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Via Web Upload and Courier

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B.C. Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

File No.: 4.2.7 (2019)

Attention: Patrick Wruck
Commission Secretary and Manager, Regulatory Services

Dear Mr. Wruck:

**Re: Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd.
Application for Approval of Energy Conservation and Innovation
Program Funding for 2019 and 2020
PNG Responses to BCUC IR No. 1**

Accompanying, please find copies of responses to the referenced Information Requests that were uploaded to the Commission's website earlier today.

Ten printed copies of the responses will be distributed by courier to the BCUC's office. Printed copies are available to parties registered as Interveners into this Application upon request.

Please direct any questions regarding the Application to my attention.

Yours truly,

A handwritten signature in black ink that reads 'Janet Kennedy'. The signature is written in a cursive, flowing style.

J.P. Kennedy

Encls. (10)

**Pacific Northern Gas Ltd.
Energy Conservation and Innovation Program Funding Application**

**BRITISH COLUMBIA UTILITIES COMMISSION
COMMISSION INFORMATION REQUEST NO. 1**

| Table of Contents | Page no. |
|--------------------------|-----------------|
| A. Adequacy requirements | 1 |
| B. Cost-effectiveness | 6 |
| C. General | 17 |
| D. Approvals Sought | 36 |

A. ADEQUACY REQUIREMENTS

- 1.0 Reference: ADEQUACY REQUIREMENTS
Exhibit B-1, Section 3.1, p. 5; Section 6.1, p. 29; Appendix C, pp. 7–8; BC
Regulation 326/2008, Demand-Side Measures Regulation, Section 3(1)
Rental program**

Section 3(1) of the Demand-Side Measures (DSM) Regulation states:

A public utility's plan portfolio is adequate for the purposes of section 44.1
(8) (c) of the Act only if the plan portfolio includes all of the following:...

(b) ...a demand-side measure intended specifically to improve the energy
efficiency of rental accommodations;

Pacific Northern Gas Ltd. (PNG) describes their previous portfolio of DSM programs in terms
of the Adequacy requirements of the DSM regulations on page 5 of the Energy Conservation
and Innovation (ECI) Program Funding Application (Application), as follows:

1. Programs to assist low income households to reduce their natural gas
consumption and thereby their natural gas utility bill;
2. A program offered to owners/managers of rental apartment buildings;
3. A domestic hot water heater program for the rental apartment market;
4. A pilot efficient boiler program to commercial customers;
5. A low cost program targeting commercial kitchens (the pre-rinse sprayer
program);
6. Conservation Education and Outreach (CEO) programs to students enrolled in
public schools in PNG's service areas;

7. CEO programs to students enrolled post-secondary institutions in PNG's service areas; and
8. A general CEO program. [*Emphasis added*]

On page 29 of the Application, Table 27 outlining the current DSM portfolio makes no reference to any rental programs.

Page 7–8 of the 2017 Annual Report included in Appendix C to the Application states:

Rental Accommodation Program

In its Application, PNG proposed to offer ESK's to occupants of apartments that are similar to the kits offered to low income households but exclude certain items not suitable for apartments. PNG intended to provide a direct installation of the ESK's measures to occupants of rental apartments.

PNG has not pursued the development of this program at this time as PNG believes that its existing low income and commercial programs already adequately serve the apartment sector. Under the Contribution Agreement between PNG and BC Hydro, PNG funds a portion of all ESK's shipped to any BC Hydro account holder in PNG's service area, regardless of whether the applicant has an account with PNG. Income qualified occupants of rental housing in PNG's service areas are therefore already eligible to receive ESK's. In addition, PNG's Commercial Efficient Water Heater and Commercial Efficient Boiler programs are available to all commercial customers, including owners and managers of rental apartments. [*Emphasis added*]

- 1.1 Please discuss how PNG's proposed expenditures for the 2019–2020 period meet the Adequacy requirements with regards to including "...a demand-side measure intended specifically to improve the energy efficiency of rental accommodations;" [*Emphasis added*] as specified in the DSM Regulation.

Response:

PNG acknowledges that its existing low income and commercial programs are targeted at a broader segment of commercial customers than just those commercial customers operating rental buildings. PNG's rental accommodation market segment is small, comprising approximately 200 buildings. Implementing a cost-effective program for such a small customer segment is challenging and, while PNG concedes that it is possible, PNG submits that extending its existing commercial programs to the rental segment is an appropriate step at this stage of the development of the ECI programs.

PNG is aware of only one program currently offered by FortisBC Energy Inc. (FEI) that is intended specifically to improve the energy efficiency of rental accommodations. The FEI Rental Apartment Efficiency Program provides direct installation of free water saving showerheads and faucet aerators, a building energy assessment and ongoing professional assistance to guide apartment owners through the process of completing energy efficiency upgrades and applying for incentives offered by FEI's commercial programs. PNG notes that FEI's Rental Apartment Efficiency Program is a bundle of measures that are also available through their Residential and Commercial Program Areas. PNG's

view is that the only difference between FEI's approach and PNG's approach to targeting the rental accommodation market is the additional outreach and support offered by FEI to that segment. PNG submits that such support can be offered through PNG's general conservation and education outreach (CEO) initiatives.

- 1.1.1 Please discuss what efforts PNG is making to develop measures for rental residents who are not covered by measures aimed at low-income households.

Response:

PNG interprets Section 3(1)b of the DSM Regulation as referring to a demand side measure aimed at rental accommodations, rather than directly at rental residents. Accordingly, and for the reasons given in response to the Question 1.1, PNG views its existing Commercial Efficient Boiler and Commercial Efficient Water Heater programs, available to owners and operators of rental buildings, as meeting the Adequacy requirements of the DSM Regulation.

**2.0 Reference: ADEQUACY REQUIREMENTS
BC Regulation 326/2008, DSM Regulation, Section 3(1)
Housing**

Section 3(1) of the DSM Regulation states:

A public utility's plan portfolio is adequate for the purposes of section 44.1 (8) (c) of the Act only if the plan portfolio includes all of the following:

- (a) A demand side measure intended specifically
 - (i) ..., or
 - (ii) to reduce energy consumption in housing owned or operated by
 - (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,... [Emphasis added]

2.1 Please discuss if PNG has explored any potential DSM measures aimed at housing provided by either local government or first nations governing bodies, including any information available to PNG about the proportion of households that reside in housing owned or operated by either local government or first nations governing bodies. If not, please explain why not.

Response:

PNG has not explored any potential DSM measures aimed at housing provided by either local government or first nations governing bodies at this time. PNG's ECI program was launched in 2016 with the aim of meeting the Adequacy requirements contained in Section 3(1) of the DSM Regulation, along with providing additional programs aimed at the commercial sector that were assessed as cost effective, based on information available at the time. The intention of PNG's current Application is to effectively extend the funding for PNG's approved programs through to the end of 2020, and request Commission approval for the initiation of a program aimed at the under served residential sector. PNG has prioritized these intentions ahead of activities to develop additional measures aimed at housing provided by either local government or first nations governing bodies.

PNG notes that its proposed Residential Furnace and Boiler Replacement program will be available to residents of housing owned or operated by either local government or first nations governing bodies.

**3.0 Reference: ADEQUACY REQUIREMENTS
Exhibit B-1, Section 5.2, p. 27
Codes and Standards**

Section 5.2 of the Application outlines PNG's proposal to support codes and standards in line with section 3(1)(e) and (f) of the amended DSM Regulation:

In order to help bring PNG's ECI program into compliance with the DSM Regulation, PNG proposes to allocate approximately \$14,000 in each of 2019 and 2020 to support the development of standards and the adoption of the Energy Step Code (Table 24). Collectively, these amounts comprise approximately three percent of PNG's annual ECI budget.

- 3.1 Please provide additional details of how PNG intends to support the development of standards related to energy conservation and energy efficiency, and promote the adoption by local governments and first nations of the Energy Step Code.

Response:

PNG has begun discussions with BC Housing on delivering the Natural Resources Canada Local Energy Efficiency Partnerships (LEEP) initiative to builders in PNG's service territories. LEEP accelerates energy efficient construction by enabling builders to reduce their time and risk finding and trying innovations that can help them build higher performance homes (that achieve the BC Energy Step Code Step 2 and higher) better, faster and more affordably.

B. COST-EFFECTIVENESS

- 4.0 Reference: COST EFFECTIVENESS**
Exhibit B-1, Sections 4 & 5, pp. 8, 16, 17, 18, 19, 21, 27; PNG Application for Acceptance of the 2015 Consolidated Energy Management and Efficiency Program Funding Plan, Order G-203-15A and Decision, dated December 16, 2015, p. 9; FEI 2019-2022 DSM Expenditures Plan, Exhibit B-5, CEC IR 13.7, p. 26
Input assumptions

PNG presents the parameters for estimating cost effectiveness for each program in Tables 8, 10, 12, 14, 16, 23 in Sections 4 and 5 of the Application.

On page 9 of the Decision accompanying Order G-203-15A regarding PNG's 2015 Consolidated Energy Management and Efficiency Program Funding Application (2015 PNG CEM Proceeding), the BCUC stated:

With regard to assumptions for free rider and spillover effects, **the Panel directs PNG to include in future DSM expenditure requests, estimates of free rider and spillover effects for each DSM program together with justification used to support these estimates.** PNG should use reliable assumptions that are supported by credible sources and is encouraged to reference other jurisdictions for benchmarking purposes.

PNG states on page 8 of the Application:

PNG has adopted the free rider and spill over factors used by FEI in determining the cost effectiveness of programs proposed in FEI's 2019-2022 Demand Side Management Expenditures Plan. PNG has adopted the free rider and spill over factors associated with FEI programs that are similar to PNG's own programs. PNG submits that such an approach is appropriate in that there is currently no available evidence indicating that the behaviours of PNG's and FEI's customers in regards to incentive programs are any different. These estimates are included in the tables presented for each program in Sections 4 and 5 of this Application.

FortisBC Energy Inc. (FEI) states in response to CEC Information Request (IR) 13.7 in their 2019-2022 DSM Expenditures Plan Proceeding:

There was an error in reporting the spillover value for the EnerChoice Fireplace measure in the Home Renovation Program. A spillover rate of 10 percent should have been shown in the table for Section 3.4.1 of Appendix A in Exhibit B-1. This spillover rate applies only to the Home Renovation Program. This error caused an under-reporting of energy savings for the portfolio of approximately 2 percent.

4.1 For the proposed DSM programs that are a continuation from the 2015-2018 DSM Expenditure schedule, please compare in a table form the assumed measure life of PNG’s proposed programs from the 2015 PNG CEM Application and those assumed in the current Application.

Response:

Please see the following table.

Table BCUC 4.1

| Measure Life (years) | Application | |
|--|-------------|----------|
| | 2015 CEM | 2018 ECI |
| ESK Program | 8 | 10 |
| ECAP Program | 13 | 12 |
| Efficient Boiler | 20 | 20 |
| Efficient Water Heater | 12 | 15 |
| Efficient Kitchen | 5 | 5 |
| Residential Furnace and Boiler Replacement | na | 18 |

4.1.1 For DSM measures that do not have the same measure life as previously reported, please explain in detail the reason for any difference for each measure, including but not limited to any changes to the administration and implementation of the programs, alignment with assumptions used by utility partners, and any findings from market research or Evaluation, Measurement & Verification (EM&V) efforts.

Response:

PNG has adopted the measure life used by FEI in determining the cost effectiveness of programs proposed in FEI’s 2019-2022 Demand Side Management Expenditures Plan (DSM Expenditures Plan).

PNG submits that adopting the measure life of FEI programs that are similar to PNG’s own programs is appropriate in that there is currently no available evidence indicating that the measure lives in PNG’s and FEI’s service areas are any different.

- 4.2 For each of PNG’s proposed DSM measures, please compare in a table form the free rider and spillover factors used by PNG and those used by FEI for their equivalent programs to calculate cost effectiveness.

Response:

Please see the tables that follow. Free ridership and spill over rates for FEI were taken from the FEI 2019-2022 DSM Expenditures Plan, Appendix A, Sections 3.4.1, 4.4.1, 6.4.1 and 6.4.2. With the exception of the Low Income programs (ESK and ECAP) that are operated by BC Hydro on PNG’s behalf, PNG has adopted all of the free ridership and spillover rates used by FEI in determining the cost effectiveness of their DSM programs in their 2019-2022 DSM Expenditures Plan that has been accepted by the BCUC by way of Order G-10-19.

PNG has adopted BC Hydro’s free ridership and spillover rates applicable to its ESK and ECAP programs as presented in its Fiscal 2017 – 2019 Revenue Requirements Application (Section 5.3, Appendix V – Demand Side Management Initiatives Descriptions).

Table BCUC 4.2-1

| Free Ridership | Application | |
|--|-------------|----------|
| | 2018 FEI | 2018 ECI |
| ESK Program | 0% | 44% |
| ECAP Program | 0% | 0% |
| Efficient Boiler | 18% | 18% |
| Efficient Water Heater | 38% | 38% |
| Efficient Kitchen | 20% | 20% |
| Residential Furnace and Boiler Replacement | 0% | 0% |

Table BCUC 4.2-2

| Spill Over Rates | Application | |
|--|-------------|----------|
| | 2018 FEI | 2018 ECI |
| ESK Program | 0% | 17% |
| ECAP Program | 0% | 0% |
| Efficient Boiler | 0% | 0% |
| Efficient Water Heater | 9% | 9% |
| Efficient Kitchen | 0% | 0% |
| Residential Furnace and Boiler Replacement | 0% | 0% |

- 4.2.1 Please explain any differences between the free rider and spillover factors used by PNG and FEI, and provide reference and rationale for PNG's free rider and spillover assumptions.

Response:

Please see the response to Question 4.2.

- 4.3 For DSM measures that are administered by or offered in partnership with British Columbia Hydro and Power Authority (BC Hydro), please provide BC Hydro's free rider and spillover factors of those programs.

Response:

Please see the response to Question 4.2.

- 4.3.1 Please explain whether PNG has adopted BC Hydro's free rider and spillover assumptions for those DSM programs. If not, why not?

Response:

Please see the response to Question 4.2.

- 4.4 Based on responses to IR 4.2 and 4.3 above, please provide any revised cost-effectiveness test values for any affected measures if applicable, and the impact on the overall portfolio.

Response:

Not applicable. The free ridership and spillover rates PNG has applied in its cost effectiveness tests for each measure of its ECI portfolio are consistent with those used by FEI and by BC Hydro. PNG submits that these rates are appropriate because there is currently no available evidence indicating that the behaviours of PNG's, and FEI's and BC Hydro's customers in regards to incentive programs are any different.

5.0 Reference: COST EFFECTIVENESS
Exhibit B-1, Section 6.1, p. 29; 2015 PNG CEM Proceeding, Order G-203-15A
and Decision, p. 14
Cost of energy saved

PNG states on page 29 of the Application:

One of PNG’s guiding principles for the design of programs is that the non-incentive costs of each program should be limited to 50 percent of the expenditure in a given year. Based on projections of market acceptance, some of the programs may exceed that target initially, however, PNG anticipates that as these programs gain acceptance and popularity the amount of incentives issued will increase and the portion of non-incentive costs will trend to below 50 percent. Based on current projections, the non-incentive portion of costs for PNG’s incentive programs collectively, at 44 percent, falls below the guideline.

The Decision accompanying Order G-203-15A contained the following comparison of the cost of energy savings:

Table 4: Comparison of the cost of energy saved with other jurisdictions⁵¹

| | Cost of Saved Energy (\$/GJ) | Source |
|------------------------------|------------------------------|--|
| PNG Total | \$ 13.84 | Total Expenditures (\$1.2 million from Table 1 on page 1 of the Application) / Total undiscounted energy savings (89,635 GJ from Table 39 on page 55 of the Application) |
| FEI | \$ 6.55 | Preamble to BCUC IR 1.19.1 |
| ACEE Average | \$ 3.32 | Exh. A2-3, p.30 and BCUC 2.4.3.1 |
| Cdn Utilities Average | \$ 4.78 | IndEco DSM Best Practices Report (Appendix A of Appendix C to the Application) |

- 5.1 Please provide an updated cost of energy for PNG for the following periods, measured in \$/GJ saved:
- 2016 to 2018 (actual)
 - 2019 to 2020 (forecast)

Response:

Please see the table below. At this time, only PNG’s low income ESK program has achieved any energy savings.

Table BCUC 5.1

| | Cost of Energy Saved (\$/GJ) | | |
|------------------|------------------------------|-----------------------|-------------------------|
| | 2016 - 2018 | 2016 - 2018 | 2019-2020 |
| | Forecast ⁽¹⁾ | Actual ⁽²⁾ | Forecast ⁽³⁾ |
| PNG Total | \$ 13.84 | \$ 15.83 | \$ 7.52 |

(1) 2015 CEM Application, Exhibit B-3, PNG response to BCUC 1.19.1

(2) Actual expenditures (\$395,975) divided by estimated undiscounted gross energy savings over the life of each measure.

(3) Forecast expenditures (Table 27 of the Application) divided by undiscounted gross energy savings of the life of each measure (Table 28)

6.0 Reference: COST EFFECTIVENESS
Exhibit B-1, Section 6.2, p. 29–30; 2015 PNG CEM Proceeding, Exhibit B-1, p. 10; Exhibit B-6, BCUC IR 4.1–4.2; Order G-203-15A and Decision, p. 12; FEI 2019-2022 DSM Expenditures Plan, Exhibit B-1, p. 11
Benchmarking

PNG anticipated in 2015 that the DSM programs in aggregate would result in 3,019 GJ in reduced energy consumption over 4 years.¹ As shown in the 2015 analysis provided by PNG, this represented 0.02% of PNG’s GJ natural gas sales, as compared to a 0.77% of sales level achieved on average by gas utilities in the US and Canada.²

In the Decision accompanying Order G-203-15A, the BCUC directed PNG on page 12 to specifically consider emission reduction benefits in the 2016 Conservation Potential Review (CPR), and to include the results of this analysis in the next DSM expenditure schedule filing.

On page 29 of the Application PNG states:

Table 28 below, summarizes the forecast natural gas savings and GHG emissions reductions over the program period, The portfolio is projected to save almost 110,000 gigajoules over the life of the measures, and to reduce GHG emissions by approximately 6,000 tonnes.

On page 11 of FEI’s recent 2019-2022 DSM Expenditures Plan Application, they provide the following table of Greenhouse Gas (GHG) emissions reductions:

Table 3-4: DSM Plan Energy Savings & GHG Emission Reductions

| Indicator | Year | Total Natural Gas Savings | GHG Emission Reductions* |
|--|-----------|---------------------------|--------------------------|
| Net Incremental Annual Gas Savings (GJ/yr.) and GHG Reductions (tonnes/year) | 2019 | 859,729 | 44,362 |
| | 2020 | 913,134 | 47,118 |
| | 2021 | 1,093,421 | 56,421 |
| | 2022 | 1,181,761 | 60,979 |
| Cumulative Net Annual Gas Savings (GJ) and GHG Reductions (tonnes) | 2019-2022 | 3,994,549 | 206,119 |
| NPV of Net Gas Savings (GJ) and Resulting GHG Reductions (tonnes)** | | 36,160,900 | 1,865,902 |

*Based on long run combustion emission factor of 0.0516 tonnes CO₂e/GJ for natural gas from Ministry of Environment & Climate Change Strategy

**NPV in this context refers to including the entire stream of savings into the future (by measure life) and annualizing that to present time to show the total value of the stream of savings

¹ 2015 PNG CEM Proceeding, Exhibit B-1, p. 10.

² 2015 PNG CEM Proceeding, Exhibit B-6, BCUC IR 4.1.

6.1 Please provide an estimate of the annual savings attributable to the portfolio of measures specified in Table 28 of the Application, using the format provided below:

| Year | Total Annual Gas Sales (GJ) | Estimated annual gas savings from DSM measures (GJ) | DSM Savings as % of Gas Sales |
|------|-----------------------------|---|-------------------------------|
| | A | B | =B/A |
| 2018 | Provide actual | Provide actual | |
| 2019 | Forecast | Forecast | |
| 2020 | Forecast | Forecast | |

Response:

Please see the table below. PNG has presented the estimated and forecast annual gas savings as a percentage of both sales volumes, and total deliveries that include deliveries to transportation customers. Deliveries forecast for 2019 and 2020 are taken from the 2019 test year deliveries presented in PNG and PNG(NE)'s 2018/19 Revenue Requirements Application.

Estimated annual gas savings for 2018 are taken from Tables 7, 9, 11, 13, 15 and 22 of the Application, updated with the actual number of measures installed at the end of 2018, multiplied by the estimated per-measure gas savings. In 2018, PNG shipped 409 ESK's to customers, compared to 381 projected for 2018 as presented in Table 7. In 2018 PNG did not receive any applications for its Efficient Water Heater program, compared to 2 applicants as presented in Table 13, and shipped one pre-rinse spray valve, compared to 2 as presented in Table 15.

Table BCUC 6.1

| Year | Estimated gross annual gas savings from ECI measures (GJ) | Total Annual Gas Sales (GJ) | ECI Savings as % of Gas Sales (gross) | Total Annual Deliveries (Sales + Transport) (GJ) | ECI Savings as % of Deliveries (gross) |
|------|---|-----------------------------|---------------------------------------|--|--|
| | A | B | =A/B | C | =A/C |
| 2018 | 1,961 | 6,313,276 | 0.03% | 9,913,628 | 0.02% |
| 2019 | 4,481 | 6,810,708 | 0.07% | 11,295,176 | 0.04% |
| 2020 | 8,840 | 6,810,708 | 0.13% | 11,295,176 | 0.08% |

6.2 Please provide a table equivalent to FEI's Table 3-4 above, demonstrating the annual, cumulative and lifetime gas savings and GHG emissions reductions for the PNG portfolio of measures.

Response:

Please see the table below. PNG has presented both the gross and net energy savings and GHG reductions associated with measures forecast to be installed beginning in 2019. The net present value (NPV) of GHG reductions is based on a forecast reductions over the life of all measures installed during the period from 2019 to 2020 and discounted at 0%. Results are consistent with the totals presented in Table 28 of the Application.

Table BCUC 6.2

| Indicator ⁽¹⁾ | Year | Gross Savings and Reductions | | Net Savings and Reductions ⁽³⁾ | |
|--|-------------|--------------------------------|---|---|----------------------------------|
| | | Total Natural Gas Savings (GJ) | GHG Emission Reductions ⁽²⁾ (tonnes) | Total Natural Gas Savings (GJ) | GHG Emission Reductions (tonnes) |
| Net Annual Gas Savings (GJ/y) and GHG Reductions (tonnes/y) | 2019 | 2,520 | 141 | 2,056 | 115 |
| | 2020 | 6,879 | 385 | 5,720 | 320 |
| Cumulative Net Annual Gas Savings (GJ) and GHG Reductions (tonnes) | 2019 - 2020 | 9,399 | 526 | 7,776 | 435 |
| NPV of Net Gas Savings (GJ) and resulting GHG Reductions (tonnes) | | 129,004 | 7,224 | 109,929 | 6,156 |

(1) For measures installed beginning in 2019

(2) Based on a GHG intensity of 56 kg/GJ. (Source: NRCan)

(3) After applying the free ridership and spillover rates

6.3 Please provide an updated version of the following comparison table provided by PNG in the 2015 PNG CEM Proceeding in response to BCUC IR 4.2. For clarity, updates are required for PNG only, and not all of the utilities listed in the 2015 IR. A sample table prepared by BCUC staff is provided below the 2015 example.

Table BCUC 2.4.2

| Comparison of DSM Expenditures as a percentage of distribution revenues | | | |
|---|-----------------------|----------------------|---------------------|
| Source: Table BCUC 1.6.2b | 2016 DSM Expenditures | 2014 Total Revenues | % of Total Revenues |
| PNG-West | \$ 209,096 | \$ 43,069,000 | 0.49% |
| FSJ/DC | \$ 182,493 | \$ 28,691,000 | 0.64% |
| TR | \$ 8,614 | \$ 2,698,000 | 0.32% |
| Total PNG | \$ 400,203 | \$ 74,458,000 | 0.54% |
| FEU | \$ 35,839,000 | \$ 1,374,819,000 | 2.61% |

| | 2018 Actual DSM Expenditures (\$ 000) | 2017 (or latest full year) Total Gas Revenues (\$ 000) | % DSM expenditures of Total Revenues |
|------------------|---------------------------------------|--|--------------------------------------|
| | A | B | =B/A |
| PNG-West | | | |
| FSJ/DC | | | |
| TR | | | |
| Total PNG | | | |

Response:

Please see the table that follows. Actual expenditures in 2018 (\$110,035) are lower than projected in Table 26 (page 28) of the Application (\$127,761) due primarily to the following:

- i) At the time of completing the Application, PNG anticipated obtaining approval for the Residential Furnace Replacement program before the end of 2018 and had therefore included \$9,000 in the expenditures projected for the remainder of 2018.
- ii) PNG has experienced a further delay in launching its ECAP partnership with BC Hydro and therefore did not spend \$3,600 forecast for 2018 in the Application.
- iii) In the Application, PNG forecast issuing two rebates to customers under the Commercial Water Heater Replacement program in 2018. At the end of 2018, PNG had not received any applications for this program. Consequently, PNG did not spend \$4,600 forecast for this program in 2018.

Table BCUC 6.3

| | 2018 Actual DSM Expenditures | 2018 Total Utility Revenues (\$000) * | % DSM expenditures of Total Revenues |
|------------------|------------------------------|---------------------------------------|--------------------------------------|
| | A | B | =A/B |
| PNG-West | \$ 57,101 | \$ 41,156 | 0.14% |
| FSJ/DC | \$ 50,948 | \$ 22,039 | 0.23% |
| TR | \$ 1,986 | \$ 1,955 | 0.10% |
| Total PNG | \$ 110,035 | \$ 65,151 | 0.17% |

* Normalized revenues

C. GENERAL

- 7.0 Reference: GENERAL
Exhibit B-1, Section 1.1, p. 1; Section 3.2.2, p. 6; 2015 PNG CEM Proceeding, Exhibit B-6, BCUC IR 4.2; Order G-203-15A and Decision, pp. 5–6; Government of British Columbia, CleanBC, (2018), p. 7
Overall size of the funding envelope

PNG states on page 1 of the Application:

The amount of \$827,000 requested for the period 2019 – 2020 is equal to the amount of 2015 – 2018 funding approved for PNG’s ECI program that is projected to remain unspent at the end of 2018. The applied for schedule of expenditures for the period 2019-2020 effectively extends the funding period of the original \$1.2 million ECI budget by an additional two years, to the end of 2020.

In Exhibit B-6 of the 2015 PNG CEM proceeding, PNG estimated that the proposed funding envelope represents approximately 0.54% of distribution revenues, approximately five times lower than that of FEI and the average of other Canadian gas utilities reported.

In the Decision accompanying Order G-203-15A, the BCUC stated on page 6:

The Panel accepts this DSM expenditure schedule for 2015-2018, but views it as an initial first step only. The Commission Panel notes that PNG’s DSM proposed spending (as a percentage of GJ sales and revenues) is significantly less than DSM expenditures by other utilities in North America. However, the Panel gives weight to the fact that this is PNG’s first foray into offering DSM programs to its customers and that the results of the joint BC conservation potential review will not be available until 2016.

Page 5 of the same Decision stated:

PNG further states that it has committed to participate in the joint BC conservation potential review (CPR) and expects that the results of this exercise will be available in the first quarter of 2016. PNG explains that the purpose of the CPR is to develop estimates of electricity and natural gas conservation potential in BC, including analyzing a broad range of energy-saving technologies and behaviour/lifestyle changes. PNG states that this information will be used to provide input for future DSM Plans and to develop new conservation programs/modify existing ones. PNG submits that, over the long term, its DSM Plan should evolve to achieve all cost-effective DSM savings and that it intends to add other cost-effective programs to its portfolio based on the results of the CPR and other studies.

PNG states on page 6 of the Application under Section 3.2.2: Alignment with the CPR:

At this time, PNG has aligned the development of additional programs with

opportunities afforded through EfficiencyBC and has focused on the development of a residential furnace replacement program.

The BC Government’s new CleanBC policy³ states on page 7:

Our goal is to make every new building constructed in B.C. “net-zero energy ready” by 2032. Along the way we’re requiring new buildings to be more efficient, and ramping up funding for renovations and energy retrofits to our existing homes and offices, including \$400 million to support retrofits and upgrades for B.C.’s stock of publicly funded housing.

- 7.1 Please provide a table containing PNG’s revenues over the 2015-2018 period, compared to PNG’s actual DSM expenditures to date. The table should also show DSM expenditures as a percentage of distribution revenues.

Response:

Please see the table below.

Table BCUC 7.1

| | 2015 | 2016 | 2017 | 2018 |
|--|-----------|------------|-----------|------------|
| DSM Expenditures (\$) | \$ - | \$ 215,244 | \$ 70,696 | \$ 110,035 |
| Utility Revenues normalized (\$000) | \$ 75,467 | \$ 64,572 | \$ 72,703 | \$ 65,151 |
| DSM Expenditures as a portion of Utility Revenues | 0.00% | 0.33% | 0.10% | 0.17% |

³ https://cleanbc.gov.bc.ca/app/uploads/sites/436/2018/12/CleanBC_Full_Report.pdf

- 7.2 Please discuss what consideration PNG has given to the measures highlighted by the CPR, including why PNG did not think it appropriate to include any of the top measures identified in the CPR at this time.

Response:

The CPR reports identifies a market potential of 362 TJ in annual savings in 2025 (Table B-1 on page B-1 of Appendix B), equivalent to 4.5 percent of consumption (Table B-2 on page B-2). The report also identifies the top measures by market potential savings in 2025 (Table B-7 on page B-7). Four measures – (i) ENERGY STAR® homes, (ii) commercial new construction measures > 45% above code, (iii) commercial HVAC control upgrades, and (iv) residential home energy reports – account for 190 TJ or over half of the total market potential annual savings.

Despite these results, PNG has elected to implement one new program targeting residential customers during the two year funding period covered by the Application. PNG has based its decision on the following:

- 1) A residential efficient furnace and boiler replacement rebate program is offered by FEI. PNG receives comments from its customers asking about programs offered by FEI and whether these are also offered by PNG. The majority of these comments have been about a residential furnace replacement incentive program.
- 2) A residential efficient furnace and boiler replacement rebate program is a common program that is often “top-of-mind” with residential customers when replacing their furnace or boiler equipment.
- 3) A residential efficient furnace and boiler replacement rebate program is relatively simple to set up and operate, and straight forward to administer. It is therefore a natural fit for PNG’s ECI program, which was launched just three years ago on a modest budget and which is still developing its capacity to develop and administer more complex and ambitious programs.
- 4) A residential efficient furnace and boiler replacement rebate program takes advantage of additional funding provided by EfficiencyBC, to customers opting to upgrade to an ultra-high efficiency (97% AFUE or higher) gas furnace.
- 5) PNG has a low rate of growth in both its residential and commercial sectors. Consequently, and despite the recommendations contained in the CPR report, PNG has not prioritized measures targeting new construction (ENERGY STAR® homes, and commercial new construction measures) at this time.

PNG considers its Application, effectively, as a request to extend the period of funding of the original schedule of expenditures that covered the period from 2015 to 2018 by a further two years (to 2020). PNG recognizes that it is considerably underspent on its programs due, primarily, to a lack of uptake by its customers, and, secondarily, due to the longer than anticipated time taken to implement some of these programs. Over the next two years, PNG intends to focus on raising awareness amongst its customers of PNG’s existing ECI programs before embarking on the development of additional programs such as those identified in the CPR report.

8.0 Reference: GENERAL
Exhibit B-1, Section 4, p. 12
Actual spending to date

PNG states on page 12 that the actual spending of PNG’s approved ECI programs contained within the Application are for the period ending June 2018, along with a forecast of spending to the end of 2020.

8.1 Please complete the following table for all measures proposed in the 2015 PNG CEM Proceeding and in the current application as specified below, clearly separating out actual and forecast expenditure for the 2018 year. For any new or discontinued programs, please put N/A in the applicable cells. Please also provide the table in a functional Excel spreadsheet.

| DSM measure | 2016 Forecast | 2016 Actual | 2017 Forecast | 2017 Actual | 2018 actual (partial year: e.g. Jan to Oct) | 2018 forecast (partial year actual + forecast) | 2019 forecast | 2020 forecast |
|------------------------------------|---------------|-------------|---------------|-------------|---|--|---------------|---------------|
| ... | | | | | | | | |
| Total Annual Portfolio Expenditure | | | | | | | | |

Response:

Please see the table that follows which has also been provided in Excel format as Attachment BCUC 8.1. The 2016 and 2017 forecast amounts are consistent with the expenditures approved by the Commission for the 2015 CEM application. Forecast expenditures for 2018 are consistent with those presented in the Application and reflect projections of program expenditures over the period from July to December. In the case of the proposed Residential Furnace Replacement program, 2018 forecast expenditures reflect an allocation of Enabling Activities as presented in Table 4 of the Application. At the time of completing the Application, PNG anticipated obtaining approval for the Residential Furnace Replacement program before the end of 2018 and had included an allocation of a portion of Enabling Activities to this program.

Table BCUC 8.1

| DSM measure | 2016 Forecast | 2016 Actual | 2017 Forecast | 2017 Actual | 2018 actual (Jan - Jun) | 2018 forecast (partial year actual + forecast) | 2019 forecast | 2020 forecast |
|---|-------------------|-------------------|-------------------|------------------|-------------------------|--|-------------------|-------------------|
| Low Income - ESK | \$ 7,968 | \$ 5,904 | \$ 5,554 | \$ 12,416 | \$ 4,726 | \$ 11,848 | \$ 11,848 | \$ 11,848 |
| Low Income - ECAP | \$ 16,500 | \$ - | \$ 11,500 | \$ - | \$ - | \$ 3,600 | \$ 35,000 | \$ 28,500 |
| Residential Furnace Replacement | na | na | na | na | na | \$ 9,000 | \$ 95,800 | \$ 120,800 |
| Rental Accomodations - ECAP | \$ 34,800 | \$ - | \$ 45,600 | \$ - | \$ - | na | na | na |
| Commercial Boiler Replacement | \$ 41,685 | \$ - | \$ 31,685 | \$ - | \$ - | \$ 4,950 | \$ 29,300 | \$ 29,300 |
| Commercial Water Heater Replacement | \$ 30,300 | \$ - | \$ 26,100 | \$ - | \$ - | \$ 9,550 | \$ 31,100 | \$ 40,300 |
| Commercial Efficient Kitchen Program | \$ 5,350 | \$ - | \$ 6,100 | \$ - | \$ 12,760 | \$ 18,100 | \$ 18,650 | \$ 24,500 |
| Conservation Education and Outreach - Elementary School Program | \$ 30,600 | \$ 6,570 | \$ 13,600 | \$ 24,774 | \$ 9,839 | \$ 18,248 | \$ 39,983 | \$ 39,983 |
| Conservation Education and Outreach - Post Secondary Program | \$ 19,000 | \$ - | \$ 12,000 | \$ - | \$ - | \$ - | \$ 24,000 | \$ 24,000 |
| Conservation Education and Outreach - General | \$ 64,000 | \$ - | \$ 17,000 | \$ 4,838 | \$ 5,090 | \$ 15,040 | \$ 85,800 | \$ 25,800 |
| Codes and Standards | na | na | na | na | na | na | \$ 14,052 | \$ 14,000 |
| Innovation | na | na | na | na | na | na | \$ 35,000 | \$ 35,000 |
| Enabling Activities | \$ 217,000 | \$ 202,770 | \$ 193,500 | \$ 28,668 | \$ 33,825 | \$ 37,425 | \$ 6,000 | \$ 6,000 |
| Total Annual Portfolio Expenditure | \$ 467,203 | \$ 215,244 | \$ 362,639 | \$ 70,696 | \$ 66,241 | \$ 127,761 | \$ 426,533 | \$ 400,031 |

8.2 Please provide explanations for why the expenditure to date for each under-spent program (excluding the ESK and Elementary School Programs) has been significantly lower than requested, including a discussion of what actions have been taken or explored to date. The explanation should address the following factors at a minimum:

- The staffing effort allocated to each measure;
- The amount of incentive provided;
- The role of the DSM manager, specifically the percentage of time spent on DSM versus other duties;
- Whether there were any delays in implementing each program. If so, what was the reason for the delay?

Response:

PNG identifies two factors responsible for actual expenditures on many of PNG's ECI programs being lower than originally forecast. First, the uptake on PNG's commercial incentive programs have been lower than anticipated. Second, PNG launched the commercial programs in 2017, rather than in 2016 as originally anticipated.

PNG has begun to promote its incentive programs through outreach activities involving municipalities and local contractors. In addition, PNG's is currently analyzing the results of its recently completed customer attitudes survey that targeted a sample of PNG's residential and commercial customers across all of PNG's service areas. As described on page 23 of the Application, the results of the survey will help PNG understand customers' attitudes towards energy conservation, climate change, and renewable natural gas supply, their perceptions of the environmental attributes and cost competitiveness of natural gas, and their behaviours affecting their energy consumption. PNG will use the results of the survey to inform its general CEO programs, as well as to modify, where necessary, existing program offerings and initiatives in order to improve the effectiveness and scope of its ECI program.

PNG relies on the Manager Gas Supply and DSM to manage all activities related to developing and administering its ECI programs. The manager, in turn, relies on a consultant with deep expertise in developing and administering energy efficiency programs to complete many of the tasks related to establishing the programs. The manager has other duties within PNG and allocates approximately 20% of his time to the ECI program.

- 8.3 Please discuss what steps PNG is taking to ensure that the proposed DSM expenditure is achievable, in consideration of the actual level of expenditure in 2018.

Response:

The forecast expenditures PNG has presented in its Application are based on information unavailable to PNG when it filed its 2015 CEM application. More specifically, PNG now has some experience with implementing its ECI programs, along with more certainty on the associated costs. In addition, PNG has developed some expertise in its general CEO activities in 2018 and has identified additional activities for 2019 (Please see also the response to Question 9.1) that will help to promote its existing and proposed programs to a wider audience.

**9.0 Reference: GENERAL
Exhibit B-1, pp. 13, 14
Enabling Activities**

Page 14 refers to “...the further development of PNG’s marketing initiative aimed at promoting PNG’s existing programs.For 2019 and 2020, PNG anticipates continuing to develop its marketing campaigns and outreach programs.”

The BC Government website has an Energy Efficiency Programs page⁴ which provides links to BC Hydro’s and FortisBC’s energy efficiency programs. The current page provides no link to PNG’s program.

The new Efficiency BC website⁵ contains the logos of both BC Hydro and FortisBC, but does not include PNG.

On page 13 of the Application, PNG states:

After beginning the implementation of its approved programs, PNG has restructured the role of the DSM program manager. While the Manager, Energy Management and DSM retains overall responsibility for the implementation and administration of the ECI programs, this role has additional responsibilities in the regulatory affairs and gas supply group. Accordingly, costs associated with this manager’s salary and overhead have not been allocated to the ECI program.

⁴ <https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/energy-efficiency-conservation/programs>

⁵ <https://efficiencybc.ca/>

- 9.1 Please provide additional information on how PNG has:
- i) promoted its existing programs to date, and
 - ii) how PNG plans to develop its DSM marketing and outreach campaigns for 2019 and 2020.

Response:

As stated on pages 22 and 23 of the Application, PNG is distributing materials that provide information on, and raise awareness of, PNG's ECI programs. During the August and September billing cycles, PNG distributed a bill insert highlighting commercial offers to all its commercial customers. PNG has made improvements to its ECI webpages by adding an interactive home page that supports the ECI brand, along with additional content presenting new program offers. Examples of the promotional materials are found in Appendix D attached to the Application.

PNG continues to establish relationships in the communities it serves that raise awareness of its ECI programs. In the spring of 2018, PNG reached out to community services organizations, chambers of commerce and municipalities' staff. Some of these organizations are now distributing PNG's marketing materials and posting information on PNG's ECI programs on their social media platforms.

PNG is leveraging their local staff to help garner interest in the ECI programs and distribute ECI collateral through their regular business interactions with customers and at community events such as the annual Taylor Safety BBQ.

Finally, PNG has begun working with Ecolighten Energy Solutions to engage HVAC contractors in the PNG service territory to raise awareness of programs and to start to build the relationships necessary for a successful trade ally network.

PNG has launched a quarterly e-newsletter beginning in January 2019 and is collaborating with FEI to develop content.

In 2018, PNG launched its presence on Facebook and Twitter. PNG has begun to use these social media platforms to support its outreach and marketing activities.

In 2019, PNG plans to increase the messaging through its existing partnerships and media channels. In addition, PNG intends to work with BC Housing and support the Local Energy Efficiency Partnerships (LEEP) initiative in PNG's service areas.

In January, 2019, PNG, along with Encana and BC Hydro and Bear Mountain Wind Ltd., sponsored the Energy Explorers event held at the Northern Lights College in Dawson Creek. Over 250 school children from the Fort St. John and Dawson Creek areas attended the event. Following on the success of that event, PNG and the Northern Environmental Action Team (NEAT) have discussed developing additional outreach events that support PNG's elementary school conservation and education program and allow PNG to market its ECI programs.

PNG's recently completed customer attitudes survey is expected to provide valuable insight into customers' perceptions of PNG, its ECI programs and customer service. PNG will use the outcome of the survey to help shape its marketing and outreach activities for the remainder of 2019 and beyond.

Finally, PNG will continue to work with EfficiencyBC to improve PNG's visibility on EfficiencyBC's web portal.

- 9.2 Given the under-expenditure of the DSM budget to date, please explain the decision to allocate the DSM manager additional responsibilities in the regulatory affairs and gas supply group, including a summary of how the DSM program manager's time is currently split between their various responsibilities.

Response:

The responsibility for the implementation and administration of the ECI programs rests with the Manager Energy Management and DSM who, in turn, relies on a consultant with deep expertise in developing and administering energy efficiency programs to complete many of the tasks related to establishing the programs.

When the manager was hired in the fall of 2016, he was also assigned responsibility for PNG's gas supply portfolio that primarily entails managing the relationship with PNG's energy management service provider. In addition, PNG's Regulatory Affairs group relies on this manager for developing rate and cost of service models as well as for developing future resource plans. The reason for assigning multiple roles to the manager is that, in the early stages of developing a DSM program having fairly limited scope, a part-time role is appropriate.

In the two years since hiring the manager, PNG has begun a number of initiatives in response to evolving regulatory developments related to climate change at both the federal and provincial level, as well as to support PNG's internal objectives to further strengthen its operational efficiencies. Specific initiatives include developing PNG's climate change and renewable natural gas strategies. As well, PNG is implementing a geographic information system that will enable improvements in PNG's operations, engineering and business development workflows. All of these new initiatives are being carried out by PNG at its existing staffing levels and the workloads of many staff, including the Manager Energy Management and DSM, have increased as a result.

10.0 Reference: GENERAL
Exhibit B-1, Section 3.2.4, p. 9; Section 4.3.2, p. 16; 2015 PNG CEM
Proceeding, Exhibit B-1, p. 39
Additional partnerships with other utilities or organisations

PNG states on page 39 of its 2015 CEM Application that "PNG has initiated discussion with FEI in regard to the offering of [a commercial water heating] program in PNG's service territory and may partner with FEI in offering an efficient water heater program to the apartment segment."

Page 16 of the Application under Section 4.3.2 Energy Conservation Assistance Program states: "PNG has completed and is waiting for final approval of a funding agreement with BC Hydro that is similar to the Contribution Agreement entered into for the ESK program."

On page 9 of the Application, PNG states: "PNG continues to seek out partnerships with other utilities and service providers in order to deliver programs to its customers in the most cost-effective manner possible."

- 10.1 Please clarify whether PNG's efficient water heater program to the apartment segment as proposed in the Application will be offered in partnership with FEI. If not, please elaborate.

Response:

In December 2017, PNG began offering an efficient water heater program to all commercial customers, including owners and managers of rental apartment buildings. The program is modelled on a similar program offered by FEI and provides rebates of up to \$2,000 for the installation of high-efficiency commercial water heaters with thermal efficiencies greater than or equal to 84 percent.

Owing to the size of PNG's commercial customer segment, PNG does not anticipate a large number of applications and therefore PNG has elected to manage this program itself.

Please see also the response to Question 1.1.1.

- 10.2 Please discuss the specific steps to date taken by PNG to partner with other utilities or organisations in general, and discuss any obstacles or challenges experienced to date.

Response:

PNG identifies and initiates discussions with potential partners as part of the process of developing and implementing its ECI programs. Specifically, PNG has established a partnership with BC Hydro for the delivery of the ESK program that is based on a cost sharing agreement. PNG has also entered into a fee for service agreement with the NEAT whereby the latter delivers PNG's conservation education and outreach program to elementary school children in PNG's service areas. The program itself is based on one offered by FEI that PNG has rebranded, with the assistance of FEI.

PNG originally considered entering into a partnership with FEI for the delivery of its commercial rebate programs. Subsequent to preliminary discussions with FEI, PNG determined that the process of establishing an agreement that considered the customer data privacy requirements, along with the administrative expense associated with having FEI administer these programs were significant barriers to cost-effectively implementing PNG's commercial programs. PNG determined that its expected uptake of its commercial programs would not be large enough to support the costs associated with establishing and operating the program through a partnership. Accordingly, PNG established and operates its own commercial rebate programs.

PNG has also established an agreement with EcoFitt Corp., who operates BC Hydro's ESK program, whereby EcoFitt operates the order fulfillment portion of PNG's Commercial Kitchens program, while PNG administers the application approval process.

As also discussed in PNG's response to Question 11.4, PNG had been in discussions with FEI regarding the implementation and administration of PNG's Furnace Replacement program. FEI engages a third party, Consumer-Response Marketing Ltd. (CRM) to administer its Furnace Replacement program. Under the agreement, CRM receives and processes customers' applications, and sends rebate cheques to qualified applicants. FEI has subsequently suggested that PNG should consider entering into a similar arrangement directly with CRM. Accordingly, PNG has commenced discussions with CRM and obtained an estimate for the cost of administering PNG's program that is competitive with that proposed by FEI.

PNG remains intent on establishing a cost-sharing agreement with BC Hydro for the delivery of the ECAP program in PNG's service areas. PNG has been in discussions with BC Hydro beginning in 2016 but has yet to complete an agreement. The difficulty PNG faces is amending the ECAP terms and conditions that currently support a partnership between BC Hydro and FEI, to an agreement that also includes PNG. These terms and conditions are concurrently undergoing a larger revision that is subject to the review by the legal departments of both utilities.

PNG notes that the ECAP program is currently, and always has been, offered to low income customers of BC Hydro who reside in PNG's service areas. Therefore, establishing the cost sharing agreement alters nothing in the delivery of this program, save for creating an opportunity for PNG to brand some of the materials provided by the program.

Finally, FEI and PNG continue to collaborate on opportunities for developing marketing materials. PNG and FEI recently completed the production of a 'How-to' video supporting the installation of pre-rinse spray valves in commercial kitchens. In addition, PNG developed a French language version of its educational materials for elementary school children in French immersion schools that it has shared with FEI.

10.2.1 Please discuss how PNG plans to overcome any obstacles or challenges mentioned above.

Response:

Please see the response to the Question 10.2.

10.3 Please explain whether further PNG programs could be outsourced to EfficiencyBC, or to other utilities

Response:

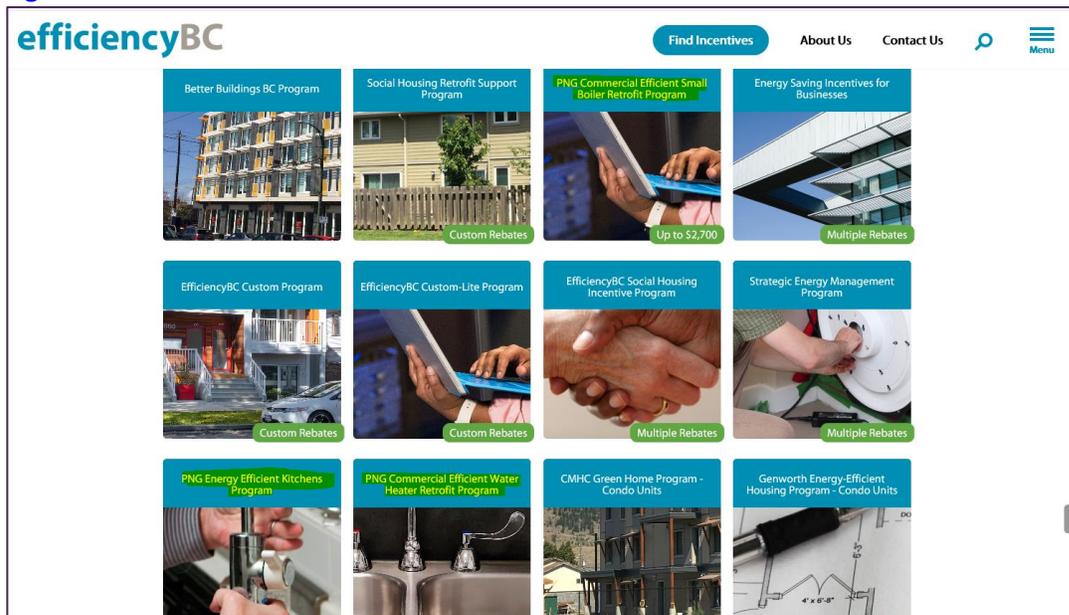
EfficiencyBC is a program jointly funded by the Government of British Columbia and Government of Canada through the Low Carbon Economy Leadership Fund. Its goal is to accelerate retrofits that help households and businesses reduce GHG's and energy use. EfficiencyBC provides additional incentives to those offered by FEI and BC Hydro, as well as other organizations, for upgrades of heating equipment to high efficiency models and for improvements to building envelopes including door and window replacements.

EfficiencyBC has established a portal or "online" hub through which all homeowners and businesses in B.C. can access incentives that are administered by BC Hydro, FEI, PNG and BC Housing. As illustrated by the screen snapshot that follows, PNG's commercial programs can be accessed through the EfficiencyBC portal. As with all of the program pages presented on the EfficiencyBC portal, users are redirected to the sponsoring organization's application portal. EfficiencyBC does not itself administer any incentive programs.

PNG notes that incentives provided by the Ministry for Energy Mines and Petroleum Resources (MEMPR) for windows and door upgrades are available to residents of gas heated homes, including all customers of PNG who have a BC Hydro account. This program is accessible through the EfficiencyBC portal and is administered by BC Hydro.

Please also see the response to Question 10.2.

Figure 1



- 10.4 Please discuss potential ways to reduce administrative costs and increase the incentive portion of overall DSM expenditures when implementing DSM programs.

Response:

Please see the responses to Questions 10.1 and 10.2. PNG determines whether to partner with other organizations in the delivery of PNG's programs based on the anticipated demand for each program. When the anticipated number of applicants is small, administration of the program directly by PNG is likely the most cost-effective approach. However, as discussed in its response to Question 10.2, PNG identifies and initiates discussions with potential partners as part of the process of developing and implementing all of its ECI programs.

**11.0 Reference: GENERAL
Exhibit B-1, pp. 25–27
Residential Furnace and Boiler Replacement Program**

PNG states on page 25 of its Application that "PNG proposes additional programs that reflect consideration of opportunities afforded through EfficiencyBC... EfficiencyBC integrates with FortisBC and BC Hydro's existing retrofit rebate programs."

PNG further states on page 25 and 26 that "PNG proposes a Furnace and Boiler Replacement program aligned with a similar program currently offered by FortisBC... PNG is developing this program to allow its residential customers to take advantage of an additional incentive offered by EfficiencyBC... PNG intends to establish an agreement with FortisBC, whereby FortisBC administers PNG's Furnace and Boiler Replacement program."

PNG shows in Table 23 on page 27 that the Total Resource Cost (TRC) of the furnace and boiler replacement program is 0.13, mTRC is 1.11, and the UCT is 0.18.

- 11.1 Please provide a cost breakdown of EfficiencyBC's contribution towards the cost of the Residential Furnace and Boiler Replacement program for year 2019 and 2020, and specify the nature of costs that EfficiencyBC contributes towards (e.g. incentives, promotion, program administration, EM&V).

Response:

The Residential Furnace and Boiler Replacement program budget presented in Tables 21 and 22 of the Application do not include the cost of the additional incentive offered through EfficiencyBC. The results of the cost effectiveness tests presented in Table 23 reflect the case where a customer replaces their furnace with a model that does not qualify for the EfficiencyBC incentive. As stated on pages 25 to 26 of the Application, customers upgrading to a furnace having efficiency 97% AFUE or higher qualify for an additional \$200 rebate that is provided by EfficiencyBC.

- 11.2 Please explain whether each of the cost effectiveness results presented in Table 23 regarding the Residential Furnace and Boiler Replacement Program is calculated based on the total cost of the program, or net of the contribution from EfficiencyBC.

Response:

Please see the response to the Question 11.1.

11.3 Please present the cost effectiveness results of FEI’s equivalent to PNG’s Furnace and Boiler Replacement program.

Response:

Please see the following table showing the results of the “Total Resource Cost” (TRC) and modified TRC (mTRC) tests, “Utility Cost Test” (UCT), “Participant Cost Test” (PCT), and “Rate Impact Measure” test (RIM).

Table BCUC 11.3

Comparison of Cost Effectiveness Test Results (PNG vs FEI) for the Residential Furnace Replacement Program

| | TRC | mTRC | UCT | PCT | RIM | Source |
|-----|------|------|------|------|------|---|
| PNG | 0.13 | 1.11 | 0.18 | 1.38 | 0.10 | Application, Table 23 |
| FEI | 0.40 | 1.40 | 1.10 | 0.80 | 0.50 | FEI 2019-22 DSM Expenditures Plan, Appendix B (FEI 2017 DSM Annual Report), Table 5-1 |

11.3.1 Please compare PNG’s cost effectiveness result with FEI’s similar program, and explain any differences.

Response:

With the exception of the results of the PCT, the cost effectiveness tests of PNG’s proposed Residential Furnace Replacement program are lower than those of FEI. These results are to be expected owing to the smaller market for this program in PNG’s service areas, and to differences between PNG and FEI in the avoided cost of gas. More specifically, the TRC is determined as the ratio of benefits – quantified by the avoided cost of gas – to costs that include customer costs and the utility’s fixed costs of marketing and administering the program. PNG continues to seek ways to implement its ECI programs in a manner that minimizes the fixed administrative and marketing costs. Nevertheless, PNG will always be challenged to achieve similar economies of scale in its programs, as compared to FEI. Based on the indications of the administrative costs it has received, and on its estimated market penetration over the next two years, PNG estimates that its fixed costs per gigajoule of energy saved will be notably higher than that of FEI. PNG notes that, despite FEI attaining economies of scale in its program, the TRC of FEI’s program is also significantly below one. PNG also notes that both FEI and PNG’s program are cost effective as determined by the mTRC.

In addition, the energy savings benefit is priced at the utility’s avoided cost of gas, which PNG has determined to be lower than that of FEI. PNG’s TRC results will therefore be lower than those of FEI, all else remaining equal.

The UCT and RIM test outcomes for PNG’s programs are lower for the same reason. In addition, PNG and FEI differ in how the avoided carbon tax is treated in the UCT and RIM tests. PNG does not consider the avoided carbon tax as a benefit when determining the UCT and RIM, but rather as a proxy for environmental benefits that are not included in the UCT and RIM tests. Excluding the impact of the avoided carbon tax further reduces the UCT and RIM results, as compared to FEI.

- 11.3.2 Please comment on whether the cost effectiveness of PNG's and FEI's Residential Furnace and Boiler Replacement Program should be similar, in consideration that FEI will be administering the program on behalf of PNG.

Response:

Please see the response to the Question 11.3.1. PNG will incur fixed administrative costs, regardless of whether FEI, PNG or a third party administers PNG's program. PNG's estimate of administration costs presented in Table 21 on page 26 of the Application reflects the latest discussions with FEI regarding arrangements for FEI administering PNG's program. The majority of these costs are fixed and do not change with the number of applications processed.

- 11.4 Please provide an update on the efforts to establish an agreement with FEI to administer PNG's Furnace and Boiler Replacement program. Specifically, please provide a list of outreach or negotiations to date, and the timeline and milestones for any future discussions.

Response:

Since submitting the Application, PNG has been in further discussions with FEI regarding the implementation and administration of PNG's Furnace Replacement program. FEI has engaged a third party, Consumer-Response Marketing Ltd. (CRM) to administer its Furnace Replacement program. Under the agreement, CRM receives and processes customers' applications, and sends rebate cheques to qualified applicants. FEI has subsequently suggested that PNG should consider entering into a similar arrangement directly with CRM. Accordingly, PNG has commenced discussions with CRM and obtained an estimate for the cost of administering PNG's program that is competitive with that proposed by FEI. In addition, PNG has been in discussions with the MEMPR regarding the processing of the EfficiencyBC \$200 top up incentive for customers upgrading to a furnace having efficiency 97% AFUE or higher.

Based on discussions with both the MEMPR and CRM, PNG expects that the necessary agreements can be put in place in fairly short order. PNG is working on all of the activities necessary to launching its Residential Furnace Replacement program, including finalizing arrangements with the MEMPR and CRM, and is confident that its program can be launched within a month or two of receiving BCUC approval of its Application.

- 11.4.1 Please provide an estimate of the expected timing of when an agreement with FEI will be established.

Response:

Please see the response to the Question 11.4.

11.4.2 Please discuss whether an agreement with FEI is a requirement before PNG will implement its Furnace and Boiler Replacement program.

Response:

Please see the response to the Question 11.4.

11.5 In consideration of the TRC ratio of 0.13 for the Residential Furnace and Boiler Replacement Program proposed by PNG in the Application, please discuss in detail the process that PNG has undergone to determine which additional DSM measures to propose in the DSM expenditure schedule for 2019-2020.

Response:

Please see the response to Question 7.2.

11.5.1 Please provide a copy of any research findings or report on potential DSM program additions, if available.

Response:

Not applicable. Please see the response to Question 7.2.

11.5.2 Please compare the proposed Residential Furnace and Boiler Replacement Program with any other potential DSM measures that PNG contemplated to bring forward in the current DSM expenditure schedule, and explain why the Residential Furnace and Boiler Replacement Program is the selected additional program proposed at this time

Response:

Please see the response to Question 7.2.

11.5.2.1 If no other options have been explored, please explain why not.

Response:

Please see the response to Question 7.2.

- 12.0 Reference: GENERAL
Exhibit B-1, Appendix C, 2017 Annual Report, p. 10; 2015 PNG CEM
Proceeding, Order G-203-15A and Decision, p. 39
Evaluation, Measurement and Verification

The Decision accompanying Order G-203-15A states that "**The Panel instructs PNG to file annual DSM reports covering each year... Each annual report would provide at a minimum:... EM&V results of PNG's DSM programs as they become available (including TRC/mTRC and UCT results).**"

PNG states on page 10 of its 2017 Annual Report that "At this stage of the implementation of these programs there is little, if any, operational experience on which to conduct EM&V activities, and these costs have not yet been incurred."

- 12.1 Please discuss PNG's current plan with regards to EM&V, including any changes which might have been made to the EM&V implementation plan proposed in PNG's 2015 CEM Proceeding.

Response:

PNG plans regarding EM&V have not changed from that proposed in the 2015 CEM application. PNG submits that its EM&V plan will become relevant once PNG has achieved increased uptake of its programs.

D. APPROVALS SOUGHT

**13.0 Reference: APPROVALS SOUGHT
 Utilities Commission Act, RSBC 1996, c 473., Section 44.2(5)
 Section 44.2 considerations**

Section 44.2(5) of the *Utilities Commission Act* states that:

In considering whether to accept an expenditure schedule filed by a public utility other than the authority, the commission must consider

- a) the applicability of British Columbia's energy objectives,
- b) the most recent long-term resource plan filed by the public utility under section 44.1, if any,

...and

- e) the interests of persons in British Columbia who receive or may receive service from the public utility.

13.1 Please discuss the applicability of each of BC's energy objectives to PNG's proposed expenditure schedule, and explain how PNG's proposed expenditure schedule meets the applicable energy objectives.

Response:

In its 2015 CEM application, PNG described how PNG's ECI programs supported British Columbia's energy objectives as defined in Section 2 of the Clean Energy Act. PNG considers its Application, effectively, as a request to extend the period of funding of the original schedule of expenditures that covered the period from 2015 to 2018 by a further two years (to 2020). PNG therefore maintains that the alignment of PNG's ECI Programs with British Columbia's energy objectives, originally presented in Table 13 of the 2015 CEM application and recreated below, remains applicable to this Application.

Table BCUC 13.1

| Energy Objective | PNG ECI Initiatives |
|--|---|
| (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%; | PNG's ECI initiatives are designed to conserve natural gas. |
| (g) to reduce BC greenhouse gas emissions | PNG's proposed ECI initiatives are designed to conserve natural gas, which will in turn reduce BC's greenhouse gas (GHG) emissions. |

| Energy Objective | PNG ECI Initiatives |
|--|---|
| (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; | Although PNG’s current ECI portfolio does not include any fuel switching programs, in the future, PNG may consider offering programs to encourage switching from a high GHG emitting fuel to a low GHG emitting fuel. |
| (i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently; | PNG’s ECI programs will encourage communities to use natural gas efficiently and thereby reduce their GHG emissions. |

- 13.2 With reference PNG’s most recently filed long-term resource plan, please discuss whether the proposed DSM expenditure schedule is consistent with the most recently filed long-term resource plan by PNG-West and PNG(N.E.).

Response:

PNG’s DSM Plan was included as an element of the 2014 Resource Plan for PNG-West that was submitted on April 8, 2014 and subsequently approved by the Commission on September 16, 2014 by Order G-140-14. PNG’s DSM Plan was also referenced in the 2015 Resource Plan for PNG(N.E.) that was submitted on April 17, 2015 and subsequently approved by the Commission on September 30, 2015 by Order G-155-15. PNG’s 2015 CEM application presented an expenditure schedule consistent with the proposed expenditure schedule included in the 2014 DSM Plan. PNG considers its Application, effectively, as a request to extend the period of funding of the original schedule of expenditures that covered the period from 2015 to 2018 by a further two years (to 2020). PNG therefore maintains that its ECI expenditure schedule submitted in this Application remains consistent with the most recently filed resource plans for PNG-West and PNG(N.E.).

14.0 Reference: APPROVALS SOUGHT
Exhibit B-1, Section 1.2, p. 2; Section 3.1, pp. 5–6, Section 3.3.1, p. 10;
Appendix C, p. 4 Application of proposed funding transfer rules

On page 2 of the Application, PNG states:

In addition, PNG requests that the Commission grant approval allowing PNG flexibility in the reallocation of expenditures amongst DSM programs and between program years, subject to the total amount spent by PNG on DSM activities between the date of approval and 2020 not exceeding the total amount of \$827,000 sought in this Application, unless otherwise approved by the Commission. PNG proposes to continue the program funding transfer rules that were approved under Order G-203-15.

PNG continues on page 10:

PNG proposes to maintain the following funding transfer rules, subject to the total amount spent by PNG on ECI activities between the date of approval and 2020 not exceeding the total amount of \$827,000 sought in the Application, unless otherwise approved by the Commission:

- Funding transfers under 25 percent from one approved Program Area to another approved Program Area would be permitted without prior approval of the Commission.
- In cases where a proposed transfer out of an approved Program Area is greater than 25 percent of that approved Program Area, prior Commission approval would be required.
- In cases where a proposed transfer into an approved Program Area is greater than 25 percent of that approved Program Area, prior Commission approval would be required.

Further, in the event that PNG spends more or less than the full approved amount for a particular year, PNG also seeks approval to have the difference allocated to the ECI program spending in the following year, subject to the total expenditures by PNG on ECI activities between the date of approval and 2020 not exceeding the total amount sought in this Application, unless otherwise approved by the Commission.

On page 4 of the 2017 Annual Report, PNG provides the following information on variances from the budget:

Table 2

| Residential Low Income Programs: Energy Saving Kits | | | |
|---|------------|-----------|-----------|
| Item | 2016* | 2017 | Total |
| Actual** | \$ 5,904 | \$ 12,416 | \$ 18,320 |
| Approved | \$ 7,968 | \$ 5,554 | \$ 13,522 |
| Variance (Actual - Approved) | \$ (2,064) | \$ 6,862 | \$ 4,798 |

* Program Inception: Oct 1, 2016

**Estimate for 2016 based on ESK shipped but not yet invoiced by BC Hydro

Table 3

| Residential Low Income Programs: Energy Saving Kits Variance Analysis (2016 - 2017) | | | |
|--|-----------|-----------|------------|
| Item | Approved | Actual | Variance |
| Setup/Admin Costs/Inventory | \$ 3,000 | \$ 3,486 | \$ 486 |
| Marketing Costs | \$ 6,200 | \$ - | \$ (6,200) |
| Number of Participants | 192 | 521 | 329 |
| Cost per Kit | \$ 22.51 | \$ 28.47 | \$ 5.96 |
| Incentive (Kit Costs) | \$ 4,322 | \$ 14,834 | \$ 10,512 |
| Total | \$ 13,522 | \$ 18,320 | \$ 4,798 |

- 14.1 Please calculate the variation shown in the last row of Table 3 above as a percentage of the approved total amount. If these values exceed 25%, please clarify how PNG proposes the transfer rules should be applied, including the definition of a “program area”.

Response:

PNG’s funding transfer rules, which were set out in the 2015 CEM application and approved by Order G-115-15A are repeated below:

- *Funding transfers under 25 percent from one approved Program Area to another approved Program Area would be permitted without prior approval of the Commission.*
- *In cases where a proposed transfer out of an approved Program Area is greater than 25 percent of that approved Program Area, prior Commission approval would be required.*
- *In cases where a proposed transfer into an approved Program Area is greater than 25 percent of that approved Program Area, prior Commission approval would be required.*

Further, in the event that PNG spends more or less than the full approved amount for a particular year, PNG also seeks approval to have the difference allocated to the DSM program spending in the following year, subject to the total expenditures by PNG on DSM activities between the date of approval and 2018 not exceeding the total amount sought in this Application, unless otherwise approved by the Commission. (2015 CEM application, p. 11)

PNG interprets its funding transfer rules as pertaining to program areas, rather than to individual programs. PNG notes that it remains underspent on the low income program area that consists of both the ESK and Energy Conservation Assistance Program (ECAP). Approved expenditures over the period 2016 – 2017 for these programs are presented in Tables 7 and 9 of the Application and total \$41,522, which is significantly greater than the amount spent over that period.

Regardless of the foregoing, and considering only the ESK program, approved expenditures on PNG’s low income ESK program over the period from 2016 to 2017 totalled \$13,522. Actual expenditures over this period exceeded the approved amount by \$4,798, or by 35%. PNG notes that the threshold exceedance of 25% of the approved amount is \$3,381. Actual expenditures exceed the threshold 125% of approved expenditures by \$1,418. In consideration of the small amount that actual expenditures exceed the 25% threshold, PNG submits that a test of materiality should be applied before considering whether such an exceedance should trigger an application with the BCUC.

- 14.2 Discuss the possible impacts of funding transfers on the overall cost-effectiveness and adequacy of PNG's DSM portfolio, and how PNG proposes to mitigate these impacts.

Response:

One purpose of establishing funding transfer rules in general is to ensure that utilities do not allocate too many resources to programs that have a significant uptake by participants, but which nevertheless are not the most cost-effective programs in the DSM portfolio, as quantified by the TRC/mTRC. Higher than anticipated participation in such programs could "pull" funds away from more cost effective programs and lower the overall cost-effectiveness of the portfolio.

The cost effectiveness of PNG's programs, and of the overall ECI portfolio, is presented in Table 28 of the Application. Only one existing program – the low income ESK program – has a TRC greater than 1.0. Allocating additional expenditures to this program, therefore, will increase the cost effectiveness of the overall portfolio.

PNG notes that the budget proposed for the low income ESK program over the period 2019 – 2020 is based on actual costs incurred since 2016. As PNG gains more experience with its ECI programs, it will be able to forecast expenditures with improved accuracy.

- 14.3 Please expand on the specific problem PNG is trying to address with the proposed transfer rules. Your response should make reference to cost-effectiveness, balance, scale of expenditure, regulatory efficiency and any other factor which PNG considers relevant.

Response:

In its 2015 CEM application, PNG proposed funding transfer rules consistent with those of FEI's program. In that application, PNG states that these rules are necessary to allow it the flexibility to respond in a timely manner to changes in market conditions, customer responses to programs, input from potential partners and from other stakeholders, and changes in the political environment PNG operates in. The Commission subsequently approved these rules by way of Order G-115-15A.

In hindsight, PNG could have proposed funding transfer rules that included a threshold of materiality that avoids the requirement for PNG to apply to the BCUC for approval of funding transfers between programs that exceed the 25% threshold, but for which the amount is small compared to the overall approved expenditures for the ECI program in a particular year. PNG submits that the actual expenditures incurred for the ESK program over the period from 2016 to 2017, as presented in PNG's response to Question 14.1, that exceed the 25% threshold could be considered immaterial in that context.

15.0 Reference: APPROVALS SOUGHT
Exhibit B-1, Section 1.2, p. 2; Section 6.1, p. 29; 2015 PNG CEM Proceeding,
Exhibit B-1, Section 4.3.1, Table 8, p. 14
Summary of proposed expenditures

PNG provides a table of the total proposed DSM expenditures by year for the period 2019–2020 on page 2 of the Application.

On page 29 of the Application PNG provides a summary table of the proposed total expenditures per measure over the 2019–2020 period.

On page 11 PNG states, “PNG proposes to maintain the market size approach to allocating costs of the ECI program between PNG-West and PNG(N.E.), and to allocate ECI costs amongst customer classes on the basis of their relative contribution to the gross margin in each division. Both these allocation approaches were reviewed and approved by the Commission under Order G-203-15.”

BCUC Staff have extracted the following information from Table 8: Alternative 2: Allocation of DSM expenditures on the basis of the market size provided in the 2015 PNG CEM Application:

| Division | PNG-West | Fort St John/Dawson Creek | Tumbler Ridge |
|-------------------------|----------|---------------------------|---------------|
| Allocation of DSM costs | 52.3% | 45.6% | 2.2% |

15.1 Please confirm that the current allocation as shown in Table 8: Alternative 2 above remains. If not, please provide the updated allocation figures, along with reasons for the change.

Response:

PNG updates its divisional cost allocation annually, based on actual residential and commercial customer counts from the preceding year. The allocation of 2018 expenditures is presented in the table below and differs slightly from that originally presented in the 2015 CEM application.

Table BCUC 15.1

| Division: | PNG-West | Fort St John /Dawson Creek | Tumbler Ridge |
|-------------------------|----------|----------------------------|---------------|
| Allocation of DSM costs | 51.9% | 46.3% | 1.8% |

15.2 Please provide a summary table which provides the anticipated expenditure for each individual measure, by year for 2019 and 2020, and the total expenditure.

Response:

Please see the following table which is a reproduction of the two right-most columns of Table BCUC 8.1 and the summation of these two columns.

Table BCUC 15.2

| DSM measure | 2019 forecast | 2020 forecast | Total 2019-2020 |
|--|-------------------|-------------------|--------------------|
| Low Income - ESK | \$ 11,848 | \$ 11,848 | \$ 23,696 |
| Low Income - ECAP | \$ 35,000 | \$ 28,500 | \$ 63,500 |
| Residential Furnace Replacement | \$ 95,800 | \$ 120,800 | \$ 216,600 |
| Rental Accomodations - ECAP | na | na | \$ - |
| Commercial Boiler Replacement | \$ 29,300 | \$ 29,300 | \$ 58,600 |
| Commercial Water Heater Replacement | \$ 31,100 | \$ 40,300 | \$ 71,400 |
| Commercial Efficient Kitchen Program | \$ 18,650 | \$ 24,500 | \$ 43,150 |
| Conservation Education and Outreach - Elementary School Program | \$ 39,983 | \$ 39,983 | \$ 79,966 |
| Conservation Education and Outreach - Post Secondary Program | \$ 24,000 | \$ 24,000 | \$ 48,000 |
| Conservation Education and Outreach - General | \$ 85,800 | \$ 25,800 | \$ 111,600 |
| Codes and Standards | \$ 14,052 | \$ 14,000 | \$ 28,052 |
| Innovation | \$ 35,000 | \$ 35,000 | \$ 70,000 |
| Enabling Activities | \$ 6,000 | \$ 6,000 | \$ 12,000 |
| Total Annual Portfolio Expenditure | \$ 426,533 | \$ 400,031 | \$ 826,564 |

15.3 Please reproduce the table provided in response to 15.2 for each division.

Response:

Please see the tables that follow. PNG wishes to confirm that it has applied for BCUC acceptance of a consolidated schedule of expenditures. PNG does not allocate actual expenditures on the basis of which division they were incurred in, rather PNG allocates actual expenditures in accordance with the market-size approach proposed in the 2015 CEM application and whose allocation factors are presented in the response to IR 15.1.

Table BCUC 15.3-1

| PNG-West (51.9% of Total Expenditures) | | | |
|--|----------------------|----------------------|----------------------------|
| DSM measure | 2019 forecast | 2020 forecast | Total 2019-2020 |
| Low Income - ESK | \$ 6,149 | \$ 6,149 | \$ 12,298 |
| Low Income - ECAP | \$ 18,165 | \$ 14,792 | \$ 32,957 |
| Residential Furnace Replacement | \$ 49,720 | \$ 62,695 | \$ 112,415 |
| Rental Accomodations - ECAP | na | na | \$ - |
| Commercial Boiler Replacement | \$ 15,207 | \$ 15,207 | \$ 30,413 |
| Commercial Water Heater Replacement | \$ 16,141 | \$ 20,916 | \$ 37,057 |
| Commercial Efficient Kitchen Program | \$ 9,679 | \$ 12,716 | \$ 22,395 |
| Conservation Education and Outreach - Elementary School Program | \$ 20,751 | \$ 20,751 | \$ 41,502 |
| Conservation Education and Outreach - Post Secondary Program | \$ 12,456 | \$ 12,456 | \$ 24,912 |
| Conservation Education and Outreach - General | \$ 44,530 | \$ 13,390 | \$ 57,920 |
| Codes and Standards | \$ 7,293 | \$ 7,266 | \$ 14,559 |
| Innovation | \$ 18,165 | \$ 18,165 | \$ 36,330 |
| Enabling Activities | \$ 3,114 | \$ 3,114 | \$ 6,228 |
| Total Annual Portfolio Expenditure | \$ 221,371 | \$ 207,616 | \$ 428,987 |

Table BCUC 15.3-2

| Fort St. John/Dawson Creek (46.3 % of Total Expenditures) | | | |
|--|----------------------|----------------------|----------------------------|
| DSM measure | 2019 forecast | 2020 forecast | Total 2019-2020 |
| Low Income - ESK | \$ 5,486 | \$ 5,486 | \$ 10,971 |
| Low Income - ECAP | \$ 16,205 | \$ 13,196 | \$ 29,401 |
| Residential Furnace Replacement | \$ 44,355 | \$ 55,930 | \$ 100,286 |
| Rental Accomodations - ECAP | na | na | \$ - |
| Commercial Boiler Replacement | \$ 13,566 | \$ 13,566 | \$ 27,132 |
| Commercial Water Heater Replacement | \$ 14,399 | \$ 18,659 | \$ 33,058 |
| Commercial Efficient Kitchen Program | \$ 8,635 | \$ 11,344 | \$ 19,978 |
| Conservation Education and Outreach - Elementary School Program | \$ 18,512 | \$ 18,512 | \$ 37,024 |
| Conservation Education and Outreach - Post Secondary Program | \$ 11,112 | \$ 11,112 | \$ 22,224 |
| Conservation Education and Outreach - General | \$ 39,725 | \$ 11,945 | \$ 51,671 |
| Codes and Standards | \$ 6,506 | \$ 6,482 | \$ 12,988 |
| Innovation | \$ 16,205 | \$ 16,205 | \$ 32,410 |
| Enabling Activities | \$ 2,778 | \$ 2,778 | \$ 5,556 |
| Total Annual Portfolio Expenditure | \$ 197,485 | \$ 185,214 | \$ 382,699 |

Table BCUC 15.3-3

| Tumbler Ridge (1.8 % of Total Expenditures) | | | |
|--|-----------------|-----------------|--------------------|
| DSM measure | 2019 forecast | 2020 forecast | Total 2019-2020 |
| Low Income - ESK | \$ 213 | \$ 213 | \$ 427 |
| Low Income - ECAP | \$ 630 | \$ 513 | \$ 1,143 |
| Residential Furnace Replacement | \$ 1,724 | \$ 2,174 | \$ 3,899 |
| Rental Accomodations - ECAP | na | na | \$ - |
| Commercial Boiler Replacement | \$ 527 | \$ 527 | \$ 1,055 |
| Commercial Water Heater Replacement | \$ 560 | \$ 725 | \$ 1,285 |
| Commercial Efficient Kitchen Program | \$ 336 | \$ 441 | \$ 777 |
| Conservation Education and Outreach - Elementary School Program | \$ 720 | \$ 720 | \$ 1,439 |
| Conservation Education and Outreach - Post Secondary Program | \$ 432 | \$ 432 | \$ 864 |
| Conservation Education and Outreach - General | \$ 1,544 | \$ 464 | \$ 2,009 |
| Codes and Standards | \$ 253 | \$ 252 | \$ 505 |
| Innovation | \$ 630 | \$ 630 | \$ 1,260 |
| Enabling Activities | \$ 108 | \$ 108 | \$ 216 |
| Total Annual Portfolio Expenditure | \$ 7,678 | \$ 7,201 | \$ 14,878 |

15.3.1 Please confirm that PNG does not propose to transfer the allocated budget for each division between divisions in any year.

Response:

Confirmed. PNG wishes to clarify that it has applied for BCUC acceptance of a consolidated schedule of expenditures. PNG does not allocate actual expenditures on the basis of which division they were incurred in, rather PNG allocates actual expenditures in accordance with the market-size approach proposed in the 2015 CEM application and whose allocators for 2018 are shown in Table BCUC 15.1, above. PNG submits that this is consistent with the intention of the allocation method originally proposed and that, until more information on actual uptake of the ECI programs in each division becomes available, this remains appropriate.

15.3.2 If not confirmed, please elaborate on the funding transfer rules that PNG proposes, and explain why the proposed funding transfer rules are appropriate.

Response:

Not applicable. Please see the response to Question 15.3.1.