings, Net (GJ)* | NPV Gas Savings, Net (GJ) | Benefit/Cost Ratios | | | | |
|-------------------------------------|--|----------------|------------------|------------------|--|---------------------------|-----------------------|-------------|------------|-------------|------------|
| | 2019 | 2020 | 2021 | 2022 | | | TRC | Portfolio** | Utility | Participant | RIM |
| Residential | 238,946 | 277,639 | 300,891 | 328,860 | 1,146,336 | 11,977,465 | 0.6 | 2.3 | 0.9 | 1.3 | 0.4 |
| Commercial | 280,314 | 295,004 | 418,482 | 478,288 | 1,418,592 | 14,431,099 | 1.0 | 1.5 | 1.4 | 1.8 | 0.5 |
| Industrial | 280,651 | 280,651 | 316,955 | 316,955 | 1,195,212 | 7,735,384 | 3.5 | 3.5 | 4.5 | 4.9 | 0.8 |
| Low Income | 76,022 | 76,590 | 77,141 | 77,707 | 307,459 | 2,607,693 | 4.5*** | 4.5 | 0.8 | 2.6 | 0.4 |
| Conservation Education and Outreach | Savings Not Estimated | | | | | | Savings Not Estimated | | | | |
| Innovative Technologies | Savings Not Estimated | | | | | | Savings Not Estimated | | | | |
| Enabling Activities | Savings Not Estimated | | | | | | Savings Not Estimated | | | | |
| Portfolio Level Activities | Savings Not Estimated | | | | | | Savings Not Estimated | | | | |
| ALL PROGRAMS | 875,933 | 929,884 | 1,113,469 | 1,201,809 | 4,067,599 | 36,751,641 | 1.0 | 1.9 | 0.9 | 1.7 | 0.4 |

*Only includes gas savings persisting until 2022, and therefore may be less than the sum of net incremental annual gas savings from individual program years

**Includes the MTRC adder for programs that require it (i.e., TRC/MTRC hybrid)

***Section 4 of the BC Demand-Side Measures Regulation, as amended in March 2017, requires the use of the Zero Emission Energy Alternative and a 40 percent benefit adder in calculating the TRC for Low Income programs.

66. As seen above, the TRC and Portfolio benefit/cost ratios for all programs is greater than 1.0, meaning that the program portfolio is cost effective. The portfolio UCT result

⁶⁰ Also referred to as Program Administrator Cost Test.

⁶¹ Pursuant to Section 4(1.6) of the DSM Regulation: “The commission may not determine that a proposed demand-side measure is not cost effective on the basis of the result obtained by using a ratepayer impact measure test to assess the demand-side measure.”

is just below 1.0 at 0.9. FEI's portfolio approach, the TRC/MTRC and UCT are addressed more fully in the sections below.

(b) Continuation of Portfolio Approach

67. FEI continues to apply a portfolio approach to cost effectiveness for its DSM Plan as previously approved by the BCUC. The DSM Regulation stipulates that the BCUC may assess cost effectiveness of DSM measures individually, within a group, or on the basis of the portfolio as a whole. The BCUC must, however, assess "specified demand-side measures" and a "public awareness program" on a portfolio basis, pursuant to section 4(1.5) and (1.6) of the DSM Regulation. Specified demand-side measures include education programs, energy efficiency training, community engagement programs, energy management programs, technology innovation programs and resources supporting the development of or compliance with energy efficiency standards.⁶² FEI has specified demand-side measures within its Conservation Education and Outreach, Innovative Technologies and Enabling Initiatives program areas, as identified in Appendix A of the Application.

68. FEI's proposed portfolio approach has been previously approved by the BCUC on numerous occasions. Most recently, in accepting FEI's DSM expenditures from 2014 to 2018, the BCUC stated: "Reviewing FEU's overall EEC portfolio, the Panel remains persuaded that FEU's proposed spending levels pass portfolio level cost effectiveness tests and are not unreasonable."⁶³

⁶² For a more detailed description of specified demand-side measures see Section 1 of the British Columbia Demand-side Measures Regulation.

⁶³ Order G-138-14 and Decision dated September 15, 2014, FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018, at page 277.

69. The BCUC has also evaluated the cost-effectiveness of FBC's DSM plans on a portfolio basis. In the BCUC's Decision on FBC's Application for Approval of Demand Side Management Expenditures for 2015 and 2016, the BCUC states:⁶⁴

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.

70. The BCUC went on to state: "The Commission Panel finds that, on a portfolio basis, the DSM cost of energy saved appears reasonable."⁶⁵

71. The portfolio approach continues to be appropriate for a number of reasons, which were detailed in the Application as follows:⁶⁶

- The portfolio approach to measuring the cost-effectiveness of DSM expenditures has been in place for many years and remains an effective means of assessing the performance of DSM activities. The Commission first determined that assessment of cost-effectiveness be based on the portfolio as a whole in its decision on FEI's 2008 DSM Application and, since then, has reached the same determination in each of its subsequent decisions on FEI's DSM expenditure applications. Continued use of the portfolio approach will

⁶⁴ Order G-186-14 and Decision dated December 3, 2014, FortisBC Inc. Application for Approval of Demand Side Management Expenditures for 2015 and 2016, at p. 4. Online: https://www.b cuc.com/Documents/Proceedings/2013/DOC_42723_12-03-2014_FBC_DSM-Expenditures2015-16_DecisionWEB.pdf

⁶⁵ Order G-186-14 and Decision dated December 3, 2014, FortisBC Inc. Application for Approval of Demand Side Management Expenditures for 2015 and 2016, at p. 18. Online: https://www.b cuc.com/Documents/Proceedings/2013/DOC_42723_12-03-2014_FBC_DSM-Expenditures2015-16_DecisionWEB.pdf

⁶⁶ Exhibit B-1-1, pp. 28-29.

provide more flexibility for FEI to implement programs that meet customer needs while addressing the requirements of the DSM Regulation and maintaining a cost-effective portfolio. Alternatively, implementing cost effectiveness at some level below the Portfolio, such as at the program area or individual program level, is likely to be more restrictive on programs for some customer groups (Residential customers, for example) due to more restrictive cost-effectiveness requirements;⁶⁷

- According to Sections 4(4) and 4(5) of the DSM Regulation, the Commission must, at a minimum, use the portfolio approach in assessing the cost effectiveness of “specified demand-side measures” and “public awareness programs”.
- A portfolio approach to cost-effectiveness analysis promotes FEI’s goal of making DSM accessible to all customers. Residential programs, for example, often have difficulty passing the Total Resource Cost test (TRC) and even the modified TRC test (MTRC) per the DSM Regulation on a program-by-program basis, and low income programs are especially challenged by the cost-effectiveness test. Moving away from a portfolio approach might result in fewer DSM programs being available to residential and low-income customers.
- The portfolio approach permits FEI to encourage increasing levels of efficiency in natural gas equipment. Equipment that is relatively new to the market may have a higher initial cost due to the fact that it has not yet reached economies of scale. A program based on such equipment is more likely to have low TRC and MTRC results. Although the near term results of such a program might be unfavourable, the long term prospects for such equipment to provide benefits to customers could be significant. The

⁶⁷ FEI clarified that the statement “more restrictive cost-effectiveness requirements” was intended to refer to program offerings that face greater challenges meeting cost-effectiveness tests and as such, may be reliant on the MTRC. Exhibit B-5, CEC IR 1.11.1.

Portfolio level cost-effectiveness analysis can absorb some of these types of programs without failing the cost-effectiveness tests.

72. The portfolio approach remains important for the continuation of FEI's DSM Plan. All of FEI's programs are challenged in meeting cost-effectiveness in the current low cost natural gas market as the avoided cost of natural gas is the primary benefit, and as mandatory energy efficiency standards become more stringent over time. The Residential and Commercial New Construction are examples of programs that are particularly challenged from a cost-effectiveness perspective. However, the benefits of these programs, including educating builders and trades for high performance buildings with a potential 100-year lifespan, add significant societal value. These programs have broad reach and high non-energy benefits associated with building performance, comfort and health, GHG emissions reduction and community energy planning for local governments. Failing to carry out these new construction programs would result in significant lost opportunities over the long term.⁶⁸

73. FEI remains committed to ensuring that its DSM portfolio meets a combined TRC/MTRC of at least 1.0 on an annual basis. FEI will continue its practice of monitoring DSM programs on a monthly basis to identify trends in cost-effectiveness and will make adjustments as needed.⁶⁹ Consistent with past practice, FEI will report on its annual cost effectiveness results in its DSM Annual Reports.

74. FEI therefore submits that the BCUC should continue to apply the cost effectiveness criteria on a portfolio basis.

(c) Prescribed use of TRC/MTRC

75. As noted above, the DSM Regulation prescribes the use of a mix of the TRC and MTRC, with the MTRC available for up to 40 percent of FEI's DSM portfolio, excluding specified demand-side measures. Consistent with industry standards, the TRC for the portfolio as a

⁶⁸ Exhibit B-5, CEC IR 1.11.1.

⁶⁹ Exhibit B-1, p. 29.

whole is calculated by comparing the costs of the portfolio to the total value of the benefits of the programs contained in the portfolio. FEI uses the MTRC for programs challenged to meet the TRC, and manages its activities to stay within the 40 percent MTRC cap, as shown in Exhibit 4 of the DSM Plan.⁷⁰ The combination of the MTRC benefits for those programs that require use of the MTRC and the TRC benefits for all other programs are compared to the costs of all programs in what is referred to as the 'Portfolio' test in FEI's DSM Plan.

76. The sections below discuss the various modifications to the TRC prescribed by the DSM Regulation, including treatment of Low Income Programs, the components of the MTRC, the net-to-gross (NTG) ratio, and attribution of savings for regulated standards.

Low Income Programs

77. For a demand-side measure intended specifically to assist residents of low-income households such FEI's Low Income program area, the BCUC must use the TRC test with the Zero Emission Energy Alternative (ZEEA) as the avoided cost and then consider the benefit of the demand-side measure to be 140 percent of its value. FEI has applied this approach in the cost-effectiveness analysis of the Low Income programs presented in the DSM Plan.⁷¹

Components of the MTRC: ZEEA and NEBs

78. The MTRC includes the use of the ZEEA (zero-emission energy supply alternative) in determining avoided cost of energy, and the inclusion of non-energy benefits (NEBs) to customers and the utility. The ZEEA and NEBs are described below.

79. When calculating the TRC, FEI uses the avoided cost of gas as described in detail in Appendix F of the Application.⁷² When calculating the MTRC, the ZEEA is applied to determine the avoided cost of energy. The ZEEA is defined in section 4(1.1)(a) of the DSM

⁷⁰ Exhibit B-1, Appendix A, Exhibit 4.

⁷¹ Exhibit B-1, p. 30 and Appendix A, p. 36.

⁷² Exhibit B-1, Appendix F.

Regulation as being BC Hydro's long run marginal cost (LRMC) of acquiring electricity generated from clean or renewable resources in British Columbia. The use of the ZEEA recognizes that avoiding natural gas use has similar GHG emission reduction benefits to that of employing clean electricity to meet that energy need.⁷³

80. In the Application FEI used a ZEEA value of \$106/MWh, or 29.45/GJ, based on BC Hydro's Waneta 2017 Transaction Application to the BCUC.⁷⁴ As noted by the BCUC in an information request, however, Table 9 of the Waneta 2017 Transaction Application Decision (Waneta Decision), shows an updated LRMC of \$105/MWh which accounts for updated IPP financing costs. FEI confirmed that changing the ZEEA to \$105/MWh (or 29.17/GJ) would have no material impact to the cost effectiveness results as any slight impact would be lost in the rounding of the MTRC values.⁷⁵

81. The MTRC also requires the inclusion of NEBs (non-energy benefits). Pursuant to section 4(1.1)(c) of the DSM Regulation, the amount of NEBs is either an amount proposed by the utility (and accepted by the Commission) or a deemed 15 percent adder to the benefits side of the MTRC calculation. Consistent with past DSM plans, FEI has not proposed a particular amount for NEBs, but instead relies on the deemed 15 percent NEB adder in its MTRC calculations for the DSM Plan.⁷⁶

Net-to-Gross Ratio: Spillover and Freeriders

82. The NTG (net-to-gross) ratio is an adjustment applied to the benefits side of the equation in the TRC and MTRC. The NTG ratio consists of spillover and free rider rates. Free riders are program participant who would implement the program measure or practice in the absence of the program. Spillover refers to individuals who implement energy efficiency measures or efficiency actions due to program influences, but without any financial or technical

⁷³ Exhibit B-1, p. 31.

⁷⁴ Table 3 on Page 19 of 90, Appendix N, British Columbia Hydro and Power Authority Waneta 2017 Transaction Application ~ Project No.1598933, <http://www.bcuc.com/ApplicationView.aspx?ApplicationId=604>

⁷⁵ Exhibit B-2, BCUC IR 1.6.2.

⁷⁶ Exhibit B-1, p. 31.

assistance from the program.⁷⁷ The impact of free riders is a reduction to the energy savings, whereas spillover would increase energy savings. The relative size of the free rider and spillover rates will determine the impact of the NTG ratio on the benefits of a program.⁷⁸

83. FEI has been required to estimate and include free rider rates in its cost effectiveness analysis and has therefore included free riders for many measures in its DSM Plan in accordance with the methods outlined in the California Evaluation Framework.⁷⁹ While the BCUC has also endorsed the use of spillover rates,⁸⁰ it is difficult to measure spillover. While there is evidence indicating the use of deemed adder or detractors used in some jurisdictions to account for spillovers and free riders, FEI does not use deemed adders or detractors to account for spillover and free riders as FEI has not found sufficient industry data to support usage of such standards by FEI.⁸¹ As a result, FEI has only quantified the spillover values for one program in the DSM Plan - the Residential Enerchoice Fireplace program.⁸² Details on the calculation are provided in Exhibit B-2, BCUC IR 1.8.1.1. Due to the difficulty in measuring spillover, the effect of the NTG on all other programs has been to adjust the benefits downward for the presumed presence of free riders.

84. In its Decision on FEI's 2014–2018 DSM expenditure schedule, the BCUC recognized both the difficulty of measuring spillover and the negative impact of not including spillover effects in the NTG calculation.⁸³ In short, including free riders but not spillover has resulted in conservative program design and evaluation.⁸⁴ It remains FEI's position that both free riders and spillover effects are very subjective and tend to cancel each other out. FEI's

⁷⁷ Exhibit B-5, CEC IR 1.13.1.

⁷⁸ Exhibit B-5, CEC IR 1.13.1; Exhibit B-5, CEC IR 1.13.5.

⁷⁹ Exhibit B-5, CEC IR 1.26.2.

⁸⁰ Exhibit B-5, CEC IR 1.13.5.

⁸¹ Exhibit B-5, CEC IR 1.13.4.

⁸² Exhibit B-1, p. 32.

⁸³ Order G-138-14 and Decision dated September 15, 2014, FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018, at page 264.

⁸⁴ Exhibit B-5, CEC IR 1.13.5.

preferred approach would be to use gross energy savings as the benefit in cost effectiveness analysis, instead of using any spillover or free rider effects.⁸⁵

Attribution of Savings from the Introduction of Regulation

85. FEI's portfolio of DSM programs provides incentives to encourage adoption of energy efficient equipment that exceeds code baseline, thus increasing market saturation of higher efficiency equipment. This increased market saturation ultimately enables the adoption of higher performance requirements in codes and standards.⁸⁶ FEI has not, however, included energy savings in its DSM Plan from the adoption of codes and standards.

86. Energy savings from the introduction of new codes and standards are considered on a case by case basis at the time that the relevant information is available and the energy savings are calculated by comparing the new code to the current baseline code in effect.⁸⁷ FEI intends to attribute the benefit of savings from the introduction of codes and standards to the applicable Program Area where such an attribution can be supported. FEI will incorporate savings from the introduction of codes and standards on a case-by-case basis and report on this practice in its DSM Annual Reports.⁸⁸

(d) Utility Cost Test

87. As explained above, FEI's view is that the appropriate way to determine the cost effectiveness of its DSM Plan is to apply the TRC/MTRC test at the portfolio level. FEI also considered the results of the UCT at a program and portfolio level, and made modest improvements to the UCT by reducing program administration costs and, in some cases, incentive levels.⁸⁹ FEI's portfolio has an overall UCT of 0.9, with only three programs with a UCT below 1.0: the New Home Program in the Residential Program Area, and the Low Income Direct

⁸⁵ Exhibit B-5, CEC IR 1.13.5.

⁸⁶ Exhibit B-5, CEC IR 1.18.2.

⁸⁷ Exhibit B-2, BCUC IR 1.19.1.

⁸⁸ Exhibit B-1, p. 32.

⁸⁹ Exhibit B-2, BCUC IR 1.5.2.

Install Program and the Low Income Prescriptive Program. FEI submits that its DSM Plan should not be changed to increase the UCT result. As the programs with a low UCT are in the residential and low income areas, attempts to increase the UCT results will decrease the reach and breadth of the DSM Plan and result in lost opportunities in low income and residential sectors. FEI has also taken a conservative approach to estimating its benefit/cost ratios, and as such the UCT of the portfolio may very well be 1.0 or higher. The use of the UCT is addressed in more detail below.

88. The use of the UCT is prescribed by the DSM Regulation. While the BCUC has discretion to use the UCT, section 4(1.8) of the DSM Regulation does not allow the UCT to be used for a number of programs, including low income programs and programs that are cost effective under the TRC:

(1.8) Despite subsection (1.1), the commission may determine that a demand-side measure, other than

- (a) a specified demand-side measure,
- (a.1) a charity program,
- (b) a public awareness program,
- (c) a demand-side measure referred to in section 3 (1) (a) [i.e. low income programs], or
- (d) a demand-side measure that is cost effective without applying subsection (1.1) but after applying subsection (1.4) [i.e. programs that are cost effective under the TRC]

is not cost effective if the demand-side measure would not be considered cost-effective under the utility cost test.

89. The BCUC considered the application of the UCT on FEI's DSM expenditures in its Decision regarding FEI's 2014-2018 DSM expenditure schedule. The BCUC explained that it would consider the UCT as a checkpoint on DSM programs requiring the MTRC, but was clear

that other considerations, such as unquantified benefits and the breadth of the portfolio, would also be considered:⁹⁰

...where appropriate, the Panel may consider the UCT as a checkpoint in evaluating EEC programs requiring the mTRC, along with other considerations including the ability of customers to participate in EEC programs.

The Commission Panel will not require that programs requiring the mTRC test also pass the UCT, as the Panel recognises that EEC programs which do not pass the UCT could nonetheless be considered appropriate for FEU to undertake because of their unquantified benefits (such as supporting BC emission reduction targets or other objectives of the BC Energy Plan). A low UCT could also result from energy savings that are hard to measure or low in the early years. However, a program with a low UCT could also indicate that an EEC program proposed may not be the most cost effective means of incenting customers to change their investment or consumption behaviours, and other programs could be more effective. For this reason, the Panel considers it appropriate that the result of the UCT test be considered, even if it is not determinative.

In evaluating the reasonableness of allocation of EEC funding between EEC programs that pass the TRC/mTRC, the Commission Panel determines that the UCT result is a relevant consideration. Other relevant considerations include providing broad opportunities for customers to participate, TRC/mTRC cost-effectiveness result, addressing 'lost opportunities' (e.g., new construction) and retaining a level of customer and trades engagement. Specifically, the Panel supports a focus on effectiveness in the management of the EEC portfolio. This includes a number of aspects, including ensuring that the most effective

⁹⁰ Order G-138-14 and Decision dated September 15, 2014, FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018, at page 260.

programs are pursued and an appropriate balance pursued in terms of different customers' ability to access EEC programs. [Emphasis added.]

90. Based on the BCUC discussion above, in the present case it would not be appropriate to change the DSM plan due to the UCT results.

91. First, the cost effectiveness test results for the portfolio are overall positive. The portfolio UCT benefit/cost ratio of 0.9 is close to unity. The portfolio as a whole is cost effective based on the TRC benefit/cost ratio of 1.0. The portfolio is well above unity based on the Portfolio (i.e. TRC/MTRC) benefit/cost ratio of 1.9. These results demonstrate the cost effectiveness of the portfolio such that there is no need to change the DSM program to increase its cost effectiveness under the UCT.

92. Second, given the overall conservative nature of estimating savings and the additional savings likely to be claimed but not currently forecast, FEI believes that the current UCT of 0.9 is also conservative and that it is likely close to or greater than 1.0.⁹¹

93. FEI is being conservative in claiming savings in the following areas:⁹²

- Net to Gross Ratio – The Net to Gross ratio that FEI is using to report energy savings from DSM activity is highly conservative in that it includes the free ridership impact, which serves to reduce reported energy savings, but in most cases does not include the energy savings benefits of spillover effect. FEI intends to continue identifying and incorporating spillover effects into reporting of energy savings impacts from DSM activity on a program-by-program basis, wherever spillover can be supported.

⁹¹ Exhibit B-2, BCUC IR 5.3.1.

⁹² Exhibit B-2, BCUC IR 5.3.1.

- Conservation Education and Outreach – CEO activities in general do result in energy savings, however, since these savings remain difficult to quantify, FEI does not currently attribute energy savings to them and these benefits are not reflected in the cost effectiveness results.
- Enabling Activities – Some Enabling Activities support incentive programs and contribute to energy savings, however, these savings are very difficult to quantify. To date, no savings have been claimed for Enabling Activities outside of the Energy Specialist Program (that has resided in the Commercial program area but is classified under Enabling Activities in the 2019-2022 DSM Plan). Since these savings are not included in the Portfolio cost effectiveness calculations, the Company believes the Portfolio energy savings benefits are higher than reported.

94. FEI is also likely to claim some energy savings in its annual reports for the following areas for which it is challenged to forecast specific energy savings: Residential Customer Engagement Tool, Innovative Technologies, Commercial Energy Specialist Program, Codes & Standards attribution. These savings alone could boost the UCT to 1.0 or more.⁹³

95. Third, FEI examined all available measures with high benefits to costs, and is confident that there are no measures that it could add to the portfolio specifically to boost the UCT benefits. Attempts to increase the UCT would require the removal of programs, measures or non-incentive costs from the portfolio, which would be detrimental on a number of levels.⁹⁴ Specific detrimental effects of cutting from the portfolio would include:⁹⁵

- The reach of FEI's DSM programs to residential and low income customers would be reduced.

⁹³ Exhibit B-2, BCUC IR 1.5.3.1.

⁹⁴ Exhibit B-2, BCUC IR 1.5.3.

⁹⁵ Exhibit B-2, BCUC IR 1.5.3 and 1.5.3.1. Exhibit B-5, CEC IR 1.11.1.

- There would be a loss of the societal and customer benefits of residential and low income programs, which are not taken into account in the UCT. These programs have broad reach, or in the case of low income programs, aim at hard to reach segments, and have high societal benefits in terms of non-energy benefits associated with building performance, comfort and health, and GHG emissions reductions.
- FEI's ability to meet the requirements of the DSM Regulation regarding measures intended to result in adoption of the BC Energy Step Code would be limited.
- Reducing the DSM Plan would be inconsistent with the stakeholder feedback FEI received that less cost effective measures should be combined with more cost-effective measures within programs and the overall portfolio to create a more robust portfolio and maximize energy savings.
- Reducing non-incentive costs would result in less energy savings from the portfolio overall, or inhibit FEI's ability to properly evaluate DSM activities (if evaluation expenditures were reduced).

96. In summary, attempts to increase the UCT would reduce the robustness and reach of FEI's program offerings and disproportionately impact low income and residential customers. FEI therefore submits that the BCUC should accept the DSM Plan as filed based on the cost effectiveness of the portfolio overall.

E. DSM Plan is "Adequate" Pursuant to DSM Regulation

97. While the DSM Regulation adequacy requirements are applicable to long-term resource plans, FEI designed its DSM Plan to be compliant with the adequacy requirements since they are related to demand-side measures. How the DSM Plan is compliant with each adequacy requirement is set out in Table 3-2 of the Application, which is reproduced below:

Table 3-2: DSM Plan Compliance with DSM Regulation

| DSM Regulation Adequacy | DSM Plan Compliance |
|--|---|
| <p>a) a demand-side measure intended specifically</p> <ul style="list-style-type: none"> i. to assist residents of low-income households to reduce their energy consumption, or ii. to reduce energy consumption in housing owned or operated by <ul style="list-style-type: none"> A. a housing provider that is a local government, a society as defined in section 1 of the Societies Act, other than a member-funded society as defined in section 190 of that Act, or an association as defined in section 1 (1) of the Cooperative Association Act, or B. the governing body of a first nation, <p>if the benefits of the reduction primarily accrue to</p> <ul style="list-style-type: none"> C. the low-income households occupying the housing, D. a housing provider referred to in clause (A), or E. a governing body referred to in clause (B) if the households in the governing body's housing are primarily low-income households | <p>The Low Income section of the DSM Plan (Appendix A, Section 6) shows plans for FEI to continue to offer and expand the programs that help low-income households and First Nations housing save energy. This is, and will continue to be, executed through the Self Install Program (Appendix A, Section 6.4.2) and the Direct Install Program (Appendix A, section 6.4.1). FEI also has robust energy efficiency programs for housing societies and housing co-operatives that have multi-unit complexes as shown in the Prescriptive Program (Appendix A, Section 6.4.3) and the Support Program (Appendix A, Section 6.4.4).</p> |
| <p>b) if the plan portfolio is submitted on or after June 1, 2009, a demand-side measure intended specifically to improve the energy efficiency of rental accommodations</p> | <p>FEI will be continuing with the Rental Apartment Efficiency Program (RAP). As referenced in the Residential and Commercial sections of the DSM Plan (Appendix A, Sections 3.4.3 and 4.4.4), the RAP targets improving the energy efficiency only of rental apartment buildings.</p> |
| <p>c) an education program for students enrolled in schools in the public utility's service area</p> | <p>The Conservation Education and Outreach section of the DSM Plan (Appendix A, Section 7) includes continuation of the School Education Program (Appendix A, Section 7.4.4) which includes programming for schools in FEI's service area.</p> |
| <p>d) if the plan portfolio is submitted on or after June 1, 2009, an education program for students enrolled in post-secondary institutions in the public utility's service area.</p> | <p>The Conservation Education and Outreach section of the DSM Plan (Appendix A, Section 7) includes continuation of the School Education Program (Appendix A, Section 7.4.4) which includes programming for post-secondary institutions in FEI's service area.</p> |

| DSM Regulation Adequacy | DSM Plan Compliance |
|--|--|
| <p>e) one or more demand-side measures to provide resources as set out in paragraph (e) of the definition of "specified demand-side measure", representing no less than</p> <ul style="list-style-type: none"> i. an average of 1% of the public utility's plan portfolio's expenditures per year over the portfolio's period of expenditures, or ii. an average of \$2 million per year over the portfolio's period of expenditures | <p>The Enabling Activities section of the DSM Plan (Appendix A, Section 9) includes Codes & Standards (Appendix A, Section 9.2.2), which outlines that \$3.674 million is forecast to be spent in total over the DSM Plan period to support standards-making government and regulatory bodies to support the development and compliance with specified energy conservation standards. This equates to 1.13 percent of the overall forecast portfolio spend over the DSM Plan period.</p> |
| <p>f) one or more demand-side 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.</p> | <p>Step code support is included within the following programs listed in the DSM Plan (Appendix A):</p> <ul style="list-style-type: none"> • Residential New Home Program (section 3.4.2) • Commercial Performance Program – New Buildings (section 4.4.3) • Innovative Technologies BC Energy Step Code Tier 5 Buildings Pilot (section 8.4) • Enabling Activities – Codes & Standards (section 9.2.2) • Enabling Activities – Community Energy Specialist Program (section 9.2.7) |

98. FEI submits that the table above demonstrates the adequacy of the DSM Plan.

F. DSM Plan Furthers British Columbia's Energy Objectives

99. British Columbia's energy objectives are defined in section 2 of the *Clean Energy Act* (CEA). The applicable energy objectives and how FEI's proposals support those objectives are set out in Table 3-1 of the Application, which is reproduced below.

Table 3-1: BC's Energy Objectives Met by FEI DSM Activity

| Energy Objective | FEI DSM Portfolio |
|---|---|
| (b) to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%; | FEI's proposed DSM expenditures are designed to implement cost-effective (as defined by the DSM Regulation) demand-side measures and conserve energy as a result. The estimated net present value of natural gas savings (net of free ridership) for the 2019 to 2022 period is projected to be a total of 36,751,641 gigajoules (GJ). |
| (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources; | FEI's Innovative Technologies Program Area, described in Section 8 of Appendix A meets this objective. This program area: evaluates innovative energy saving technologies; conducts pilot studies to validate manufacturers' claims related to equipment and system performance; and assesses actual energy savings and customer acceptance of these newer technologies or systems of technologies. Technologies that successfully emerge from the Innovative Technologies Program Area are considered for inclusion within the applicable sector programs. |
| (g) to reduce BC greenhouse gas emissions (i) by 2012 and for each subsequent calendar year to at least 6% less than the level of those emissions in 2007, (ii) by 2016 and for each subsequent calendar year to at least 18% less than the level of those emissions in 2007, (iii) by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007, (iv) by 2050 and for each subsequent calendar year to at least 80% less than the level of those emissions in 2007, and (v) by such other amounts as determined under the Greenhouse Gas Reduction Targets Act; | FEI's DSM programs will result in substantial natural gas savings. This will in turn lead to commensurate reductions in greenhouse gas emissions of 1,896,385 tonnes CO ₂ e. |
| (i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently; | All of FEI's DSM programs encourage communities to reduce greenhouse gas emissions and use energy efficiently. |
| (k) to encourage economic development and the creation and retention of jobs; | FEI's DSM Programs have a broad impact on the provincial economy as measured through employment, gross domestic product (GDP) and industrial output. |

100. FEI's estimates in the table above of the impact of its DSM program upon employment, GDP and industrial output are in line with recent industry studies demonstrating the broad impact that DSM programs have on the economy. A 2018 study commissioned by Clean Energy Canada estimated that every \$1 spent on energy efficiency results in a net benefit

of \$4-7 in terms of GDP, and every \$1 million of DSM program spending created 16-30 full-time equivalent jobs. The Illinois Energy Efficiency Stakeholder Advisory Group completed a review in 2015 that found that “estimates for job creation for program spending range from 8 to over 200 jobs created per \$1 million in DSM program spending”. The review also found that “estimates for job creation for energy efficiency investments alone range from 12 to 20 jobs created per \$1 million in energy efficiency investment”.⁹⁶

101. The evidence as set out in the table above demonstrates that the DSM Plan will further B.C.’s energy objectives. FEI submits that the BCUC’s consideration of British Columbia’s energy objectives must weigh heavily in favour of FEI’s proposal to continue and expand investment in cost effective DSM programs.

G. DSM Plan is Aligned with Long Term Gas Resource Plan

102. When considering whether to accept a utility’s expenditure schedule under section 44.2 of the UCA, the BCUC must consider the utility’s most recent long-term resource plan filed under section 44.1 of the UCA. FEI’s most recent Long Term Gas Resource Plan (2017 LTGRP) was filed on December 14, 2017. The 2017 LTGRP examines the impact of FEI’s long-term forecast DSM activity on natural gas demand, projected natural gas delivery rates, and GHG emissions across three alternate future scenarios over the 20-year LTGRP planning horizon. Comparisons between the DSM Plan and the 2017 LTGRP are difficult due to the different purposes and methods by which each were developed. However, the DSM Plan is aligned with the 2017 LTGRP in several key respects.⁹⁷

103. First, the energy savings in FEI’s DSM Plan are generally consistent with the 2017 LTGRP forecast Reference Case energy savings. From 2019 until 2022, FEI’s DSM Plan forecasts eight percent higher energy savings than FEI’s 2017 LTGRP.⁹⁸

⁹⁶ Exhibit B-2, BCUC IR 1.1.4.

⁹⁷ Exhibit B-1, pp. 6-7.

⁹⁸ Exhibit B-1,

104. Second, FEI's DSM Plan is directionally aligned with the sensitivity analysis in the 2017 LTGRP. The LTGRP shows that energy savings increased at a lower rate than the estimated DSM expenditures when applying a limited set of increasing measure level incentive values. This directionally aligns with FEI's DSM Plan forecasting eight percent higher energy savings for the 2019-2022 period at 47 percent higher annual expenditures than the 2017 LTGRP.⁹⁹

105. Third, the DSM Plan is consistent with the 2017 LTGRP projected DSM activities. The 2017 LTGRP projects that, as part of a long term plan for implementing DSM activities, FEI will continue to perform residential, commercial, industrial, low income, innovative technologies, conservation education and outreach as well as enabling DSM activities, all of which will be carried out through successive DSM plans which take into account the prevailing market, regulatory, and end-use technology conditions. Within this framework, FEI's proposed DSM Plan is consistent with the 2017 LTGRP.¹⁰⁰

106. Fourth, the DSM Plan includes the measures identified in the 2017 LTGRP Tables 4-10 to 4-12 with the caveats discussed for certain measures in the table below:¹⁰¹

| 2017 LTGRP Measure Name | Discussion |
|--|--|
| 2017 LTGRP Residential Program Area | |
| Home Energy Reports | Included in the Customer Engagement Tool as part of the Conservation Education and Outreach Initiatives |
| Non-Condensing Gas Storage Water Heater | Home Renovation Program uptake of non-condensing water heaters is low relative to condensing technologies. Therefore, in support of upcoming federal water heater regulations, FEI plans to promote condensing rather than non-condensing technologies. FEI is considering whether to include non-condensing water heaters in the New Home Program to support new dwelling affordability. FEI will consult with industry to consider the merits of both approaches when finalizing program design. |
| Passive House | Included in the New Home Program (Step 5) |
| 2017 LTGRP Commercial Program Area | |

⁹⁹ Exhibit B-1, p. 7; Exhibit B-2, BCUC IR 1.2.4.

¹⁰⁰ Exhibit B-1, p. 7.

¹⁰¹ Exhibit B-2, BCUC IR 1.2.3.

| 2017 LTGRP Measure Name | Discussion |
|---|---|
| HVAC Control Upgrades – Direct Digital Data | Prescriptive Program – HVAC Control is a “catch all” program and may include the identified measure |
| Heat Control System for Boilers | Prescriptive Program – HVAC Control is a “catch all” program and may include the identified measure |
| Fireplace Timers | FEI pilot results did not confirm this measure to be cost effective. |

107. Lastly, the differences between the DSM Plan and the 2017 LTGRP can be explained by reference to the different methods by which they were developed. The DSM Plan represents a bottom-up plan of specific DSM programs over four years, whereas the 2017 LTGRP shows a theoretical estimate of future DSM activity over 20 years as a function of cost-effectiveness and, at the program area level, the ratio between incentive levels and measure incremental costs. Within this context, the following two factors account for the difference in expenditure levels:¹⁰²

- The 2017 LTGRP does not take into account non-incentive expenditures that support or enable DSM programs at the portfolio level, such as enabling activities and conservation education outreach. In contrast, the DSM Plan estimates non-incentive expenditures from the bottom up, based on what is required to support program uptake.
- The 2017 LTGRP does not take into account operational program delivery considerations, such as changes in required DSM staffing levels, program eligibility requirements, or measure packaging and marketing. In contrast, these operational considerations are fully reflected in the bottom up development of the DSM Plan. These factors may impact incentive levels, non-incentive expenditures, measure participation in DSM programming, and technical measure assumptions. The program-specific blend of these factors determine whether program expenditures in each program in the DSM Plan are higher or lower than in the 2017 LTGRP.

¹⁰² Exhibit B-1, p. 6; Exhibit B-2, BCUC IR 1.2.2 and 1.2.4; Exhibit B-3, BCOAPO IR 1.2.2, and Exhibit B-4, BCSEA IR 1.6.1.

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108. In summary, the method for preparing the DSM analysis in the 2017 LTGRP differs fundamentally from the method for preparing the DSM Plan. In this context, the DSM Plan with the 2017 LTGRP are generally consistent and directionally aligned.¹⁰³

H. DSM Plan is Subject to Appropriate Program Evaluation, Measurement and Verification

109. FEI's expenditures for Evaluation, Measurement and Verification (EM&V) activities included in Section 6.2 of the DSM Plan are required to assess program performance, identify program improvements, and measure program assumptions used to calculate program cost effectiveness.¹⁰⁴

110. FEI's 4-Year Evaluation Plan included in Appendix G of the Application is consistent with FEI's EM&V Framework. FEI developed the EM&V Framework in response to a BCUC directive from the Decision regarding FEI's 2012-2013 RRA. The EM&V Framework documents the background, objectives, principles and general practices that guide FEI's approach, resources and timeframes for EM&V activities. The EM&V Framework was finalized in 2013 taking into consideration feedback received from the stakeholder advisory group and FEI's evaluation partners. FEI filed the EM&V Framework with the BCUC along with FEI's 2014-2018 DSM expenditure schedule. The BCUC reviewed and was satisfied with the framework, stating:¹⁰⁵

The Commission Panel is satisfied that FEU's approach to EM&V approach sufficiently protects ratepayer interests and therefore is acceptable at this time. Further, we concur with BCSEA and FEU that an independent review of FEU's EM&V may not be cost effective. Accordingly the Panel declines to direct a review of FEU's EM&V at this time.

¹⁰³ Exhibit B-2, BCUC IR 1.2.2 and 1.2.4; Exhibit B-4, BCSEA IR 1.6.1; BCSEA 1.7.1.

¹⁰⁴ Exhibit B-1, Appendix A,

¹⁰⁵ Order G-138-14 and Decision dated September 15, 2014, FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018, at page 281-282.

FEI conducts its EM&V activities in keeping with the EM&V Framework, and continues to review industry standards and best practices to ensure the EM&V Framework is up to date.¹⁰⁶

111. FEI's EM&V budget for 2019-2022 is required to conduct the required number of program evaluations. As shown in the Evaluation Plan, FEI's EM&V budget has been derived from the bottom up based on the evaluations required over the 2019 to 2022.¹⁰⁷ The Evaluation Plan includes all proposed evaluation activities for 2019-2022, the Program Name and Area where EM&V activities occur, the general type of evaluation activity undertaken, Program Partners, and FEI's proposed budget.¹⁰⁸

112. FEI's proposed EM&V expenditures for 2019 -2022 have increased compared to 2017 to accommodate the increase in evaluation activities. The increase is due to more DSM programs maturing within the period, increased site visits to assess quality assurance and program compliance, expansion of existing programs, new measures added to existing programs, and the addition of new programs in market.¹⁰⁹ While EM&V expenditures have increased along with the needed EM&V activities, FEI staff continually work to identify opportunities to streamline EM&V processes, improve the competitiveness of RFP bidding and increase the value of the studies conducted for program delivery to customers.¹¹⁰

113. The total proposed expenditure for EM&V activities are approximately \$9.2 million or 2.9 percent of FEI's overall planned portfolio expenditures. This proposed budget aligns with FEI's EM&V Framework, historical evaluation expenditures, and industry general practice for budget spending on EM&V activities.¹¹¹ Survey results obtained from E Source, an energy efficiency consultancy serving gas and electric utilities throughout North America,

¹⁰⁶ Exhibit B-1, p. 34. Appendix H of the Application contains the final EM&V Framework. Also see Exhibit B-2, BCUC IR 1.20.4.

¹⁰⁷ Exhibit B-1, Appendix G.

¹⁰⁸ Exhibit B-1, p. 33 and Appendix G, p. 1

¹⁰⁹ Exhibit B-2, BCUC IR 1.20.1.1.

¹¹⁰ Exhibit B-2, BCUC IR 1.20.3.

¹¹¹ Exhibit B-1, p. 33 and Appendix G, p. 1

indicate that utilities with expenditures greater than US\$55 million tend to spend just under 2 percent on evaluation.¹¹² At approximately \$65 million US annually,¹¹³ FEI's percentage spend on EM&V activities is above the 2 percent noted by E-Source. However, the E-Source results should only be considered rough guidance. Amongst other factors, the definitions that are used for what is included in the EM&V budgets varies significantly between utilities and program administrators.¹¹⁴ The more detailed survey results from E-Source shown in response to BCUC IR 1.20.2.1 reveal a range of spending amongst utilities. In this context, FEI's expenditures of 2.9 percent of total portfolio expenditures are within the range of other utilities and in line with the rough guidance from the cited E Source results.¹¹⁵

114. FEI has carefully considered evaluation needs and its evaluation plan is necessary to properly evaluate FEI's DSM activities and the expenditures are reasonable given the number of program evaluations required over the 2019-2022 period.

PART THREE: FUNDING TRANSFERS AND REGULATORY TREATMENT

A. Addition to Funding Transfers Rules

115. In its past two Decisions on FEI's DSM expenditure schedules, the BCUC has approved a set of funding transfer rules in recognition that FEI continually seeks to revise and update its DSM plan to improve its effectiveness.¹¹⁶ In this Application, FEI is requesting to continue those funding transfer rules and add an additional funding transfer rule that would allow FEI to roll over unspent expenditures from one year to the next in the same program area. The following describes the existing funding transfer rules, and FEI's request for a new funding transfer rule.

¹¹² Exhibit B-1, p. 33.

¹¹³ Exhibit B-2, BCUC IR 1.20.2.

¹¹⁴ Exhibit B-1, p. 34.

¹¹⁵ Exhibit B-2, BCUC IR 1.20.2.1 and 1.20.2.2.

¹¹⁶ Exhibit B-3, BCOAPO IR 1.6.1. Order G-138-14 and Decision dated September 15, 2014, FortisBC Energy Inc. Multi-Year Performance Based Ratemaking Plan for 2014 Through 2018, at p. 278.

Existing Funding Transfer Rules

116. The existing program funding transfer rules are as follows:¹¹⁷

- (a) Funding transfers up to a maximum of 25 percent¹¹⁸ from one approved Program Area to another approved Program Area would be permitted without prior approval of the BCUC;
- (b) In cases where a proposed transfer out of an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval would be required.
- (c) In cases where a proposed transfer into an approved Program Area is greater than 25 percent of that approved Program Area, prior BCUC approval would be required.
- (d) The transfer of any amount of funds from an approved Program Area to Innovative Technologies would require prior BCUC approval.

117. FEI clarified in response to information requests that the following two criteria must be met in order for a funding transfer to occur in a given year within the allowed transfer amounts:

- 1. A program area is expected to realize actual expenditures greater than the approved amount for that program area; and
- 2. Another program area is expected to realize expenditures less than the approved amount for that program area.

118. Both conditions must be met in order to allow room to transfer funds from one program area to the other.¹¹⁹ As further clarification, FEI explained that it does not interpret the rules to allow FEI to proactively decrease the budget of a program area in a given year. If it is determined during a given year that a particular program area will not realize its approved

¹¹⁷ Exhibit B-1, p. 35; Exhibit B-3, BCOAPO IR 1.6.1.

¹¹⁸ Exhibit B-3, BCOAPO IR 1.6.1.

¹¹⁹ Exhibit B-5, CEC IR 1.15.2.

expenditure amount due to factors such as changes in market conditions or customer response, and another program area is experiencing higher than expected results, a funding transfer can occur.¹²⁰

119. Due to the length of the period the DSM Plan covers, FEI continues to require the flexibility to be able to adjust to new information, program results and opportunities through the test period. Transparency in the use of funding transfers out of or into program areas is provided through the DSM Annual Reports submitted to the BCUC.¹²¹

New Program Funding Transfer Rule

120. FEI proposes that starting with 2019 it be permitted to transfer or “rollover” unspent expenditures in a Program Area to the same Program Area in the following year. This proposal would allow FEI to rollover unspent amounts from year to year on a cumulative basis. FEI proposes that forecast amounts that are not expended by the end of the 4-year period would not be rolled over into FEI’s next DSM application.¹²² FEI’s proposed accounting treatment, as discussed in section 9.2 of the Application, would apply to the rolled-over amounts. As such, only actual expenditures would be placed in the non-rate base DSM deferral account and added to rate base at the beginning of the following year.¹²³ FEI would continue reporting on funding transfers between program areas in its DSM program annual reports to the BCUC. FEI would report separately on unspent “rollover” values in its annual reports, so that all amounts rolled over within a program area and transferred between programs are transparently accounted for in the DSM program annual reports.¹²⁴

121. FEI’s request for approval to rollover unspent expenditures is a recognition that the DSM Plan is subject to changes in market conditions, customer responses to programs, input from stakeholders including program partners, changes in government policies, and other

¹²⁰ Exhibit B-3, BCOAPO IR 1.6.2.

¹²¹ Exhibit B-3, BCOAPO IR 1.6.2.

¹²² Exhibit B-5, CEC IR 1.16.3.

¹²³ Exhibit B-4, BCSEA IR 1.29.1.

¹²⁴ Exhibit B-2, BCUC IR 2.21.2.

external factors that could impact the optimal timing of program expenditures. These factors may require FEI to respond by adjusting the timing of its planned expenditures. The flexibility to rollover unspent amounts would allow FEI to adjust to external factors and allow FEI to carry out its DSM Plan over the course of the four years, even if the timing of the expenditures varies from plan. As the exact timing of the expenditure within the four-year period should not change the public interest in making the expenditures, this is an appropriate approach.¹²⁵

122. FEI's proposal to rollover unspent expenditures year over year will reduce the risk of FEI underspending its overall approved DSM expenditures by giving FEI the flexibility to respond to external factors and adjust the timing of planned expenditures in order to maximize program participation and savings. If FEI is unable to spend up to approved levels in a given year, FEI would have the opportunity to catch up in the following years, therefore increasing the likelihood that FEI would carry out its DSM Plan by 2022.¹²⁶

123. The benefit of the rollover mechanism is illustrated by the following examples:¹²⁷

- If a program is planned for implementation in the first year of the DSM Plan, but is shifted to the following year due to factors such as changes in market conditions, the ability to roll amounts for that program would give FEI the opportunity to complete the plan for that program over the remaining years of the program without impacting the budget from any other programs.
- The ability to rollover amounts could help avoid the need for FEI to put limitations on its program offers. The residential furnace program during the 2014-2018 test period, for example, was implemented as an annual limited time offer, primarily to avoid spending more than approved residential expenditures. The ability to roll-over amounts year to year could provide the flexibility needed

¹²⁵ Exhibit B-1, p. 35.

¹²⁶ Exhibit B-2, BCUC IR 1.21.3.

¹²⁷ Exhibit B-2, BCUC IR 1.21.4.

to avoid these types of limitations if actual spending is below approved in the early years of the 2019-2022 DSM Plan.

- In the case of newly emerging initiatives, there is uncertainty regarding the implementation and uptake of programs supporting BC Step Codes. These uncertainties include how municipalities will adopt the codes, how builders and contractors will respond, and how quickly incentives will be taken up. The ability to utilize rollover amounts will improve FEI's flexibility to make and apply program funding adjustments as the implementation of these programs evolve over the new test period.
- If a program launch is moved from one year to the next or a subsequent year, allowing underspent amounts to rollover would allow program development and launch cost estimates in the DSM plan to be moved to the year in which the program launch occurs.

124. FEI submits that its proposed addition to the transfer funding rules maintains an appropriate balance between regulatory oversight and FEI's need for flexibility to adapt its DSM portfolio. As described above, the additional flexibility provided to rollover unspent expenditures would be beneficial, as it would increase FEI's ability to execute its approved DSM Plan. Further, FEI's proposal would not diminish the effectiveness of the BCUC's regulatory oversight. FEI's DSM expenditures would still be subject to BCUC review and acceptance, and FEI would still not have approval to spend more than accepted by the BCUC over the period of the DSM Plan. The BCUC, however, would be providing FEI with flexibility in the timing of the execution of the DSM plan, acknowledging that the timing of expenditures may be affected by factors outside of FEI's control.

125. FEI submits that its proposed transfer funding rule will be beneficial and maintains an appropriate balance between regulatory oversight and FEI's need for flexibility to adapt its DSM Plan.¹²⁸

B. DSM Deferral Accounts to Facilitate Recovery of DSM Expenditures

126. FEI is proposing to change the name of its rate base and non-rate base "Energy Efficiency and Conservation" deferral accounts to "DSM" deferral accounts, and to increase its forecast rate base additions to the DSM deferral account from \$15 million to \$30 million, for each of the years 2019 through 2022. The increase from \$15 million to \$30 million is warranted given historical spending since 2015, and the increase in DSM expenditures planned for 2019 to 2022, as supported by the BC CPR, changes to the DSM Regulation, consultation and FEI's bottom-up forecast for expanded DSM program participation and activities.¹²⁹

127. Under the current approved accounting treatment of FEI's DSM expenditures, \$15 million of expenditures are forecast in the rate base DSM deferral account each year. The difference between the \$15 million forecast and actual expenditure levels, up to the approved amount, are accounted for in FEI's non-rate base DSM deferral account, attracting a weighted average cost of capital (WACC) return, in the year they are expended. The closing balance of the non-rate base DSM Deferral account is then transferred to FEI's rate base DSM deferral account at the beginning of the following forecast year.¹³⁰

128. The \$15 million forecast rate base additions was proposed by FEI in 2011 based on historical expenditure levels. The BCUC approved the treatment on the basis that FEI's expenditure levels were "expected to continue into the current test period and there is no evidence to suggest that an amount less than the proposed \$15 million is likely to be spent."¹³¹

¹²⁸ Exhibit B-2, BCUC IR 2.21.5.

¹²⁹ Exhibit B-1, p. 36. Exhibit B-5, CEC IR 1.16.2 and 1.16.3.

¹³⁰ Exhibit B-1, p. 36.

¹³¹ Order G-44-12 and Decision dated April 12, 2012, FEU 2012-2013 Revenue Requirements and Rates Application, at pages 149-150. At Online: https://www.bcuc.com/Documents/Proceedings/2012/DOC_30355_04-12-2012-FEU-2012-13RR-Decision-WEB.pdf

As the level of FEI's expenditures have increased significantly since 2012 and are planned to increase again from 2019 to 2022, the forecast rate base additions should be increased to \$30 million per year. FEI's DSM expenditures have been consistently greater than \$30 million per year from 2015 to 2017.¹³² FEI is also projecting to exceed \$38 million in 2018.¹³³ Over 2019 to 2022, FEI is planning a significant increase in expenditures, and expects that at least \$30 million will continue to be spent annually.¹³⁴ Improving the alignment between the amount forecast in the rate base DSM Deferral account each year and actual expenditures will reduce the financing costs added to the deferral account, and overall costs to rate payers on the non-rate base portion of the DSM Plan expenditures.¹³⁵

129. As emphasized in its responses to information requests, FEI intends to follow and roll out the DSM Plan that it has worked hard to develop.¹³⁶ FEI has identified deliverability risks to its DSM Plan and developed actions to mitigate those risks.¹³⁷ The expenditures in the DSM Plan are supported by the opportunities identified in the CPR and other third party studies, and changes to the DSM Regulation, and driven by escalating program activity and a number of new initiatives. Given the level of historical expenditures since 2015 and significant increase in planned expenditures over the 2019-2022 period, the proposed increase in the forecast rate base additions is warranted.

C. Extension of Amortization Period

130. FEI is proposing to extend the amortization period of its DSM expenditures from 10 to 16 years. FEI's proposal is based on the analysis conducted in response to the BCUC directive from the 2014-2018 PBR Decision (at page 280) "to include in the next FEU EEC Application an analysis of the rate impact of a reduction in the EEC amortization period to eight

¹³² Exhibit B-1, Table 5-1.

¹³³ Exhibit B-2, BCUC IR 1.17.2; Exhibit B-5, CEC IR 1.17.2.

¹³⁴ Exhibit B-1, p. 36; Exhibit B-5, CEC IR 1.17.2.

¹³⁵ Exhibit B-1, p. 36.

¹³⁶ Exhibit B-2, BCUC IR 1.21.3.1; Exhibit B-5, CEC IR 1.16.2 and CEC IR 1.17.2.

¹³⁷ Exhibit B-2, BCUC IR 1.22.3.3.

years and to five years.”¹³⁸ FEI provided the requested analysis as Appendix I of the Application. The analysis shows that a 16-year amortization period is warranted to match the period over which customers will realize the benefits of the DSM activity, based on the averaged weighted measure life of FEI’s proposed DSM Plan.

131. FEI submits that the governing principle for determining the amortization period of FEI’s DSM deferral accounts should be benefits matching. The DSM deferral accounts are best characterized as “benefits matching (capital-like)” accounts under the BCUC’s Regulatory Accounts Filing Checklist.¹³⁹ As stated in the Regulatory Accounts Filing Checklist:¹⁴⁰

A benefit matching account defers recovery of costs that under Generally Accepted Accounting Principles (GAAP) would otherwise be required to be expensed in the current accounting period to a future period (when the benefits of those costs are realized) if they provide long-term benefits to current and future ratepayers.

132. As FEI’s DSM activities provide long-term benefits, the appropriate approach should be to match the amortization period with the period over which the benefits of the costs will be realized. Adhering to the benefits matching principle attributes the costs of the DSM activity to those that benefit from that activity, avoiding intergenerational inequity.

133. FEI’s proposed 16-year amortization period is consistent with the average weighted measure life of all the measures in the DSM Plan. FEI determined the average weighted measure life to be 16 years, as shown in Appendix J of the Application. The calculation method most accurately reflects the average measure life of the DSM Plan based on the planned expenditures for measures with expected savings.¹⁴¹ The average weighted measure life of 16 years means that customers benefit from FEI’s DSM measures for an average

¹³⁸ Exhibit B-1, p. 36.

¹³⁹ https://www.bcuc.com/Documents/Guidelines/2017/05-03-2017_RegulatoryAccountFilingChecklist.pdf

¹⁴⁰ Appendix B, p. 2 of 3.

¹⁴¹ Exhibit B-2, BCUC IR 1.23.1 and BCUC IR 1.23.3.

time period of 16 years. It is therefore appropriate that the costs be amortized over this same period. While a longer amortization period will have a higher present value cost to ratepayers,¹⁴² this is justified by the need to match the benefits and costs of the DSM activity.

134. Given the averaged weighted measure life of the measures in the DSM Plan, shortening the amortization period would lead to intergenerational inequity and rate instability. FEI's analysis shows that shortening the amortization period from ten years to eight or five years produces a rate spike in the first year, as the amount of expenditures expensed through amortization is increased from current levels. Switching to an eight-year amortization period causes an approximate 1.3 percent increase in delivery rates in the first year and switching to a five-year amortization causes a 3.1 percent increase in delivery rates in the first year. FEI submits that there is no justification for shortening the amortization period, particularly in light of the resulting rate increases on customers.¹⁴³

135. In summary, FEI's analysis shows that the average weighted measure life for the 2019-2022 DSM Plan is 16 years, meaning that customers benefit from the DSM Plan measures for an average 16-year period. Based on the principle of benefits matching and avoiding intergenerational inequity, it is appropriate to amortize the costs over the same 16-year period.¹⁴⁴ FEI therefore submits that its request to move to a 16-year amortization period for DSM expenditures should be approved.

PART FOUR: CONCLUSION

136. FEI's DSM plan is robust, having been developed from the bottom up in alignment with the results of consultation, the BC CPR, government policy, the LTGRP and third party expertise. The DSM Plan is adequate and cost effective pursuant to the DSM Regulation and, in FEI's submission, in the interests of customers. FEI's proposed new funding transfer rule will give FEI flexibility with respect to the timing of its proposed expenditures from 2019-2022,

¹⁴² Exhibit B-2, BCUC IR 1.23.6.

¹⁴³ Exhibit B-1, p. 36.

¹⁴⁴ Exhibit B-2, BCUC IR 1.23.5.

increasing the likelihood that FEI will be able to execute on the DSM Plan. FEI's proposed increase to the rate base additions to the DSM deferral account, and 16-year amortization period represent the appropriate regulatory treatment for DSM expenditures. FEI submits that it's proposed DSM capital expenditures and related approvals should be approved as filed.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated: October 11, 2018

[original signed by Christopher Bystrom]
Christopher Bystrom
Counsel for FortisBC Energy Inc.



ORDER NUMBER

G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Energy Inc.
Application for Approval of 2019-2022 Demand Side Management Expenditures Plan

BEFORE:

[Panel Chair]
Commissioner
Commissioner

on **Date**

ORDER

WHEREAS:

- A. On September 15, 2014, the British Columbia Utilities Commission (BCUC) issued its Decision and Order G-138-14 on the FortisBC Energy Inc. (FEI) 2014-2019 Performance Based Ratemaking Plan (PBR Plan). In the decision accompanying Order G-138-14 (PBR Decision), the BUC accepted FEI's Utilities Commission Act (UCA) section 44.2 expenditure request for energy efficiency and conservation (EEC) programs for 2014 through 2019.;
- B. In accordance with Directive 148 of the PBR Decision, FEI and FortisBC Inc. filed for approval of a new Rental Apartment Efficiency Program (RAP), and on September 24, 2015, the BCUC issued order G-152-15A, approving the RAP;
- C. In accordance with Directives 140 and 142 of the PBR Decision, FEI filed for approval of the detailed plans for four new EEC Programs, and on January 28, 2016, the BCUC issued Order G-11-16 approving the four new EEC Programs;
- D. On March 31, 2017, FEI filed its 2016 Demand Side Management (DSM) Annual Report (2016 Annual Report). In the 2016 Annual Report, FEI identified potential barriers and opportunities for future DSM programming, to be considered as FEI prepares its next DSM Plan for 2019 and beyond;
- E. On June 22, 2018, FEI filed its Application for Approval of 2019-2022 Demand Side Management Expenditures Plan (Application);
- F. In the Application, FEI seeks acceptance, pursuant to section 44.2 of the UCA of DSM (previously referred to as Energy Efficiency and Conservation (EEC)) total expenditures of \$324.5 million for 2019 through 2022 as set out in Table 6-1 of the Application and described in the DSM Plan attached as Appendix A of the Application;

G. FEI seeks the following additional approvals:

1. approval of the funding transfer rules as set out in Section 9.1 of the Application;
2. approval of the forecast rate base additions accounting treatment as set out in Section 9.2 of the Application; and
3. approval to move to a 16-year amortization period for DSM expenditures as set out in Section 9.3 of the Application;

H. On July 25, 2018, the BCUC issued Order G-138-18 setting out the regulatory timetable for the review of the Application, consisting of a round of information requests followed by written argument;

I. The BCUC has reviewed FEI's Application and responses to information requests, and the arguments of the parties in the proceeding, and concludes that the requested DSM expenditure schedule should be accepted and the related approvals granted.

NOW THEREFORE the BCUC orders as follows:

1. Pursuant to section 44.2(a) of the UCA, the BCUC accepts the FEI expenditure schedule of total DSM expenditures of \$324.5 million for 2019 through 2022 as set out in Table 6-1 of the Application and as described in the DSM Plan attached as Appendix A to the Application.
2. FEI's proposed new transfer funding rule, in addition to the existing funding transfer rules, as set out in Section 9.1 of the Application are approved.
3. The rate base and non-rate base Energy Efficiency and Conservation deferral accounts are renamed the rate base and non-rate base DSM deferral accounts.
4. Forecast rate base additions to the rate base DSM deferral account of \$30 million for each of the years 2019 through 2022 as set out in Section 9.2 of the Application are approved.
5. The 16-year amortization period for the DSM expenditures as set out in section 9.3 of the Application is approved.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner