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September 24, 2014

Via Email
Original via Mail

Industrial Customers Group
c/o #301 – 2298 McBain Avenue
Vancouver, BC
V6L 3B1

Attention: Mr. Robert Hobbs

Dear Mr. Hobbs:

Re: FortisBC Inc. (FBC)

Application for Approval of Demand Side Management (DSM) Expenditures for 2015 and 2016 (the Application)

Response to Industrial Customers Group (ICG) Information Request (IR) No. 1

On August 11, 2014, FBC filed the Application as referenced above. In accordance with Commission Order G-144-14 setting out the Amended Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to ICG IR No. 1.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Dennis Swanson

Attachments

cc: Commission Secretary
Registered Parties (email only)

1.0 Reference: Exhibit B-1, p. 1, lines 9-13

On July 16, 2014, FBC filed a letter in its Application for Approval of a Multi-Year Performance Based Ratemaking Plan for the Years 20143 through 2018 (2014-2018 PBR Plan) withdrawing its request for approval of the DSM expenditures for the years 2015 to 2018 due to the changes to the statutory framework regarding DSM expenditures implemented after the 2014-2018 PBR Plan was originally filed.

1.1 Please explain why FortisBC did not seek approval to open the record of the 2014-2018 PBR Plan sometime after July 10, 2014, and then amend the DSM Plan so that the 2015-2016 DSM Expenditures could be considered in the context of the full record developed for the 2014-2018 DSM Plan?

Response:

As noted in FBC's July 16, 2014 letter withdrawing its request for acceptance of the 2015-2018 DSM expenditures in the 2014-2018 PBR Plan, the DSM expenditures do not affect the structure of the proposed Performance Based Ratemaking Plan. Reopening the 2014-2018 PBR Plan record just for the review of FBC's amended DSM expenditure request for 2015 and 2016, which has no impact on 2014 revenue requirements or the proposed PBR mechanism, would have served to needlessly delay a decision in the 2014-2018 PBR Plan. Please also refer to the response to BCUC IR 1.1.1.

1.2 Please file the 2014-2018 DSM Plan that was filed with the 2014-2018 PBR Plan as well as all evidence relevant to that DSM Plan, including relevant expert evidence and all IR responses?

Response:

Please refer to the responses to BCUC IR 1.1.1 and ICG IR 1.1.1.

2.0 Reference: Exhibit B-1, p. 1, lines 26-29

The 2015-16 DSM Plan reflects a return to approximately the same programs and expenditures which were in the approved 2012-13 DSM Plan and addresses many of the concerns raised by interveners regarding proposed DSM programs and expenditures in the 2014-18 PBR Plan process.

2.1 Please identify the program and expenditure differences between the 2012-13 DSM Plan, the 2015-2016 DSM Plan, and the 2014-2018 DSM Plan?

Response:

The DSM 2015-2016 filing is largely a return to the 2012-2013 DSM Plan. However, based on FBC's experience, some updates have been made. The following table shows the difference between the 2013 and the 2015 DSM plans. Please refer to the response to BCUC IR 1.8.1.1 for full explanations where the difference exceeds 25 percent.

Sector	DSM Expenditures ($000s)			% Difference
	Planned 2013	Planned 2014	Planned 2015	2013 to 2015
Residential				
Home Improvements	1,961	295	1,356	-31%
Heat Pumps	698	158	302	-57%
Residential Lighting	313	176	193	-38%
New Home Program	45	67	390	767%
Appliances	267	99	96	-64%
Low Income	660	242	824	25%
Residential Total	**3,944**	**1,037**	**3,160**	**-20%**
Commercial				
Lighting	1,212	510	1,485	22%
Building and Process Improvements	696	592	842	21%
Computers	0		55	-
Municipal (Water Handling)	177	32	148	-16%
Commercial Total	**2,085**	**1,134**	**2,530**	**21%**
Industrial				
EMIS	41		0	-100%
Industrial Efficiencies	323	148	202	-37%
Industrial Total	**364**	**148**	**202**	**-45%**
Programs Total	**6,393**	**2319**	**5,892**	**-8%**
Supporting Initiatives	725	190	675	-7%
Planning & Evaluation	760	492	725	-5%
Total	**7,878**	**3001**	**7,292**	**-7%**

For 2014, the following table identifies the 2013 programs that were curtailed in the 2014 DSM Plan. The table was originally provided in Exhibit B-49 of the FBC 2014-2018 PBR proceeding, response to BCSEA IR 1.13.2 on FBC Rebuttal Evidence.

1 **Cost effective measures curtailed in 2014 FBC DSM proposal**

Sector	Measure	Explanation
Residential	Insulation	FBC is pursuing 80% of the estimated potential for residential insulation.
	Windows	Energy performance is already mandated by existing provincial regulation. FBC is participating in a program that will offer window upgrades as a bonus measure to customers who undertake primary measures (e.g. insulation).
	Appliances	Energy Star products are now the norm, and the province has scheduled the codification of this market transformation.
	Consumer Electronics	The province and federal government have existing and proposed energy performance agreements and regulations targeted at the manufacturers and importers of such equipment (e.g., set top boxes, battery chargers).
Commercial	Optimization	FortisBC has already engaged the majority of eligible customers.
	Servers	Limited customer interest in this measure doesn't warrant a stand-alone program. Larger "data centre" projects are addressed via the custom option path in the BIP program. For individual computers, the regulatory process is now underway in California and anticipated to cascade (up the Pacific coastal region, including BC).
	Wastewater	Evaluation reports indicate a high level of free-ridership for local government infrastructure enhancements.
Industrial	Energy Management Systems	Limited customer interest in this measure doesn't warrant a stand-alone program. EMIS projects being considered by our customers are addressed via the custom option path in the Industrial Efficiency Program.

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3

3.0 Reference: Exhibit B-1, p. 3, lines 13-14

"… the Commission must consider the following criteria according to section 44.2(5)… the applicable British Columbia's energy objectives;…

3.1 Please explain why FortisBC does not consider the following energy objectives to be relevant to the design of DSM programs:

Response:

Please refer to the responses to ICG IRs 1.3.1.1 through 1.3.1.4.

3.1.1 to ensure the authority's rates remain among the most competitive of rates charged by public utilities in North America (CEA, 2f))

Response:

This objective is specifically directed at BC Hydro, and not FBC.

3.1.2 to reduce the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia (CEA, 2(h))

Response:

FBC notes that the CEA 2(h) encourages fuel switching that reduces greenhouse gas emissions.

Please refer to the response to BCUC IR 1.1.5. FBC is considering fuel switching programs, but none are included in the current filing.

3.1.3 to reduce waste by encouraging the use of waste heat, biogas and biomass (CEA, 2(j))

Response:

The Company supports this objective in principle, but no relevant measures are listed in the economic achievable potential in the 2013 CPR Update and thus it is not included in the 2015-2016 DSM Plan.

3.1.4 to encourage economic development and the creation and retention of jobs. (CEA, 2(k))

Response:

The governing TRC cost test by definition includes the Company's and Customers' portion of measure costs only. The TRC is not a societal cost test, which may include indirect economic benefits such as those shown in the CEA 2(k) objective.

Insofar as the FBC programs support the improved productivity of its customers, by identifying through energy assessments opportunities to reduce energy usage and then incenting customers to implement those measures, the Company supports the creation and retention of jobs.

3.2 For those energy objectives listed above, that FortisBC considers to be relevant to the design of DSM programs, please provide a detailed explanation of how such energy objective is considered in the design of DSM programs.

Response:

As stated in the foregoing responses FBC does not believe the energy objectives listed above are directly relevant to its DSM programs.

3.3 Does FBC considers that the energy objectives requires it to undertake all measures identified as cost-effective by the 2013 CPR?

Response:

No. The CEA energy objective 2(b) is written as follows: "to take demand-side measures and to conserve energy…" and does not include the word "all".

3.4 Are there cost-effective measures in the industrial sector that have been identified by the 2013 CPR that FBC considers that it should not under-take within the FBC service area?

Response:

No.

3.5 Does FBC expect that if it increased incentives to industrial customers that it would achieve a higher percentage of achievable potential as identified by the 2013 CPR?

Response:

No. The industrial achievable potential identified in the 2013 CPR Update is anticipated to be fully acquired over the long term. The 2015-2016 DSM Plan uses a 5 percent ramp rate over the test period, and increased incentives may accelerate the take-up rate to acquire the available resource sooner; however, this cannot be unequivocally stated as there are many factors that affect take-up rates, including cost-effectiveness for the customer.

Please also refer to the responses to ICG IRs 1.7.6 and 1.7.9.

3.6 Please provide all analysis of the relationship between incentives and achievable potential in the industrial sector that has been performed by FBC?

Response:

In the 2013 CPR Update Table 34 (duplicated below) the incentive portion of measure cost was varied between Scenario 2 and 3, which marginally increased the achievable potential from 31.1 to 31.7 GWh. Some of that increase is attributable to the simultaneous increase in the LRMC from $85/MWh $112/MWh (plus 15% NEB).

Please also refer to the response to ICG IR 1.3.5.

Table 34
Industrial Cost-Effective Achievable Energy Savings, MWh

	Scenario 1	Scenario 2	Scenario 3
Compressed Air	3,819	4,244	4,244
Energy Management Information Systems (EMIS)	4,342	4,824	4,824
Industrial Efficiencies	16,628	22,064	22,641
Total	24,789	31,132	31,709

3.7 Please identify and fully explain the circumstances when FBC last considered program development, other that the EMIS program, in the industrial sector?

Response:

FBC believes its industrial efficiency (IE) program is broad enough to consider any energy-efficiency or conservation project(s) brought forth by its customers.

The last formal review of the IE program was the 2012 Monitoring & Evaluation report, which included feedback from participating customers on the program structure such as the two-year payback limit on the incentive paid. Informal weekly meetings with the PowerSense Technical Advisors provides more immediate feedback on program uptake and barriers. Lastly, the regulatory process, including IRs like this series, provides yet another opportunity to reflect on program development.

3.8 Does FBC expect that at higher incentive levels in the industrial sector that participation of industrial customer would increase?

Response:

No. Please refer to the response to ICG IR 1.3.5.

3.9 Please identify and explain the circumstances when FBC in the past three years has tested, in any way, savings and incentive amounts in the industrial sector?

Response:

The 2012 Industrial Efficiency (IE) Monitoring & Evaluation (M&E) report formally reviewed or tested the IE program. The Executive Summary of this report is filed in the 2012 YE Semi-Annual DSM Report (Appendix H2 of the 2014-18 PBR filing). The review scope included an impact assessment which found a 99 percent savings realization rate and a 12 percent free-rider rate for an overall net-to-gross ratio of 87 percent of claimed savings. The M&E review found an 81 percent satisfaction rate amongst program participants, including all but two who indicated their internal payback criteria for energy projects were two years or longer (thereby sanctioning FBC's two-year payback limitation on incentive amounts).

3.10 Does FBC have the ability to manage increased participation by industrial customers in response to higher incentive during the 2015-16 period?

Response:

Yes. FBC employs four full-time Technical Advisors, who are qualified Certified Energy Managers (CEMs). These PowerSense staff are the primary contacts for the Company's industrial and large commercial key accounts.

4.0 Reference: July 24, 2014 Announcement of Energy-efficiency investments to reduce costs for pulp and paper producers

4.1 Please file the July 24, 2014 press release, and confirm that FortisBC had no knowledge of the announcement at the time of the Commission workshop?

Response:

Please refer to Attachment 4.1. The FBC employees in attendance at the Commission workshop on September 3, 2014 had no knowledge of the government's announcement regarding pulp and paper producers.

4.2 Please confirm that the Minister and BC Hydro announced a new Power Smart program that will reduce electricity costs for pulp and paper producers in BC.

Response:

Confirmed.

4.3 Please comment on whether FortisBC is willing to design a new Power Smart program that will reduce electricity costs for pulp and power producers in its service area. If so, please provide details of when such a new Power Smart program will be announced?

Response:

It should be noted that FBC's DSM sub-brand is PowerSense, and that the name "Power Smart" as used in the Information Request refers to BC Hydro's DSM sub-brand. FBC will be preparing a long-term DSM Plan, in conjunction with the 2016 Resource Plan filing, based on the results of the BC-wide 2015 CPR. The CPR will inform the DSM Plan with any new measures and an updated estimate of economic potential in the industrial sector, which in turn may prompt FBC to (re)design its Industrial sector program(s) that are available to all customers in that rate class, including its pulp producer.

It should be noted that the current custom program design is flexible with respect to the type of measures it can support for industrial customers.

4.4 Please comment on whether FortisBC is willing to enter a consultation process with its pulp producer with the objective of a new Power Smart program that will reduce electricity costs for pulp producers in its service area?

Response:

Yes, FBC is willing to enter consultations with industrial rate class customers, including its pulp producer, regarding program measures that reduce the amount of electricity supplied to them by FBC.

4.5 Please confirm that FortisBC currently has suspended the eligibility of its only pulp customer to all DSM programs.

Response:

Please refer to the response to BCUC IR 1.7.7.2 for a discussion of the current status of Celgar (FBC's only pulp customer) with respect to DSM.

4.6 Please comment on whether FortisBC is willing to design a new DSM program for its pulp customer that provides a financial incentive of up to 75% of the project cost to support investments in more energy efficient equipment?

Response:

Please refer to the response to ICG IR 1.4.3.

4.7 Please confirm that FortisBC has announced an expansion of energy-efficiency programs to those on low-income, but has no plans to expand energy-efficiency programs for industrial customers.

Response:

The 2015-2016 DSM Plan includes an expansion of FBC's low-income programs in response to the Amendment to the DSM Regulation. The 2015-2016 Industrial plan targets are approximately twice as large as the baseline results obtained over the prior three years, if an extraordinary 2013 project is omitted.

4.8 Please confirm that BC Hydro is currently planning on expanding energy-efficiency programs for its industrial customers.

Response:

Not confirmed. With the exception of a new offer targeted exclusively for thermo-mechanical pulp (TMP) mills, BC Hydro is currently moderating its energy-efficiency programs per its 2013 IRP.

It should be noted that there are no TMP pulp producers in the FBC service area.

4.9 Please comment on when FortisBC plans to review the design of DSM programs for any of its industrial customers.

Response:

Please refer to the response to ICG IR 1.4.3.

4.10 Please provide an analysis either in graph or tabular format of all energy-efficiency measures that have been implemented by industrial customers of

FortisBC that have received a DSM incentive exceeding 10 cents/kwh times the Annual Savings?

Response:

The table below lists all energy-efficiency measures that have been implemented by industrial customers of FBC that have received a DSM incentive exceeding 10 cents/kWh times the annual savings.

Industrial measures than have received a DSM incentive exceeding 10 cents/kWh times the annual savings
New Motors
Motor Rewinds
Lighting
Pumps and Fans

4.11 Please comment on whether FortisBC believes that it has worked closely with its pulp customer to find collaborative ways to reduce its electricity costs?

Response:

Over the years FBC has worked closely with FBC's pulp customer, primarily through contact with the regional FBC PowerSense Technical Advisor, on a number of proposed and completed DSM projects. Currently any such projects are on hiatus as per FBC's response to ICG IR 1.4.5.

Additionally the Company proposed, in response to a funding request, to co-fund half of the cost of an in-house Energy Manager in lieu of co-funding a third party consultant energy assessment.

4.12 Please calculate the percentage of industrial customers that have completed an energy efficiency study with FBC funding to the total number of eligible industrial customers?

Response:

To date 42 percent of industrial customers have completed an energy efficiency study with FBC co-funding. Two additional studies are being conducted within the next several months, which would bring the percentage total up to 47 percent.

This count excludes any "walk-through" site assessments conducted by PowerSense Technical Advisors and/or engineering staff.

4.13 Please prepare a table with the aggregate FortisBC spend on energy efficiency studies for industrial customers by year and the amount spent per customer in each of the past five years?

Response:

The following table provides the requested information.

	2010	2011	2012	2013	2014 (YTD)
FBC spend on energy studies for industrial customers	$2,620.63	$7,500.00	$5,000.00	$8,500.00	-
Average amount spent per participating customer	$2,620.63	$3,750.00	$5,000.00	$4,250.00	-

The above table excludes FBC in-kind expenditures on "walk-through" energy audits conducted by PowerSense Technical Advisors and engineering staff.

4.14 Please comment on whether the percentage of industrial customers that have completed an energy efficiency study could reasonably be expected to increase if funding for energy efficiency studies was similar to funding made available by BC Hydro?

Response:

FBC understands that BC Hydro pays 75 percent of a customer's study costs upon completion, rising to 100 percent if sufficient measures are implemented within 18 months. FBC's offer is limited to 50 percent of study costs.

Research indicates that a customer's co-investment in energy studies results in a greater probability of investment in identified upgrades. To date all FBC customers who received funding for an energy study have completed some or all of the study recommendations made and received PowerSense incentives for doing so.

Recognizing that the costs of energy studies are escalating and the need for them is more important given the growing complexities of energy efficiency technologies, FBC is planning to increase the funding available for studies. It is also partnering with the FEU to co-fund dual-fuel energy studies to further improve the value to qualified customers.

To FBC's knowledge, no customer has declined to proceed with an energy study because it was too expensive after FBC's contribution.

4.15 Please explain the relationship, if any, between persistence and DSM incentives for industrial energy efficiency measures?

Response:

FBC takes the use of the word "persistence" in this IR to mean FBC undertakes a number of steps to ensure persistence of measure savings. Initially the Company may co-fund an energy study by a third party consultant, which calculates the economics of the identified DSM measures. The project proposal is subject to FBC's technical scrutiny prior to pre-approval of an estimated incentive amount. The PowerSense incentive amount is limited to 50 percent of the project cost to ensure the participant has adequate "skin in the game" which helps ensure measure persistence.

Projects that proceed are subject to a stepped rebate payment, the first half of which is paid upon project completion and the second half subject to M&V (Measurement and Verification) protocols to ascertain that the project savings are evidenced.

For measures that are no longer in service the Company can, and has had occasion to, invoke tariff "claw-back" provisions available to it to recover the unamortized incentive amount remaining.

4.16 Please identify the source of persistence assumptions used by FortisBC for the design of DSM programs?

Response:

Measure persistence is built into the Effective Measure Life (EML) estimates that FBC uses. The EMLs are provided as part of the CPR studies that in turn are obtained from reputable sources, namely BC Hydro, Bonneville Power Authority (Northwest Conservation Council) and OPA (Ontario Power Authority).

4.17 Please confirm that FortisBC expects that the persistence of FortisBC and BC Hydro energy efficiency measures to be similar, if not the same?

Response:

Not confirmed. Please refer to the response to ICG IR 1.4.16. The EML figure(s) used by FBC, which includes persistence, may have come from a non-BC Hydro source.

4.18 Please compare the persistence values used by FortisBC and BC Hydro in the evaluation of DSM programs?

Response:

Please refer to the response to ICG IR 1.4.16.

4.19 Please provide the aggregate spend per industrial customer by BC Hydro and FortisBC during the past five years?

Response:

Aggregate DSM program[1] spend ($) per industrial customer is shown in the table below.

	FBC	BC Hydro*
	($) per customer	
2009/F2010	8,000	155,000
2010/F2011	16,000	143,000
2011/F2012	4,000	239,000
2012/F2013	5,000	188,000
2013/F2014	8,000	184,000

*Excludes BCH expenditures on rates, codes and load displacement

The difference is largely due to the following factors: (i) the average BC Hydro industrial customer's electricity usage is an order of magnitude (ten times) larger than FBC's customers; and (ii) BC Hydro pays a higher incentive rate per kWh saved.

FBC believes that the following table (which shows the DSM budget per GWh of electricity) is a better representation of the value provided to industrial customers compared to BC Hydro. In years with industrial savings over 1 GWh, FBC rebate levels are in the same order of magnitude as BC Hydro, and in fact, 2010/F2011 exceeds the rate paid by BC Hydro.

	FBC	BC Hydro*
	DSM ($) per GWh	
2009/F2010	1.4	1.8
2010/F2011	2.4	1.8
2011/F2012	0.5	3.0
2012/F2013	0.7	2.3
2013/F2014	1.3	2.3

*Excludes BC Hydro expenditures on rates, codes and load displacement.

4.20 Please confirm that FBC expects that if this 2015-2016 DSM Plan is approved that incentives for the FBC industrial efficiency program will remain at the benchmark of 10 cents/kWh of Annual Savings.

[1] Excludes BC Hydro expenditures on rates, codes and load displacement.

Response:

Confirmed.

4.21 Assuming the same annual savings from an eligible energy efficiency measure, please comment on whether the DSM incentives that would be made available by BC Hydro based on the BC Hydro benchmark are approximately three times higher than DSM incentives that would be made available by FortisBC using its 10 cents/kWh of Annual Savings?

Response:

Although the nominal incentive rate paid by BC Hydro appears to be three times higher, the actual BC Hydro incentive paid is capped by one or more of the following:

(i) Measure life, i.e. incentive is prorated if EML is less than ten years;

(ii) 75 percent of incremental project costs; or

(iii) $0.5 million for distribution customers, $5 million for transmission customers.

4.22 Please provide a response to the following information request in the 2014 -2018 PBR proceeding: Exhibit B-24, BCUC 2.107.3?

Response:

FBC's response to FBC 2014-2018 PBR, Exhibit B-24, Response to BCUC IR 2.107.3 remains the same and is provided below. FBC further notes that the industrial program offering did not change using an "avoided cost of DSM" of $111.96/MWh.

107.0 Reference: ***Exhibit A2-16, BC Hydro IRP 2013, Appendix 4D, Tables 8-3 and 8-6;***

Exhibit A2-15, ACEE Saving Energy Cost-Effectively 2009 Report, pp. 5–7

Setting the funding envelope — Benchmarking

BC Hydro provides a DSM Jurisdiction Review Comparison of DSM Achievements as Appendix 4D to its August 2013 IRP, an analysis of TRC and UCT by program at Table 8-6, and DSM cost by customer class in Table 8-3 (Exhibit A2-16, Appendix 4D, Table 8-3, Table 8-6).

An ACEEE study titled Saving Energy Cost-Effectively: A National Review of the Cost of Energy Saved Through Utility-Sector Energy Efficiency Programs, September 2009, includes on Table 1 and Figure 1 a comparison of average State program costs of saved electricity (Exhibit A2-15, pp. 5–7).

107.3 To the extent practicable, please identify DSM programs offered by BC Hydro but not forecast to be offered by FBC during the PBR period, and explain why FBC is not offering these or similar programs in its service territory. Please also indentify if these or similar programs would be offered if the avoided cost of DSM was set at $111.96/MWh (before losses).

Response:

FBC's 2014-18 DSM Plan is compliant with governing legislation, including the DSM Regulation, and the Plan addresses major end-uses in all sectors through cost-effective DSM programming. Collaboration with other utilities, namely FEU and BC Hydro, is pursued wherever possible in mass markets (e.g. EnergyStar appliance program) to ensure equity of offers for FBC's customers.

A side-by-side comparison is resource intensive, and unnecessary as per the FBC 2012-13 RRA decision (p. 139):

> *"As noted earlier, in the Panel's view, BC Hydro and FortisBC are different utilities, operating in different contexts. The Commission Panel is not prepared to direct FortisBC to implement the same DSM programs as BC Hydro, particularly in the industrial sector where the customer base is very different."*

4.23 Please compare the energy efficiency study funding made available by FortisBC with that made available by BC Hydro?

Response:

FBC offers funding for 50 percent of an eligible energy efficiency study, up to a negotiated limit. Any incentive amount that is subsequently payable to that Customer will be reduced by the amount of FBC's study contribution, less $1,500.

BC Hydro offers funding for industrial energy assessments and studies based on customer energy consumption and system size. Offers include 100 percent funding up to $5 thousand for an end-use assessment for qualifying customers. Energy efficiency feasibility studies for in-depth analysis of a single system are available with up to 100 percent funding, with 75 percent of study costs upon completion. The remaining 25 percent will be funded if the customer implements a major efficiency upgrade within 18 months.

4.24 Please identify any specific characteristics of FortisBC relative to BC Hydro that are relevant to, and could justify, a difference in energy efficiency study funding between the two utilities?

Response:

Please refer to the response to ICG IR 1.4.22, which FBC believes still stands.

4.25 Please comment on whether in the past FBC calculated the LRMC used in the assessment of cost-effectiveness based on the circumstances of FBC and that FBC has been directed to no longer calculate the LRMC based on its unique circumstances?

Response:

FBC will continue to calculate the LRMC based on its unique circumstances. The 2014 DSM Regulation amendment directs FBC to use the price of new resources that qualify as "BC Clean" renewables.

4.26 Please comment on whether the LRMC for FortisBC and BC Hydro for the purposes of assessment of the cost-effectiveness of DSM programs is to be the same?

Response:

Please refer to the response to ICG IR 1.4.25.

4.27 Please comment on whether FortisBC would expect similar DSM programs for FortisBC and BC Hydro based on the use of the same LRMC and a shared 2015 CPR?

Response:

The shared (dual-fuel, BC wide) 2015 CPR will identify the economic potential in each utility's service area using each utility's unique LRMC, or range thereof for scenario development. The LRMC, whether it is the same or not, is used to calculate the governing economic test (the TRC).

Neither input (CPR or LRMC) dictates the type of DSM programs offered, the expenditure schedule, nor the take-up rate at which the CPR potential is acquired over time. FBC will continue to collaborate with BC Hydro on program design to provide similar offers if/where possible in mass markets, primarily in the residential and commercial sectors.

5.0 Reference: Exhibit B-1, p. 4, lines 15-18

A price sensitivity analysis using the range of avoided cost ($85-$100/MWh) indicated by the 2013 BC Hydro IRP reveals lower benefit/cost ratios, but no substantive change in program measures.

5.1 Please confirm that FortisBC does not expect substantive changes in program measures during the 2015-16 period, with the exception of program changes for low income customers.

Response:

Confirmed. Low income program changes were required by the Amendment to the DSM Regulation.

6.0 Reference: Exhibit B-1, p. 7, lines 8-9

FortisBC also discussed its proposed accelerated regulatory process for review of the 2015-16 DSM Plan.

6.1 Please confirm that the ICG strongly objected to an accelerated regulatory review process of the 2015-16 DSM plan during the July 22, 2014 meeting with interveners.

Response:

FBC confirms that ICG objected to an accelerated regulatory review process.

6.2 Please confirm that the proposal for an accelerated regulatory process assumes and requires that there will be no substantive changes in program measures until after 2016?

Response:

Not confirmed. There are a number of changes proposed for program measures in this Application. The scope of any further changes proposed after 2016 are not known at this time.

6.3 If not, please explain how substantive changes in program measures might be implemented before 2016?

Response:

Please refer to the response to ICG IR 1.6.2.

7.0 Reference: Exhibit B-1, p. 9, Table 4-1

7.1 Please confirm that the only sector in which FortisBC proposes to reduce "Plan Cost" is the sector with the highest B/C ratio?

Response:

Not confirmed. Both the Residential and Industrial 2015 Plan costs are less than 2013 Plan and Actual expenditures.

7.2 Please explain why FortisBC will not increase the benchmark incentive levels of 10 cents/kwh for the industrial sector relative to the other sectors, given the much higher B/C ratio in the industrial sector as compared to the two other sectors?

Response:

The higher Industrial B/C ratio (as corrected in the response to BCUC IR 1.6.1.2) is an indicator of the relative economic strength or value of the program measure and does not dictate the benchmark incentive rate, or changes thereto.

The incentive rate determines the portion of measure cost borne by FBC, and hence its ratepayers, with the remaining costs paid by the customer undertaking and benefiting from their DSM project. Note that the DSM incentive amount is classified as a transfer cost and does not change the TRC B/C ratio.

The FBC benchmark incentive rate is partially informed by the Participant Cost Test (PCT), which is highest for the Industrial sector (see Table A6-1 in Appendix A of the 2015-2016 DSM Expenditure Application) which indicates those customers enjoy stronger project economics than other customer classes.

7.3 Please explain on what basis or factors FortisBC considers when it "customizes" incentives levels for the industrial sector when the incentive level is not based on 10 cents/kwh?

Response:

The nominal incentive level can be modified by the terms of Schedule 90 of the FBC Electric Tariff, which provides the DSM program structure. The incentive amount modifiers (LRMC, percent of project cost, amount needed to achieve a two-year payback) limit the incentive paid based on the specific (or "custom") project economics. This addresses the equity issue of a customer seeking to externalize costs to FBC and its ratepayers, by ensuring the participant pays an appropriate share of their DSM project costs.

7.4 Please explain why FortisBC has increased industrial target savings in the 2015-2016 DSM Plan as compared to the 2014-2018 DSM Plan?

Response:

The 2014-2018 DSM Plan industrial targets were based on the 2011-2013 actual results, which averaged approximately 800 MWh year, after an extraordinary 2013 project was excluded.

The 2015-2016 DSM Plan used the identified industrial potential from the 2013 CPR Update times a 20-year ramp rate, which resulted in an increased target.

7.5 Please identify and explain any changes in methodology related to any values in Table 4-1 from the 2014-2018 DSM Plan to the 2015-16 DSM Plan, including changes in methodology to determine target savings for the industrial sector?

Response:

Please refer to the response to ICG IR 1.7.4.

7.6 Please explain and identify all factors relevant to the determination of a 20-year ramp rate? In particular, please identify any relationship between the ramp rate and the incentive levels?

Response:

Ramp rates are a simplified market diffusion model to estimate a program's savings acquisition over time. The actual savings take-up are governed by a variety of aspects including, but not limited to, customer awareness, product availability, market capacity, incentive rate and customer risk tolerance. Intuitively, market take-up will accelerate with a higher incentive rate, yet the relationship is non-linear due to the impact of other factors such as those listed.

7.7 Please comment FortisBC believes the 20-year ramp rate proposed by FortisBC adequately considers the government objective to reduce expected increase in demand for electricity by the year 2020 by at least 66 per cent?

Response:

The BC government objective is firstly aimed at BC Hydro and secondly is a high-level metric based on DSM savings divided by load growth – which is chiefly driven by customer additions, an independent variable. In contrast the ramp rate is applied to the identified economic potential to mimic program uptake (DSM savings) over a 20-year time frame ending in 2033, with little or no correlation between the two.

7.8 Please provide a detailed calculation of the 2015-16 savings targets for the industrial sector based on a 20-year ramp rate, and a 10-year ramp rate?

Response:

The Industrial economic potential identified in the 2013 CPR Update was 31 GWh multiplied by a 5 percent ramp rate (100 percent divided by 20 years) equals the 2015-2016 target of 1.5 GWh.

When the calculation was repeated using a 10 percent ramp rate (100 percent divided by ten years) the Industrial target would double to about 3.0 GWh.

7.9 Please identify the change in industrial incentive levels necessary to achieve the savings targets dentified in the previous question.

Response:

As discussed in the response to ICG IR 1.7.6 there are a number of factors that drive program take-up (savings acquisition) of which incentives are but one such factor. There is no known formula that correlates increasing incentive levels to increased results, but any such equation is likely subject to diminishing returns. For example, doubling the incentive may only increase results by half.

7.10 Please explain comment in whether a ramp rate could be determined by sector?

Response:

The ramp rate set provided by the CPR consultant generically represent different types of measures or programs, not sectors. Depending on the measure type ramp rates can be linear (e.g. ongoing program) or not (e.g. new technology ramp up curve), and cover different time periods (5, 10, 20 years) depending on the maturity of the measure and how long the program has been in the market (past results).

7.11 Please comment on whether higher incentive levels for the industrial sector could be justified based on higher benefit/cost ratios, and whether higher participation in the industrial sector could reasonably be expected to result in improved financial performance of the DSM Plan?

Response:

Please refer to the response to ICG IR 1.7.2.

Higher participation in the industrial sector will not necessarily improve the overall performance of the DSM Plan, if the specific projects undertaken have a lower TRC than plan. For instance, the 2013 Year End Industrial sector TRC was 1.0 (unity).

Attachment 4.1

Ministry of Energy and Mines, Economy Sector, Environment Sector, Cariboo Chilcotin Coast Region, Kootenay Rockies Region, Northern B.C. Region, Provincewide, Thompson / Okanagan Region, Vancouver Coast & Mountains Region, Vancouver Island / Coast Region

Energy-efficiency investments to reduce costs for pulp and paper producers

/2014/07/energy-efficiency-investments-to-reduce-costs-for-pulp-and-paper-producers.html

Thursday, July 24, 2014 11:15 AM

SURREY - Bill Bennett, Minister of Energy and Mines and Minister Responsible for Core Review and Jessica McDonald, president and CEO of BC Hydro, announced a new Power Smart program that will reduce electricity costs for pulp and paper producers.

The program will help producers remain globally competitive, supporting thousands of jobs throughout the province and will reduce overall electricity demand, keeping rates low for all customers over the long-term.

The new program builds on existing initiatives for industrial customers where BC Hydro provides a financial incentive of up to 75% of the project cost to support investments in more energy efficient equipment.

Under the new program, thermo-mechanical pulp and paper producers, which have electricity costs that account for as much as 30% of their operating budgets and represent 10% of BC Hydro's annual power sales, will be eligible for increased incentives ranging from $5 million to $25 million for projects that can reduce their power consumption.

The program is expected to reduce electricity consumption by 300 gigawatt hours per year which will save pulp and paper producers $17.5 million in annual power costs. In addition, by reducing overall electricity demand by this amount, BC Hydro will avoid the need to acquire new sources of power generation, saving ratepayers up to $265 million and keeping rates low for all customers.

The demand for electricity in British Columbia is expected to grow by 40% over the next 20 years. Investing in energy efficiency is a key component of BC Hydro's Integrated Resource Plan target to meet 78% of this new demand through conservation, which is more cost-effective than acquiring new sources of power generation.

There are seven thermo-mechanical pulp and paper operations in B.C. operated by four companies: Canfor (Taylor), Catalyst Paper (Crofton, Port Alberni and Powell River), Paper Excellence (Chetwynd and Port Mellon) and West Fraser (Quesnel).

The new program adds to the $1.6 billion that BC Hydro will spend on Power Smart initiatives as part of the 10 Year Plan. Earlier this month, government, BC Hydro and FortisBC announced an expansion of energy-efficiency programs to help customers, particularly those on low-incomes, reduce their electricity and gas bills.

BC Hydro continues to work with all of its residential, commercial and industrial customers on Power Smart programs and is also conducting a rate design review to provide large industrial customers with more flexible rate options to manage their costs and stay competitive.

Quotes:

Bill Bennett, Minister of Energy and Mines and Minister Responsible for Core Review -

"Government and BC Hydro have worked closely with large industrial power users to find collaborative ways to reduce their electricity costs and make investments in energy efficiency that will benefit all ratepayers. This new program is a key part of our 10 Year Plan commitment to provide customers with tools to manage their energy costs as BC Hydro makes investments to maintain and grow our electricity system."

Jessica McDonald, president and CEO, BC Hydro -

"Electricity is the backbone of our economy. Thanks to the investments made in our hydroelectric system decades ago, our industrial customers enjoy among the lowest rates in North America. However, as we renew and reinvest in our system to ensure safe, reliable

power in B.C., I'm pleased that we are able to offer a new opportunity for our industrial customers to save electricity and reduce their operating costs."

Joe Nemeth, president and CEO of Catalyst -

"I would like to thank the provincial government and in particular, Minister Bennett, BC Hydro's leadership, namely Jessica McDonald and her predecessor Charles Reid along with Joanne Sofield, for constructively working with industry to find timely, workable solutions to reduce power costs. This is an important step forward, which combined with the rate design review currently underway, will allow us to remain competitive and continue to generate economic benefits for the Province of B.C."

David Formosa, mayor of Powell River

"I am very pleased that Minister Bennett and the provincial government listened to the concerns of our communities that rely on this industry as their economic backbone. This is an important first step in dealing with the increasing power costs facing this industry and along with the rate review process, will go a long way to ensuring that the jobs in Powell River and other communities will be here for the long term."

Mike Verdiel, union president of Unifor Local 76 -

"This energy conservation program will improve the long-term viability of jobs at Catalyst's mills and the mill community as a whole. A large part of Powell River's economy relies on the pulp and paper mill. This new program created by the Ministry and BC Hydro is not only good news for resource, ratepayers and Catalyst - it means job stability and opportunity in Powell River also."

A backgrounder follows.

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BACKGROUNDER

British Columbia's and BC Hydro's programs

Power Smart's Thermo-Mechanical Pulp Program:

- The total amount of project incentives available to customers over a three-year period is $100 million.
- For incentive amounts for each facility based on the horsepower of existing refiners as of April 1, 2014, and resulting allocation, click here: **http://ow.ly/zxUa1** **(http://ow.ly/zxUa1)**
- Customers with multiple operations can combine their allocated incentive funding to support a larger investment at one facility. However, each facility must receive a minimum of $5 million in incentive funding.
- Incentives will range from $5 million to $25 million per project and can cover up to 75% of the total cost, with the customer contributing at least 25%.
- BC Hydro the projects will reduce electricity consumption by a combined 300 gigawatt hours a year. This will save thermo-mechanical pulp customers approximately $17.5 million in annual electricity costs and will keep rates low for all ratepayers by allowing BC Hydro to avoid spending $265 million to acquire new sources of power generation.
- Project applications must be submitted by Oct. 1, 2015. Projects will be given a 24-month completion window.
- Examples of projects that could receive funding under the program include a number of different technologies including low consistency refining, inter-stage screening and refiner motor upgrades.

BC Hydro Power Smart programs:

- Under the 10 Year Plan, BC Hydro will invest $1.6 billion in Power Smart programs to provide residential, commercial and industrial customers with the tools they need to reduce their electricity costs by becoming more energy efficient.

- Over the next 20 years, the demand for electricity in British Columbia is expected to increase by 40% due to an expected population increase of 1.1 million people, a growing economy and new products and technologies that will increase power consumption.
- Investments in energy efficiency are the most cost-effective way to meet the increased demand for electricity.
- BC Hydro plans to meet more than 78% of future electricity demand through investments in energy efficiency.
- Power Smart programs currently save 4,460 gigawatt hours of electricity annually - enough to power about 425,000 homes each and every year.

Power Smart programs for industrial customers:

- BC Hydro has the fifth-lowest industrial rates in North America.
- BC Hydro's industrial customers use about one-third of all the electricity consumed in B.C. each year.
- BC Hydro's industrial customers are responsible for 1,500 of the 4,460 gigawatt hours of electricity saved annually through Power Smart - about 34 per cent.
- BC Hydro expects savings from the industrial sector to increase to more than 2,000 gigawatt hours a year by 2021.
- BC Hydro currently spends about $65 million on industrial Power Smart programs each year.
- For every $1 BC Hydro invests in Power Smart programs for industrial customers, it saves about $3 in generating costs.
- BC Hydro's current Power Smart programs for industry include:
  - Strategic energy management: initiatives to embed energy management into the overall operations of the company. For example, BC Hydro provides financial support for energy managers who work for industrial customers to identify and implement energy efficiency projects.
  - Load displacement: BC Hydro provides funding for the development and installation of clean or renewable on-site generation that displaces electricity otherwise supplied by BC Hydro.
  - Energy Studies and audits: various options are available to help customers uncover opportunities and savings at their facilities. A free energy assessment gives customers access to energy experts who can delve into energy use opportunities to reduce costs.
  - Project incentives: Power Smart offers incentives to help customers implement energy efficiency projects.

British Columbia's Thermo-Mechanical Pulp and Paper Industry:

Pulp is produced using refiners to mechanically breakdown material. The refiners are run using very-large horsepower motors and hence the high electricity consumption. Thermo-mechanical pulp is different than craft pulp and a much higher amount of electricity is used to produce this pulp. B.C.'s thermo-mechanical pulp sector is the largest single industry segment and consumes approximately 10% of BC Hydro's supply. This sector has many opportunities for large energy efficiency projects with proven technologies.

For production in tonnes of product per year, as well as numbers of direct and indirect jobs, click here: http://ow.ly/zxUsw (http://ow.ly/zxUsw)

The thermo-mechanical pulp (TMP) industry in B.C. can be split into two sectors: market-oriented and internally oriented.

The Interior mills, Quesnel River Pulp, Canfor - Taylor, and Paper Excellence - Chetwynd all produce TMP for the market. The TMP is sold to paper producers who convert it into uncoated paper products such as newsprint, coated paper products such as magazines, and paperboard for packaging materials. A smaller, but growing, market is tissue products, primarily paper towels and napkins. The TMP is sold to North American and Pacific Rim customers. Competition comes from global producers of hardwood and softwood Kraft pulp, with hardwood being the prime competitor.

The Coastal mills are internally-oriented. The TMP produced is used within the mill and converted into paper products. These mills cannot sell TMP directly into the market because they do not have a pulp dryer section. Catalyst produces newsprint, directory-grade paper, coated paper for magazines and specialty paper Howe Sound Pulp and Paper produces newsprint. In North America, the competition comes from Resolute Paper, Norpac Paper and Verso. In the Pacific Rim, European producers such as Stora Enso, UPM Kymene and Norske Skoog have entered the market along with regional producers in South Korea, Japan and China.

West Fraser - Quesnel River Pulp

The TMP produced at QRP is used for manufacturing products such as coated board grades, printing and writing papers and paper towel/napkin grades. Quesnel River Pulp ships mainly into Asian markets.

Canfor - Taylor

All pulp produced at the Taylor pulp mill is sold by Canfor Pulp's sales offices in Vancouver, Canada, Brussels, Belgium, and Tokyo, Japan, to customers in North America and Europe. Taylor Pulp maintains its production rate with wood chips trucked in from the various Canfor sawmills in the Peace Region.

Paper Excellence - Howe Sound Pulp and Paper, and Chetwynd

Howe Sound Pulp and Paper produces primarily for the North American market with some exports to the Pacific Rim.

Paper Excellence purchased the closed Chetwynd mill from Tembec in April and is in the process of ramping up to full production of approximately 230,000 tonnes of thermo-mechanical pulp.

Catalyst - Crofton, Port Alberni, and Powell River

Catalyst Paper Corporation is the world's largest producer of telephone directory paper and North America's third-largest producer of newsprint and specialty paper. Its customers include retailers, publishers and commercial printers in North America, Latin America, the Pacific Rim and Europe.

Powell River and Port Alberni produce lightweight coated papers and groundwood specialty papers. Crofton produces newsprint, directory paper and northern bleached softwood kraft (NBSK).

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