



bcuc
British Columbia
Utilities Commission

Patrick Wruck
Commission Secretary

Commission.Secretary@bcuc.com
bcuc.com

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

April 5, 2018

Sent via eFile

**PNG NE 2018-2019 REVENUE REQUIREMENTS
EXHIBIT A-6**

Ms. Janet P. Kennedy
Pacific Northern Gas (NE) Ltd.
2550–1066 West Hastings Street
Vancouver, BC V6E 3X2
jkennedy@png.ca; votto@png.ca

**Re: Pacific Northern Gas (NE) Ltd. – 2018–2019 Revenue Requirements Application – Project No. 1598936
– Information Request No. 1 – Fort St. John and Dawson Creek**

Dear Ms. Kennedy:

Further to your February 28, 2018 filing of the 2018–2019 Revenue Requirements Amended Application, please find enclosed British Columbia Utilities Commission Information Request No.1 for the Fort St. John and Dawson Creek Divisions.

Sincerely,

Original signed by:

Patrick Wruck
Commission Secretary

/ad

Enclosure



Pacific Northern Gas (N.E.) Ltd. – Fort St. John / Dawson Creek Division
2018–2019 Revenue Requirements Application

INFORMATION REQUEST NO. 1 TO PNG(NE)

Table of Contents	Page no.
A. Demand Forecast Revenues and Margin	1
B. Operating and Maintenance Expenses.....	5
C. Administrative and General Expenses.....	11
D. Shared Services Cost Allocation to PNG(NE) FSJ/DC Division	15
E. Transfers to Capital	15
F. Property Taxes.....	16
G. Depreciation	16
H. Deferral Accounts and Amortization.....	22
I. Miscellaneous Other Income and Credits	23
J. Rate Base.....	23
K. Capital Structure and Return on Capital.....	30
L. Capital Expenditure Reporting	33
M. Identified Service Quality Metrics	35
N. Other Matters to be Addressed from Prior Year Decisions.....	35

A. DEMAND FORECAST REVENUES AND MARGIN

- 1.0 **Reference: DEMAND FORECAST REVENUES AND MARGIN
Exhibit B-1-1 (Amended Application), pp. 6 and 25
Proposed rate deferral mechanism**

Pacific Northern Gas (N.E.) Ltd. [PNG(NE)] seeks approval in the Amended Application to create a short-term interest bearing rate deferral account in 2018, to levelize the impact of the combined net revenue deficiencies for 2018 and 2019, to be fully amortized in 2019.

On page 6 of its Application, PNG(NE) states that:

Without the proposed rate deferral mechanism, PNG(NE)'s calculations indicate a revenue deficiency of \$0.515 million for Test Year 2018 and a revenue deficiency of \$0.970 million for Test Year 2019, with a cumulative total revenue deficiency of \$1.485 million for the two-year period. These results would necessitate a residential delivery rate increase of approximately 7.5% in 2018 and a subsequent increase of approximately 3.7% in 2019. The primary reason for the large revenue deficiency in Test

Year 2018 is mainly due to the continuing decline in the use per account, in particular for residential customers, and the impact of continued capital investment in the northeast region. [*Emphasis added*]

Table 11 on page 25 of the Amended Application indicates that residential deliveries were 1,782,446 GJ in Actual 2016, 1,782,446 GJ in Actual 2017, \$1,798,210 in Test Year 2018 and 1,796,601 in Test Year 2019.

- 1.1 Please explain why PNG(NE) has proposed a short-term interest rate for the rate deferral account.
- 1.2 Please describe any alternatives to the proposed rate deferral account that were considered by PNG(NE) in order to address rate volatility for the Fort Saint John/Dawson Creek (FSJ/DC) Division between 2018 and 2019.
- 1.3 Please confirm, or explain otherwise, that the underlined statement in the preamble should read “indicate a revenue deficiency of \$0.970 million for Test Year 2018 and a revenue deficiency of \$0.515 million for Test Year 2019.”
- 1.4 Please elaborate on how declining use per account, in particular for residential customers, is one of the primary reasons for the revenue deficiency in Test Year 2018, with consideration to the information in Table 11 that Test Year 2018 residential deliveries are forecast to remain consistent with Actual 2017 deliveries.

2.0 **Reference: DEMAND FORECAST REVENUES AND MARGIN
Exhibit B-1-1, pp. 7, 8
Permanent rates requested**

Table 2 on page 7 and Table 3 on page 8 of the Application include a summary of proposed delivery rate changes effective January 1, 2018 and January 1, 2019, respectively.

- 2.1 Please explain why there is no rate change for Rate 7 under Tables 2 and 3.

3.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN
Exhibit B-1-1, Section 2.1 Table 11: Forecast Gas Deliveries, p. 25; Section 2.11,
Residential Deliveries and Margin, pp.25-26
Residential deliveries and margin**

- 3.1 Please explain why there is a decrease in forecast residential gas deliveries of approximately 1,600 GJ, but an increase in margin of \$8,800 between Test Year 2018 and Test Year 2019.

4.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN
Exhibit B-1-1, Section 2.1, Table 11: Forecast Gas Deliveries, p. 25; Section 2.1.2, Table
13: Forecast Small Commercial Customer Count and UPA, p.26
Small Commercial deliveries and margin**

- 4.1 Please explain why there is an increase in forecast Small Commercial Firm (Rate 2) gas deliveries of approximately 6,400 GJ, but a decrease in margin of \$8,800 between Decision 2017 and Test Year 2018.

5.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN**
Exhibit B-1-1, Section 2.1, Table 11: Forecast Gas Deliveries, p. 25; Section 2.1.3.1, p.27
Large Commercial Deliveries and Margin

On page 27 of the Amended Application PNG(NE) explains the decrease in large commercial deliveries and margin between Decision 2017 and Test Year 2018 of 23,300 GJ and \$52,000, respectively, as follows:

- The forecast decrease is partly due to the hospital in Fort St. John using less gas compared to their historical usage as a result of milder winters and ongoing adjustments to their facilities to meet contractual energy efficiency targets. In addition, a CNG solutions company operating in Dawson Creek that was supplying CNG to drilling rigs and frack spreads has been acquired by a competitor that did not require a CNG station in the Dawson Creek service area and subsequently shut the facility down.
- 5.1 Please provide historic gas deliveries associated with the CNG drilling station and hospital in Fort St. John. In addition, please provide the forecast demand from the hospital in Fort St. John for 2018 and 2019 Test Years.
- 5.1.1 Please explain why the Test Year 2018 deliveries are higher than Actual 2016 and 2017 deliveries, considering that the hospital in Fort St. John is making ongoing adjustments to meet energy efficiency targets and the CNG station has been shut down.
- 5.1.2 Considering forecast gas deliveries between Test Years 2018 and 2019 remain constant, will the facility adjustments at the hospital at Fort St. John be complete before 2019? Has PNG(NE) been in contact with this customer to confirm? Please discuss.
- 5.2 Over what period has PNG(NE) measured weather related data? What measures has PNG(NE) in place to ensure adequate supply if winters are colder than normal. Please explain.

6.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN**
Exhibit B-1-1, Section 2.1, Table 11: Forecast Gas Deliveries, p. 25; Section 2.1.3.2, p.27
Small Industrial Sales deliveries and margin

On page 27 of the Amended Application, PNG(NE) states that “[t]he increase in forecast deliveries of approximately 111,000 GJ and increased margin of \$156,000 for Test Year 2018 are primarily due to one customer’s continued requirement for natural gas for electricity generation for their liquid nitrogen plant in Dawson Creek, offset in part by decreased usage by various other customers supplying services to the oil field industry.”

- 6.1 Please explain the difference of approximately 70,000 GJ between actual 2017 deliveries and decision 2017 deliveries for the Small Industrial Sales (Rate 4) class.
- 6.2 Please provide a breakdown of the increase of approximately 111,000 GJ between decision 2017 and Test Year 2018 between the demand increase attributed to the liquid nitrogen plant customer and the demand decrease attributed to the oil field industry.
- 6.3 How often does PNG(NE) survey its small industrial customers to obtain this information?
- 6.4 Does PNG(NE) expect that the demand from customers serving the oil field industry is likely to return? What factors affect this demand? Please explain.

7.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN**
Exhibit B-1-1, Section 2.1, Table 11: Forecast Gas Deliveries, p. 25; Section 2.1.3.3, p.27
Small Industrial Transport deliveries and margin

On page 27 of the Amended Application, PNG(NE) states:

The projected 2018 deliveries for this customer class are based on the forecasts obtained from PNG(NE)'s small industrial transportation customers and a review of their historical usage. Overall, deliveries are forecast to increase by approximately 154,000 GJ with a corresponding margin increase of \$112,000 compared to Decision 2017. The bulk of this increase (161,000 GJ) is attributable to the supply of fuel gas to a natural gas liquids separation facility north of Fort St. John commencing May 2018 based on a minimum take-or-pay contract demand of 240,000 GJ per year. This increased demand is contingent upon Commission approval of PNG(NE)'s CPCN application to acquire and operate the fuel gas line to supply this facility. In addition to the above, the demand increase also reflects forecast fuel gas usage from the restart of two facilities that had previously ceased operation in early 2016, along with offsetting decreased demand resulting from the shut-in of several wells in the Fort St. John area.

- 7.1 Please explain the variance of approximately 880,000 GJ between actual 2017 deliveries and decision 2017 deliveries for the Industrial Transport (Rate 7) class observed in Table 11: Forecast Gas Deliveries.
- 7.2 Please clarify which rate schedules the deliveries and margin changes for the small industrial transport customers discussed in the above preamble (i.e. supply of fuel gas to a natural gas liquids separation facility north of Fort St. John, restart of the two facilities and shut in of several wells) fall under (i.e. rate schedule 6 or 10).
- 7.3 Please provide the forecast volumes for Test Years 2018 and 2019 associated with the restart of the two facilities.
 - 7.3.1 Please confirm, or otherwise explain that these volumes are included in Industrial Transportation customer Rate 6 classification.
 - 7.3.2 Is it likely that demand from these facilities increases in the future? Has PNG(NE) been in contact with these facilities to determine future operations and demand? Please discuss.
- 7.4 Please provide the volumes for Test Years 2018 and 2019 associated with the decrease in demand from the shut-in of wells.
 - 7.4.1 Is this reduced demand isolated to one delivery year? Please explain.
- 7.5 Please explain why forecast gas deliveries for Rate Schedule 6 are higher by 37,401 in Actual 2017 as compared to Decision 2017.
 - 7.5.1 Please explain why forecast gas deliveries for Rate Schedule 6 reduce by 5,000 GJ between Test Year 2018 and Test Year 2019.
- 7.6 Given the timing of the current CPCN application before the BCUC, does PNG(NE) still expect that service to the natural gas liquids separation facility north of Fort St. John will commence in May 2018? Please elaborate.

- 8.0 **Reference: DEMAND FORECAST, REVENUE AND MARGIN
Exhibit B-1-1, Section 2.2.2, pp.29-30; Section 2.2.2 Table 16: Company Use Gas Cost, p. 29; Tab Schedules, Tab-6 Rates, p.18
Company Use Gas requirements**

Page 30 of the Amended Application states:

The volume of company use gas forecast for Test Year 2018 and 2019 is slightly higher than the forecast under Decision 2017 primarily due to higher forecast deliveries. PNG(NE) primarily uses gas for station heating and office and shop heating. These uses are expected to be at levels comparable to recent years.

- 8.1 Please explain why company use gas cost rate calculations only include gas deliveries that attract margin.
- 8.2 Please confirm, or otherwise explain that station heating and office and shop heating gas usage are included in the lineheaters and office category in Table 16: Company Use Gas Cost.
- 8.3 Please confirm the number of years that PNG(NE) compares forecast levels against, in order to ensure UAF levels are comparable.
- 8.4 How is the company use gas requirement for the lineheaters and office category correlated to higher forecast deliveries, if at all? Please explain.

B. OPERATING AND MAINTENANCE EXPENSES

9.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Section 2.3, p. 35
Account 867 Regulating Stations and Account 875 Mains and Services

PNG(NE) states on page 35 of the Amended Application that “Test Year 2018 costs are forecast to increase by \$21,000 or 45.6% over Decision 2017, reflecting a new provision for contractor services for station valve maintenance that was not forecast for 2017.”

Table 18 on page 35 of the Amended Application indicates that Actual 2017 Mains and Services expenses were \$93,000 as compared to Test Year 2018 expenses of \$165,000.

- 9.1 Please explain why a new provision for contractor services was required.
 - 9.1.1 Were these contractor services issued for public tender? If not, why not.
 - 9.1.2 Please provide a detailed breakdown of the \$21,000 increase between Decision 2017 and Test Year 2018.
- 9.2 Please explain what accounts for the increase in Mains and Services expenses in Test Year 2018 as compared to Actual 2017.

10.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Sections 3.2.1 and 3.2.2, pp. 89 and 96; PNG(NE) 2016–2017 Revenue Requirements Application (RRA) Proceeding, Exhibit B-5, BCUC IR No. 1.6.1
Operating labour

In response to BCUC Information Request (IR) 1.6.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

	Test Year	Test Year	FSJ/DC Operating & Maintenance			
Headcount	2017	2016	2015	2014	2013	2012
Bargaining unit	25	25	24	24	24	24
Non barg unit	1.8	1.8	1.8	1.8	1.8	0.9

10.1 Please update the above table for Test Years 2018 and 2019 and for Actuals 2016 and 2017.

Illustrated in Table 40 on page 89 and Table 44 on page 96 of the Amended Application are the cost of service variance analyses for 2016 and 2017, respectively.

10.2 Please explain why Actual 2016 and 2017 operating labour expenses were \$286,000 and \$489,000 higher than Decision 2016 and 2017, respectively.

11.0 **Reference: OPERATING AND MAINTENANCE EXPENSES
PNG(NE) 2016–2017 RRA Proceeding, Exhibit B-5, BCUC IR No. 1.7.1
Operating expenses - other**

In response to BCUC IR 1.7.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

Operating Expenses - Other (\$'s)	Test Year 2017	Test Year 2018	N&P 2014	Actual 2016	Actual 2014	Actual 2018	Actual 2012	Actual 2011
Auto	281,102	262,963	263,181	219,065	253,021	252,697	216,109	243,821
Bad Debts	36,414	35,700	-	26,000	-	-	47,000	-
Contractors & Consulting	953,640	882,385	775,027	945,697	907,158	785,147	717,371	735,009
Data Lines	29,312	28,737	15,329	25,786	28,174	16,620	13,758	12,974
Employee Travel & Subsistence	88,054	83,170	80,560	84,519	97,988	87,758	68,179	63,444
Land Rights	46,763	45,648	42,535	159,657	70,444	51,491	40,484	46,259
Licenses & Permits	5,306	5,202	5,599	13,412	12,579	11,882	8,163	13,059
Materials	190,643	175,493	240,432	231,321	265,383	194,206	170,990	150,558
Miscellaneous (office, courier, etc.)	30,009	28,369	26,903	27,507	22,786	25,692	20,086	21,664
Phone	83,659	81,542	73,909	83,323	80,798	73,845	71,323	71,294
Rent	-	-	-	-	-	79,173	7,000	-
Training, Courses and Seminars	35,312	26,460	33,275	20,553	25,199	39,061	27,524	5,625
Utilities	44,038	42,970	37,638	41,692	41,210	36,653	28,962	26,046
	1,824,252	1,698,539	1,594,388	1,878,532	1,804,740	1,654,225	1,436,949	1,389,753
Shared Service Cost Allocation - 685	699,000	702,000	586,000	649,000	586,000	593,000	597,000	531,000
Shared Service Cost Allocation - 711/713/714	825,000	810,000	778,000	796,000	778,000	805,000	742,000	674,000
	3,348,252	3,210,539	2,958,388	3,323,532	3,168,740	3,052,225	2,775,949	2,594,753

11.1 Please update the above table for Test Years 2018 and 2019, Decision 2017 and for Actuals 2016 and 2017.

11.2 Please provide explanations for any variances greater than \$25,000 or 10 percent between Test Year 2019 and Test Year 2018, Test Year 2018 and Actual 2017, and Actual 2017 and Decision 2017.

12.0 **Reference: OPERATING AND MAINTENANCE EXPENSES
Exhibit B-1-1, Section 2.1, p. 25; Section 3.2.2, p. 98
Accounts 670 – Supervision and 675 – Mains and Services**

On page 98 of the Amended Application, PNG(NE) states:

Account 670 – Supervision

The actual costs for 2017 included in this account are \$29,000 or 6.3% lower than those approved under Decision 2017. The variance can primarily be attributed to less administrative time required for planning activities due to low activity as a result of the economic downturn in the area.

Account 675 – Mains and Services

The actual costs for 2017 included in this account are \$37,000 or 7.1% lower than those approved under Decision 2017. The variance can primarily be attributed to the effects of the general economic downturn in the area and less activity, requiring less time for line locates and operations activities for the distribution systems.

Table 11 on page 25 of the Amended Application indicates that the total forecast gas deliveries in Test Year 2018 are 5,646,986 GJ in Test Year 2018 as compared to 4,512,931 GJ in Actual 2017.

12.1 Please explain if the economic downturn is expected to continue in Test Years 2018 and 2019 and the impact that this is expected to have.

12.1.1 Specifically, please address how the economic downturn is impacting PNG(NE) FSJ/DC division given that the forecast gas deliveries in Test Year 2018 are 5,646,986 GJ as compared to 4,512,931 in Actual 2017.

13.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Sections 2.3.3, 2.6 and 3.2.2.1, pp. 33, 44 and 97-98; PNG-West 2018-2019 RRA Proceeding, Exhibit B-1-1, Section 2.3.5, pp. 35-36; PNG(NE) 2016-2017 RRA Proceeding, Exhibit B-5, BCUC IR No. 1.10.1
Account 685 – General Operations

In response to BCUC IR 1.10.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

Account 685 - General Operations (\$000's)	Test Year 2017	Test Year 2018	N&P 2014	Actual 2016	Actual 2014	Actual 2013	Decision 2013	Actual 2012	Decision 2012	Actual 2011	N&P 2011
Labour	277	269	257	273	238	229	253	135	132	133	128
Automotive	281	263	263	219	253	252	298	10	11	27	10
Employee Expenses	34	33	32	38	49	39	29	33	28	31	27
Contractors	2	2	2	1	26	21	2	3	2	2	2
Office Supplies, etc.	3	3	2	1	2	4	1	1	2	2	1
Phone	84	82	10	17	18	21	20	20	17	21	17
Materials	4	4	4	5	11	5	6	3	6	4	5
Rent - Office & Warehouse	-	-	-	-	-	79	56	7	-	-	-
Utilities	16	16	15	5	5	13	-	12	-	13	-
	701	671	586	559	602	663	664	222	198	232	191
Shared Service Cost Recovery from PNG(NE)	699	702	586	649	586	593	593	597	597	531	531
	1,400	1,373	1,172	1,208	1,188	1,256	1,257	819	795	763	722

13.1 Please update the above table for Test Years 2018 and 2019 and Actuals 2016 and 2017. Please include additional line item categories as necessary.

13.1.1 Please provide explanations for any variances greater than \$25,000 or 10 percent between Test Year 2019 and Test Year 2018, Test Year 2018 and Actual 2017, and Actual 2017 and Decision 2017.

On page 33 of the Amended Application, PNG(NE) states:

Forecast Test Year 2018 costs are \$286,000 or 40.5% higher than Decision 2017. Factors contributing to this increase include: additional engineering projects including digital data mapping and the implementation of a geographical information system; increased labour costs attributable to a new position in the areas of engineering; asset management system licensing costs; and inflation. Test Year 2019 costs are forecast to be comparable to Test Year 2018.

Further on page 44, PNG(NE) states with respect to shared services cost allocation for Account 685:

Overall PNG-West cost pool increase of approximately \$198,000 primarily due to costs related to new engineering initiatives including digital data mapping and the geographic information system (GIS) project, as well for licensing costs for the computerized maintenance management system (CMMS).

On page 35 of PNG-West's Amended Application for PNG-West's 2018-2019 RRA Proceeding, PNG states:

Test Year 2018 expenditures of \$2.801 million are forecast to increase by approximately \$383,000 or 15.8% over Decision 2017. Factors contributing to this increase include: additional engineering projects including digital data mapping and the implementation of a geographical information system; increased labour costs attributable to new positions in the areas of engineering and records management; asset management

system licensing costs, and inflation....These cost increases are offset in part by greater cost recoveries of \$40,000 reflected in this account for shared-service cost allocations to PNG(NE).

- 13.2 Please identify any other engineering projects that are contributing to the increase, other than the digital data mapping and the implementation of the geographical information system.
The following information requests 13.3 – 13.6.1 relate to all additional engineering projects identified in the preceding IR, other than the geographical information system which is addressed the Rate Base section below.
- 13.3 Please discuss when each of the additional engineering projects are expected to commence (i.e. first spending on predevelopment work) and be put into service.
- 13.4 Please provide a table with the total cost of each of the additional engineering projects broken down by test year, by BCUC account code and by recurring and one-time costs. For any project costs that are shared by PNG-West and PNG(NE), please also breakdown the costs by division (i.e. PNG-West, PNG(NE)-FSJ/DC and PNG(NE)-TR) and provide the cost allocation methodology.
 - 13.4.1 Please also identify the costs of each of the projects that have been allocated from PNG-West to each of PNG(NE)'s divisions through shared services costs.
 - 13.4.2 Please discuss any differences between the cost allocation methodology of these projects versus the methodology used to allocate shared services costs.
 - 13.4.3 Please explain how the activities associated with each of the additional engineering projects mentioned in the preamble above for PNG(NE) are different from the activities performed at PNG-West and allocated to PNG(NE) through shared-service costs.
- 13.5 Please explain how the costs associated with each of the additional engineering projects are different from any costs under Capital Expenditures related to the same projects.
- 13.6 Please discuss if the additional engineering projects mentioned in the preamble above for PNG(NE) will result in a reduction in the positions currently held at the company (i.e. certain tasks currently performed may no longer be required or are redundant once PNG(NE) moves to a digital system).
 - 13.6.1 If so, please quantify the cost savings from the positions that will no longer be required and explain in which account and test year(s) these forecasted savings have been recorded.
- 13.7 Please explain why new positions in the areas of engineering and records management are necessary at PNG(NE).
 - 13.7.1 Please discuss when these new positions are expected to begin and the forecasted salary and benefits for the positions.
 - 13.7.2 Please identify any recruitment costs associated with these positions and the account(s) that they have been allocated to.
 - 13.7.3 Please discuss if the costs for both these positions will be shared between all three divisions of PNG (i.e. West, FSJ/DC and TR) and if so, please describe the cost allocation methodology and any differences in the methodology compared to the methodology used to allocate shared service costs. If the costs will not be shared between all three divisions, please explain why.
- 13.8 What is the cost of the asset management system and licensing costs for Test Year 2018?
 - 13.8.1 Are the asset management system and licensing costs new for Test Year 2018 or have they been incurred in previous test years?

13.8.2 Please confirm, or explain otherwise, that the asset management system and licensing costs are annual costs.

On page 98 of the Amended Application, PNG(NE) states:

The actual costs for 2017 included in this account are \$149,000 or 21.2% greater than those approved under Decision 2017. This variance is primarily due to an increase in internal labour dedicated to vehicle maintenance rather than outsourcing these activities.

13.9 What was the cost of the internal labour dedicated to vehicle maintenance in 2017?

13.10 What would have been the cost of outsourcing the vehicle maintenance? Please also identify the account(s) that this cost would have been recorded to.

13.11 Please confirm, or explain otherwise, that vehicle maintenance was outsourced prior to 2017.

13.12 Please confirm, or explain otherwise, that PNG(NE) plans to continue to use internal labour for vehicle maintenance rather than outsource these activities in Test Years 2018 and 2019.

13.12.1 Please provide the forecasted cost of vehicle maintenance for Test Years 2018 and 2019 and the account(s) that these costs are recorded in.

14.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Sections 2.3.5 and 3.2.2.1, pp. 33–34 and 98
Accounts 711/713/714 – Customer Care

14.1 Please provide a detailed breakdown of costs comprising Account 713 – Customer Billing for Test Years 2018 and 2019, Decision 2017 and for Actuals 2016 and 2017, if available.

On page 34 of the Amended Application, PNG(NE) states:

Costs for customer care are forecast to decrease in Test Year 2018 from Decision 2017 by \$35,000 or 5.4% primarily due to a reduced allocation of Vertex Billing Services costs from PNG-West due to lower overall forecast costs for Test Year 2018, and to lower forecast data line costs.

Test Year 2019 costs are forecast to increase \$15,000 or 2.4% primarily due to inflationary pressures.

Further on page 98, PNG(NE) states:

The actual costs for 2017 included in this account are \$79,000 or 12.1% less than those approved under Decision 2017. The variance can primarily be attributed to lower than forecast contract costs for the customer billing system, lower than forecast data line charges, and lower than forecast meter reading costs.

14.2 Please explain why costs for customer care are forecast to increase in Test Year 2018 from Actual 2017 by \$44,000.

14.3 Which account are meter reading costs recorded in?

15.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Sections 2.3.7 and 3.2.2.1, pp. 34 and 97–98
Account 718 – Uncollectible Accounts

On page 34 of the Amended Application, PNG(NE) states:

PNG continually monitors and reviews its actual bad debt experience. Based on this ongoing review, PNG(NE) has forecast bad debt expense of \$56,000 for Test Year 2018 and of \$52,000 for Test Year 2019, compared to a provision of \$36,000 for Decision 2017. These provisions are calculated based on PNG(NE)'s bad debt write-offs over the past 5 years and applying the average ratio to the forecast period revenues, excluding large industrial revenues.

On page 98 of the Amended Application, PNG(NE) states:

The actual costs for 2017 included in this account are \$74,000 or 203.5% greater than those approved under Decision 2017. The variance can primarily be attributed to a project to review overdue accounts and to update the allowance for doubtful accounts...PNG(NE) plans to further review its bad debts and collections process to ensure it is managed effectively.

- 15.1 Please provide the detailed calculation to support the forecast bad debt provision of \$56,000 and \$52,000 for Test Years 2018 and 2019, respectively. Please specifically provide the following information: (i) actual bad debt write-offs with and without large industrial customers for the past 5 years; and (ii) actual revenues with and without large industrial customers for the past 5 years and forecasted for Test Years 2018 and 2019.
- 15.2 Please confirm, or explain otherwise, that PNG(NE) used the same methodology to forecast its bad debt provision for Test Years 2018 and 2019 as it did in 2016 and 2017.
- 15.3 In PNG(NE)'s opinion and based on PNG (NE)'s current and expected operating environment, please discuss if the average ratio for the past 5 years is the most appropriate benchmark to use in estimating bad debt provisions for Test Years 2018 and 2019.
- 15.4 Please discuss the changes to PNG(NE)'s bad debts and collections process, if any, as a result of its project "to review overdue accounts and to update the allowance for doubtful accounts."
 - 15.4.1 Please discuss when and how PNG(NE) "plans to further review its bad debts and collections process" and what changes can be expected in Test Years 2018 and 2019 and beyond.

16.0 **Reference: OPERATING AND MAINTENANCE EXPENSES**
Exhibit B-1-1, Section 2.3.8, p. 34; PNG(NE) 2016-2017 RRA Proceeding, Exhibit B-5,
BCUC IR 1.8.1 and 1.8.2
Accounts 665/673 – Other

In response to BCUC IR 1.8.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

Account 665 - Pipeline Activity (\$'s)	Test Year 2017	Test Year 2016	NSP 2014
CIS DCVG Survey	28,000	39,000	-
CIS Digs	18,000	18,000	31,000
Purchasing/Warehousing	7,000	7,000	7,000
Brushing	43,000	42,000	41,000
General Clearing	12,000	12,000	11,000
CNR Crossing Fees	24,000	24,000	20,000
Air Survey	6,000	6,000	-
Odorant Supply	10,000	10,000	84,000
Leak Survey	19,000	19,000	18,000
Other (pipeline operations, mag checks)	28,000	26,000	24,000
Total	195,000	203,000	236,000

16.1 Please update the above table for Test Years 2018 and 2019, Decision 2017 and for Actuals 2016 and 2017, if available.

On page 34 of the Amended Application, PNG(NE) states:

The accounts included in this line item are primarily related to pipeline services (665) and meter-related services (673). Forecast Test Year 2018 costs increase by \$21,000 or 2.3% over Decision 2017, reflecting higher forecast close interval survey work for 2018 and higher costs forecast for odourant supply. Test Year 2019 costs increase over Test Year 2018 by \$50,000 or 5.3%, primarily due to inflationary pressures on these costs.

In response to BCUC IR 1.8.2 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) stated that “odorant supplies are acquired on approximately a three-year cycle. PNG(NE) anticipates purchasing odorant again in 2018.”

16.2 Please discuss how many kilometres of pipeline are planned to be inspected by close interval survey in Test Years 2018 and 2019 and how many kilometres were actually inspected in 2016 and 2017 compared to plan.

16.2.1 Please explain any significant variances between planned inspections compared to actuals.

16.3 Please confirm, or explain otherwise, that odorant is not expected to be purchased in Test Year 2019.

C. ADMINISTRATIVE AND GENERAL EXPENSES

17.0 **Reference: ADMINISTRATIVE AND GENERAL EXPENSES
PNG(NE) 2016-2017 RRA Proceeding, Exhibit B-5, BCUC IR No. 1.14.1
Account 721 – Administration**

In response to BCUC IR 1.14.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

BCUC Account 721 - FSJ/DC Contractors	Test Year 2017	Test Year 2018	N&P 2014	Actual 2016	Actual 2014	Actual 2013	Actual 2012	Actual 2011
Regular contractors								
Payroll - Ceridian	\$ -	\$ -	\$ 2,342	\$ 1,033	\$ 2,464	\$ 2,462	\$ 2,849	\$ 1,973
BCUC fees/intervener/PACA	17,125	16,789	15,810	29,611	9,267	11,698	12,251	7,975
Other	-	-	-	456	-	315	1,951	3,617
	17,125	16,789	18,152	31,100	11,731	14,475	17,051	13,565
One-time contractors which do not carry forward								
Regulatory projects - GCOC/Studies	-	-	-	-	6,481	6,566	8,168	3,750
Regulatory projects - Rate Design	21,016	20,604	5,100	30,600	-	-	-	-
Regulatory CPCN/Pension App/Res Plan/DSM	-	-	25,500	-	30,600	19,189	-	-
	\$ 38,141	\$ 37,393	\$ 48,752	\$ 61,700	\$ 48,812	\$ 40,230	\$ 25,219	\$ 17,315

17.1 Please update the above table for Test Years 2018 and 2019, Decision 2017 and Actuals 2016 and 2017.

18.0 **Reference: ADMINISTRATIVE AND GENERAL EXPENSES**
Exhibit B-1-1, Sections 2.13.1.1 and 3.2.2.3, pp. 64 and 100; PNG(NE) 2016-2017 RRA Proceeding, Exhibit B-5, BCUC IR No. 1.15.1
Account 722 – Special Services – Audit/Legal

In response to BCUC IR 1.15.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following table:

BCUC Account 722 - FSJ/DC Consultants	Test Year 2017	Test Year 2018	N&P 2014	Actual 2016	Actual 2014	Actual 2013	Actual 2012	Actual 2011
Annual Consulting Fees								
Actuarial fees	\$ 9,364	\$ 9,180	\$ 10,404	\$ -	\$ 7,382	\$ -	\$ 5,126	\$ -
Finance - technical accounting matters	-	-	6,946	11,615	-	-	-	-
Regulatory - general consulting	-	-	-	4,280	3,206	10,281	6,653	2,949
	9,364	9,180	17,350	15,895	10,588	10,281	11,779	2,949
One-time consulting fees which do not carry forward								
GCOC proceedings	-	-	-	-	-	14,638	10,037	-
Resource Plan/Residential Survey/DSM	-	-	19,000	37,500	19,000	27,451	-	-
Conservation Potential Review	-	-	-	13,288	-	-	-	-
Pension Application	-	-	-	-	-	10,555	-	-
CNG CPCN	-	-	-	-	1,503	9,633	-	-
Other	-	-	-	872	-	-	4,150	-
	\$ 9,364	\$ 9,180	\$ 36,350	\$ 67,555	\$ 31,091	\$ 72,558	\$ 25,966	\$ 2,949

18.1 Please update the above table for Test Years 2018 and 2019, Decision 2017 and Actuals 2016 and 2017.

18.2 Please provide a table with a detailed breakdown of the costs comprising Account 722 – Special Services – Audit/Legal for Test Years 2018 and 2019, Decision 2017 and Actuals 2016 and 2017.

19.0 **Reference: ADMINISTRATIVE AND GENERAL EXPENSES**
Exhibit B-1-1, Section 2.5.3, p. 38
Account 723 – Insurance

On page 38 of the Amended Application, PNG(NE) states:

The Test Year 2018 insurance expense forecast was determined using the actual October 1, 2017 renewal of PNG’s consolidated liability and property policies. Forecast insurance costs allocated to the PNG(NE) for Test Year 2018 are \$32,000 greater than Decision 2017 due to an increase in the percentage allocation to PNG(NE) due to the shift of allocation components for replacement cost, employee count and plant in service towards PNG(NE). Test Year 2019 insurance costs reflect an inflationary increase.

19.1 Please provide a detailed calculation of the insurance costs allocated to each division of PNG(NE) for Test Years 2018 and 2019, Decision 2017 and Actuals 2016 and 2017.

19.2 Please confirm, or explain otherwise, that the cost allocation methodology for insurance costs is unchanged from the 2016-2017 RRA.

20.0 Reference: **ADMINISTRATIVE AND GENERAL EXPENSES**
Exhibit B-1-1, Sections 2.5.4 and 3.2.2.3, pp. 38–40 and 100; PNG(NE) 2016-2017 RRA
Proceeding, Exhibit B-5, BCUC IR 1.17.1; PNG-West 2016–2017 RRA, Exhibit B-4, BCUC
IR No. 1.24.3
Account 725 – Employee Benefits

In response to BCUC IR 1.17.1 in the PNG(NE) 2016-2017 RRA proceeding, PNG(NE) provided the following tables:

Employee Benefit Components (\$)	Test Year 2017	Test Year 2018	NGP 2014	Actual 2016	Actual 2014	Actual 2013	Decision 2013	Actual 2012	Decision 2012	Actual 2011	NGP 2011
725 - Employee Benefits											
Canada Pension Plan	76,429	76,145	66,383	67,454	65,052	63,490	71,395	62,032	67,486	59,371	61,700
Life and disability insurance	77,674	72,729	65,290	61,822	62,552	64,439	80,679	61,009	59,989	60,720	60,000
Unemployment insurance	37,785	36,683	31,347	31,079	32,360	31,501	30,345	29,426	28,350	27,241	25,000
Employee Savings Plan	114,767	109,364	92,960	89,032	91,492	88,573	99,630	75,689	71,525	69,539	64,000
Company pension plan	338,020	327,727	316,579	364,892	336,634	413,302	413,424	280,200	280,240	302,389	339,075
Medical and hospital insurance	38,762	37,093	32,760	34,761	37,574	30,413	26,315	27,933	31,164	26,424	24,000
Workers Compensation Board	8,750	8,664	9,626	7,778	6,194	7,957	8,832	8,508	9,513	9,308	9,304
Other Programs	127,078	126,579	113,072	116,301	98,224	177,824	180,838	124,359	146,033	141,599	161,911
	801,265	794,984	728,017	773,119	730,082	877,489	911,438	660,156	694,700	598,611	599,020
Other Program Components (\$)											
66 - Other Programs											
Non-Pension Post Ret. Benefits (non-tax deduct.)	103,000	103,000	91,000	113,000	91,000	168,000	168,000	115,000	115,000	131,000	133,000
Other											
Coffee and water service	8,617	8,448	8,120	2,168	6,419	5,773	7,961	4,853	9,816	5,207	8,180
Educational	4,526	4,437	4,281	-	-	1,800	3,525	3,837	4,150	4,150	19,401
Other	30,935	30,694	9,671	1,133	885	2,341	1,332	906	1,380	1,242	1,950
	127,078	126,579	113,072	116,301	98,224	177,824	180,838	124,359	146,033	141,599	161,911

20.1 Please provide similar tables as the above for Test Years 2018 and 2019, Decision 2017 and Actuals 2016 and 2017 for each division of PNG(NE).

On page 100 of the Amended Application, PNG(NE) states:

The actual costs for 2017 included in this account are \$38,000 or 4.9% lower than those approved under Decision 2017. This variance is due to lower benefit costs attributable to vacant positions during the period, mainly as a result of retirements.

20.2 Please provide a table showing the number of positions by Department/Functions for all of PNG(NE) by division (i.e. FSJ/DC and TR) for Test Years 2018 and 2019, Decision 2017 and actuals for 2016 and 2017. Please also identify any vacant positions.

20.3 How many actual vacant positions were identified in 2017 for FSJ/DC as opposed to forecast, and when were these positions filled or are expected to be filled?

On page 38 of the Amended Application, PNG(NE) states:

Overall, employee benefit costs included in BCUC Account 725 are forecast to decrease by \$7,000 or 0.9% in Test Year 2018 from costs approved under Decision 2017 primarily due to lower pension and non-pension post-retirement benefit costs offset in part by higher costs for life, disability and medical programs. Employee benefit costs forecast for Test Year 2019 are expected to be \$5,000 or 0.6% less than Test Year 2018 forecast costs primarily due to a further reduction in pension costs for Test Year 2019. [*Emphasis added*]

Further on page 38, PNG(NE) states:

The majority of the increase in employee benefits costs for Test Year 2018 can be attributed to higher defined benefit pension (DB) and non-pension post-retirement benefit (NPPRB) program costs. [*Emphasis added*]

- 20.4 Please confirm, or explain otherwise, that the preamble above should say the majority of the decrease in employee benefits costs for Test Year 2018 can be attributed to lower DB and NPPRB program costs.

In response to BCUC IR 1.24.3 in the PNG-West 2016–2017 RRA proceeding, PNG confirmed that the decrease in pension expense in 2016 and 2017 over Decision 2015 is the result of a higher discount rate.

While on page 39 of the Amended Application, PNG(NE) states:

The decrease in DB and NPPRB costs for Test Year 2018 and Test Year 2019 over Decision 2017 are primarily a result of discount rates going down (3.81% to 3.60%) and as a result of actuarial gains in the plans recognized at the end of 2017. This caused lower pension and benefit obligations at the end of 2017, and therefore less expense for Test Year 2018 and Test Year 2019. [*Emphasis added*]

- 20.5 Please reconcile the two statements above.

On page 40 of the Amended Application, PNG(NE) states:

The costs of premiums for PNG(NE)'s life, disability and medical programs are forecast to increase in each of Test Year 2018 and 2019 over Decision 2017 as per annual quotes received from PNG(NE)'s benefits consultant. Employee wage increases and staff additions also contribute to the overall increase. PNG(NE)'s benefits consultant advises that the forecast increases are consistent with general industry trend factors for increased benefit plan costs.

- 20.6 Please provide a more detailed description of the “general industry trend factors” for increased benefit plan costs, as advised by PNG(NE)'s consultant.

On page 39 of the Amended Application, PNG(NE) states:

Other Program costs for Test Year 2018 and Test Year 2019 include provision for costs related to health spending accounts for bargaining unit employees. The health spending account benefit is a new benefit for this employee group that was established as part of the 2017 negotiations in finalizing the collective agreement applicable to the period November 1, 2016 to October 31, 2019.

- 20.7 Please discuss if PNG(NE) expects the new health spending account to continue after October 31, 2019.
- 20.8 Please provide the forecast annual cost for the new health spending account for Test Years 2018 and 2019.
- 20.9 Please discuss the impact of key tax changes recently announced by the BC Provincial government in the 2018 Budget, specifically with regard to the new Employer Health Tax and elimination of Medical Service Program premiums. Please quantify the impact for each division of PNG(NE) and clarify if this has been included in the forecast for Test Years 2018 and 2019.

On page 40 of the Amended Application, PNG(NE) provides the following table:

Table 21: Employee Benefit Load Rates

Employee Affiliation	Test Year 2019	2019/2018 Change %	Test Year 2018	2018/Decision 2017 Change %	Decision 2017	Decision 2016	NSP 2014	Decision 2013
	Executive	34.0%	0.1%	33.9%	(9.5)%	43.4%	41.4%	38.4%
Non-bargaining Unit	32.0%	(1.1)%	33.1%	(4.6)%	37.7%	36.9%	37.6%	32.7%
Bargaining Unit - PNG-West	36.1%	(1.5)%	37.6%	(9.5)%	47.1%	47.9%	52.4%	66.5%
Bargaining Unit - PNG(N.E.)	37.5%	(1.3)%	38.7%	(10.8)%	49.5%	48.0%	47.2%	58.2%

20.10 Please update the above table to include the Actual 2016 and 2017 load rates and provide explanations for any significant variances from the Decision 2016 and 2017 rates.

D. SHARED SERVICES COST ALLOCATION TO PNG(NE) FSJ/DC DIVISION

21.0 Reference: **SHARED SERVICES COST ALLOCATION TO PNG(NE) FSJ/DC DIVISION PNG-West 2018-2019 RRA Proceeding, Exhibit B-1-1, Amended Application, Table 20, p. 44; Amended Schedules, Tab 1, p. 9 Account 728 – Corporate**

Table 20 on page 44 of the Amended Application in the PNG-West 2018-2019 RRA proceeding shows the AltaGas Management Fee forecast to be received from PNG to AltaGas, before cost adjustments, to be \$1,640,000 and \$1,159,000 for Test Years 2018 and 2019, respectively. It further shows the AltaGas Management Fees proposed by PNG to be recovered from ratepayers (i.e. net of cost adjustments) to be \$730,000 and \$743,000 for Test Years 2018 and 2019, respectively.

Tab 1 on page 9 of the Amended Schedules in the PNG-West 2018-2019 Amended Application shows the Test Years 2018 and 2019 recoveries from the PNG(NE) FSJ/DC division related to the AltaGas Management Fee as \$254,000 and \$261,000, respectively.

21.1 Please provide the incremental revenue deficiency and rate impact for the PNG(NE) FSJ/DC division for Test Years 2018 and 2019 based on a scenario where PNG was approved to recover the full AltaGas Inter-Affiliate charges in each of the Test Years. Please show all supporting calculations.

E. TRANSFERS TO CAPITAL

22.0 Reference: **TRANSFERS TO CAPITAL PNG(NE) 2016–2017 RRA Proceeding, Exhibit B-5, BCUC IR No. 1.19.1 Capitalized overhead**

In response to BCUC IR 1.19.1 in the PNG(NE) 2016–2017 RRA proceeding, PNG(NE) provided the following table:

(\$000s)	Test Year 2017	Test Year 2016	Actual 2015	Actual 2014	NSP 2014	Actual 2013	Decision 2013	Actual 2012	Decision 2012	Actual 2011	NSP 2011
Overhead Capitalization Rate [(A)/(B)]	7.1%	8.5%	5.6%	5.5%	6.0%	6.2%	5.7%	5.2%	5.0%	2.6%	2.6%
(A) Transfers to Capital											
Operating	\$ 176	\$ 184	\$ 174	\$ 146	\$ 177	\$ 138	\$ 138	\$ 108	\$ 108	\$ 25	\$ 176
Administrative and General	473	553	320	301	320	320	329	249	248	155	-
	\$ 649	\$ 737	\$ 494	\$ 447	\$ 497	\$ 508	\$ 467	\$ 357	\$ 356	\$ 180	\$ 176
(B) Expenses											
Operating Expenses	\$ 5,554	\$ 5,185	\$ 5,474	\$ 5,342	\$ 5,008	\$ 4,902	\$ 5,022	\$ 4,617	\$ 4,730	\$ 4,509	\$ 4,572
Maintenance Expenses	302	365	337	420	382	305	388	329	438	470	333
Admin & General Expenses	2,504	2,337	2,537	2,346	2,241	2,271	2,339	1,542	1,576	1,652	1,790
Total Expenses - Net of Transfers to Capital	8,450	7,887	8,348	7,908	7,626	7,498	7,749	6,488	6,744	6,721	6,704
Plus: Transfers to Capital	649	737	494	447	487	508	467	357	356	180	176
Total Expenses - Gross	\$ 9,099	\$ 8,624	\$ 8,842	\$ 8,355	\$ 8,113	\$ 8,156	\$ 8,216	\$ 6,845	\$ 7,100	\$ 6,901	\$ 6,880
Capital Additions (before O/M and excl. WIP)	\$ 3,090	\$ 6,594	\$ 6,296	\$ 6,565	\$ 5,668	\$ 7,186	\$ 9,308	\$ 4,321	\$ 4,171	\$ 3,109	\$ 2,680

- 22.1 Please update the above table for Test Years 2018 and 2019, Actuals 2016 and 2017 and Decisions 2016 and 2017.
- 22.2 For Test Years 2018 and 2019, please separately show how much of the change in Operating Transfers to Capital and Administrative and General transfers to capital are related to: (i) changes to forecast capital expenditures; (ii) a change in allocation of corporate and management salaries and benefits to capital projects; (iii) a change in allocation of support staff salaries and benefits to capital projects; and (iv) a change in allocation of field staff salaries and benefits to capital projects.
- 22.3 Please provide a detailed calculation of the operating expenses of \$230,000 and \$284,000 that are proposed to be transferred to capital in Test Years 2018 and 2019, respectively, and the \$192,000 actual amount transferred to capital in 2017.
- 22.4 Please provide a detailed calculation of the administrative and general expenses of \$274,000 and \$406,000 that are proposed to be transferred to capital in Test Years 2018 and 2019, respectively, and the \$495,000 actual amount transferred to capital in 2017.

F. PROPERTY TAXES

- 23.0 **Reference: PROPERTY TAXES**
Exhibit B-1-1, Section 2.8, p. 50
Property taxes breakdown

On page 50 of the Amended Application, PNG(NE) provides the following table:

Table 25: Property Taxes

Expense Item	Test Year 2019	2000's										
		2019 to 2018 Change		Test Year 2018	2018 to Decision 2017 Change		Decision 2017	Actual 2017	Actual 2016	Actual 2015	Actual 2014	Actual 2013
		\$	%		\$	%						
Property taxes	1,200	24	2.0%	1,177	\$	0.7%	1,168	1,168	1,145	1,045	1,043	1,039
1% in lieu	171	42	32.8%	129	(77)	(37.4)%	205	205	205	160	158	188
Total	1,371	66	5.0%	1,306	(64)	(5.0)%	1,373	1,373	1,350	1,205	1,202	1,227

Source: Tab Schedules, Tab 1, Page 7

Further on page 50, PNG(NE) states:

Total property taxes were \$1,330,000 in 2017 resulting in a \$43,000 property tax credit deferral which will be amortized in Test Year 2018.

- 23.1 Please update the above table for Actual 2017 to agree with the \$1,330,000 quoted above.

G. DEPRECIATION

- 24.0 **Reference: DEPRECIATION**
Exhibit B-1-1, pp. 51–52 and Appendix C, p. II-29
Positive salvage

On page 52 of the Amended Application, PNG(NE) states that:

For Account 485 – Heavy Work Equipment, PNG made the decision to not to incorporate the positive salvage recommendation based on the company’s experience of owning and operating the equipment in this account for the entirety of their useful lives and of not realizing any proceeds on disposition.

With respect to Account 485, the Depreciation Study states on page II-29 that:

The previous depreciation study included a net salvage of 15 percent. The first year of recorded net salvage activity for this account is 2012. For the period 2012 to 2016, the net salvage has ranged from 7 percent to 24 percent with a cumulative value of 10 percent. Interviews with the PNG's Operations and Management have indicated that the historically indicated value of 10 percent is a reasonable expectation for the equipment in this account. Based on historical indications and the comments from the Operations and Management personnel, Concentric views that 10 percent is a reasonable net salvage expectation for the equipment in this account.

24.1 Does the following statement on page II-29 of the Depreciation Study refer to the actual net positive salvage recorded for Account 485 between 2012 and 2016? If not, please clarify what this statement refers to.

"For the period 2012 to 2016, the net salvage has ranged from 7 percent to 24 percent with a cumulative value of 10 percent."

24.1.1 Please elaborate on why PNG(NE) has not incorporated the positive salvage recommendation for Account 485, despite the information provided on page II-29 of the Depreciation Study.

25.0 **Reference: DEPRECIATION
Exhibit B-1-1, pp. 51–53 and Appendix C
Net salvage - rate impact**

On page 51 of the Amended Application, PNG(NE) states that the result of the Depreciation Study is:

... a reduction in depreciation expense compared to that which would have been calculated under the rate previously in place based on the parameters of a prior study, with Test Year 2018 depreciation expense decreasing to \$1.856 million from \$2.023 million for Decision 2017. Test Year 2019 depreciation expense is forecast to be \$2.032 million.

On page 52 of the Amended Application, PNG(NE) states that:

If PNG(NE) were to record a provision for negative salvage in its depreciation for the applicable accounts, depreciation expense for Test Year 2018 and Test Year 2019, would be greater by \$823,000 million and \$857,000 million, respectively. [*Emphasis added*]

Further, on page 53 of its Amended Application, PNG(NE) states that:

PNG's basis for not incorporating negative salvage is the materiality of the negative salvage estimates and the significant adverse rate impacts that will result from incorporating these estimates into depreciation expense at this time.

25.1 Please confirm, or explain otherwise, that the underlined statement in the preamble from page 52 of the Amended Application should read "**would be greater by \$823,000 and \$857,000, respectively.**"

25.2 Please provide the Test Years 2018 and 2019 rate impact for the FSJ/DC Division of incorporating the negative salvage values recommended in the Depreciation Study, which results in depreciation expense for Test Years 2018 and 2019 being greater by \$823,000 and \$857,000, respectively.

- 25.3 Please provide the net impact for PNG(NE) FSJ/DC Division of incorporating all of the recommendations made by Concentric in the Depreciation Study, including the change in both depreciation rates and net salvage values. Please provide the impact on both depreciation expense and rates for each of Test Years 2018 and 2019.
- 25.4 Please confirm that if PNG(NE) adopted Concentric's recommendation regarding negative salvage values for the FSJ/DC Division, it would have a one-time rate impact for customers during the year of transition (i.e. Test Year 2018). If not confirmed, please explain and provide a numerical example for illustration.
- 25.4.1 In the event that Concentric's recommendation regarding negative salvage values were adopted by PNG(NE) for the FSJ/DC Division, please discuss if PNG(NE) would consider a transition period to smooth out the immediate impact on customer rates.
- 25.5 If Concentric's recommendations regarding negative salvage accounting were adopted for the FSJ/DC Division, how would the annual negative salvage accrual collected from customers **be** recorded for regulatory accounting purposes? For example, would the amount collected be recorded as a rate base credit account? Please explain and provide an illustrative example.
- 25.6 Please explain if PNG(NE) agrees with the following statements on pages I-4 and I-5 of the Depreciation Study as it relates specifically to PNG(NE) FSJ/DC Division. Please discuss why or why not.

The longer the delay in recognizing net negative salvage, the higher future depreciation rate will be as PNG's depreciation rates are based on its net book value amortized over a remaining life basis. Each year of delay will increase the differential between booked net book value and calculated net book value. As such, the resultant depreciation rates will increase proportionately.

...

Although a comparison of the current revenue requirements related to a net salvage accrual and the current revenue requirements related to expensing of net salvage may indicate that the accrual is higher at a single point in time, over time the revenue requirements and the present value of those revenue requirements will be less if the net salvage cost is accrued over the life of the asset. The reason for the lower revenue requirements with the accrual of net salvage is the impact of the accruals on rate base. That is, as net salvage accruals are recorded to the depreciation reserve, the accumulated depreciation balance in the reserve increases and reduces subsequent determinations of rate base in future periods.

- 26.0 **Reference: DEPRECIATION
Exhibit B-1-1, pp. 51–54 and Appendix C
Plant Gains and Losses deferral account**

The Plant Gains and Losses deferral account is described on page 54 of the Amended Application.

- 26.1 Please provide the actual additions and amortization expense for the FSJ/DC Division Plant Gains and Losses deferral account for each year between 2012 and 2017, and forecast 2018 and 2019, broken down into the following categories:
- Ordinary;
 - Salvage Value;
 - Retirement Costs.

26.1.1 Please explain if any of the above three categories for the FSJ/DC Division Plant Gains and Losses deferral account would no longer be required in the event that all of the net salvage values recommended in the Depreciation Study were adopted by PNG(NE).

27.0 **Reference: DEPRECIATION**
Exhibit B-1-1, pp. 51-53 and Appendix D; FortisBC Energy Utilities (FEU) 2012–2013 Revenue Requirements and Natural Gas Rates Application proceeding, Exhibit B-1, Appendix E-2, pp. 9–12
Negative salvage

On page 53 of the British Columbia Utilities Commission’s (BCUC) Decision in the PNG 2013 RRA proceeding, the BCUC states:

...the Panel is supportive of PNG’s decision to include an evaluation of the potential of using negative salvage accounting in its next Depreciation Study. Our expectation is that this evaluation will include a thorough examination of the pros and cons of utilizing negative salvage accounting and the costs of its implementation. [*Emphasis added*]¹

In the FortisBC Energy Utilities (FEU) 2012–2013 Revenue Requirements and Natural Gas Rates Application, FEU’s Application includes an Asset Retirements Obligation Report filed as Appendix E-2. The Report outlines 4 options for negative salvage accounting on pages 9-12, as follows:

- Pay as You Go;
- Traditional Approach;
- Asset Retirement Obligation (ARO) Approach; and
- Hybrid Approach.

27.1 Please provide a thorough analysis from PNG(NE)’s perspective of the pros and cons of incorporating negative salvage values into depreciation rates, as recommended by Concentric in the Depreciation Study, versus maintaining PNG(NE)’s current methodology for accounting for negative salvage.

27.2 Please provide an analysis of the full costs of implementing the recommendation by Concentric to incorporate negative salvage values into depreciation rates for the FSJ/DC Division.

27.3 Please discuss if PNG(NE) considered any options for negative salvage accounting other than the methodology currently used by PNG(NE) and the methodology recommended by Concentric. For example the ARO Approach and/or Hybrid Approach referenced in the preamble.

28.0 **Reference: DEPRECIATION**
Exhibit B-1-1, p. 53 and Appendix C, pp. I-8 - I-10 and II-4
Negative salvage

On page 53 of the Amended Application, PNG(NE) states that: “PNG(NE), like many utilities, prefers to record actual costs of removal at the time incurred. This treatment is consistent with the practice of other utilities and is an allowable method under the Commission’s Uniform System of Accounts.”

On pages I-8 – I-10 of the Depreciation Study, it is noted that the issue of net salvage recovery has been reviewed recently in several jurisdictions, with several examples provided from 2011 and 2012.

Page II-4 of the Depreciation Study describes the procedures for estimating net salvage as consisting “to a large extent on the approved net salvage parameters for PNG peers, interviews with PNG’s

¹ Pacific Northern Gas Ltd. (PNG) 2013 Revenue Requirements Application (RRA) Decision, p. 53.

Management and Operational groups, and on the experience and judgement of Concentric.”

- 28.1 Please confirm, or explain otherwise, that PNG(NE)’s current methodology of recording actual costs or removal at the time incurred is an allowed practice under US Generally Accepted Accounting Principles (GAAP). Please provide the applicable US GAAP section(s) in support of this response.
- 28.2 Please provide examples of other Canadian gas distribution utilities that use the same methodology as PNG(NE) for net salvage accounting.
 - 28.2.1 Please provide examples of other Canadian gas distribution utilities that use the same methodology as recommend by Concentric for net salvage accounting.
- 28.3 With respect to the examples from other jurisdictions provided on pages I-9 to I-10 of the Depreciation Study, are there any more recent examples? If so, please provide the details.
- 28.4 Please provide a list of the peer companies used by Concentric in arriving at its net salvage recommendations.

29.0 **Reference: DEPRECIATION
Exhibit B-1-1, Appendix C, pp. II-9, II-20
Negative salvage – specific accounts**

On page II-9 of the Depreciation Study, Concentric recommends a net salvage of negative 25 percent for Account 418.00 – Gathering – Purification Equipment based on the following rationale:

A peer comparison of a similar Canadian gas utility similarly has Pre-Treatment Equipment net salvage value of negative 10 percent as its net salvage parameter. Interviews with PNG’s Operations and Management staff have indicated that negative 25 percent is a reasonable expectation for the equipment in this account. Concentric viewed that the comments from the Operational and Management personnel combined with the peer analysis, and on the professional judgement of Concentric was the most reasonable expectation for the equipment in this account. As such, a net salvage of negative 25 percent is recommended to represent the expectations for the equipment in this account.

On page II-20 of the Depreciation Study, Concentric recommends a net salvage value of negative 60 percent for Account 473.00 – Distribution – Services.

- 29.1 Please elaborate on the reasons why Concentric has recommended a net salvage of negative 25 percent for Account 418, given that the peer analysis indicated a net salvage of negative 10 percent. Please include the specific data and information relied upon in Concentric’s recommendation.
- 29.2 Please expand on the reasons why a net salvage value of negative 60 percent is recommended by Concentric for Account 473. Please include the specific data and information relied upon in Concentric’s recommendation.
- 29.3 Please provide an illustrative example of how the annual accrual for net salvage is calculated, using Account 473 and the following inputs from page II-9 of the Depreciation Study:
 - Book Value: \$54.4 million;
 - Net Salvage Value: -60 percent;
 - Annual Net Salvage Accrual: \$1,081,711.

30.0 **Reference: DEPRECIATION**
Exhibit B-1-1, p. 53, Appendix C, p. IV-2
Depreciation rates

On page 53 of its Amended Application, PNG(NE) states that:

For most accounts, the annual and accrued depreciation has been calculated by the straight-line method using the average life group procedure for the assets in a particular class. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting.

Page IV-2 of the Depreciation Study states that: "The annual accrual rates and the accrued depreciation were calculated in accordance with the straight-line method, using the equal life group procedure based on estimates which reflect considerations of current historical evidence and expected future conditions."

30.1 Please clarify if the annual and accrued depreciation has been calculated using the average life group procedure or the equal life group procedure.

30.2 Please describe each of the following terms and how they are applicable to the Depreciation Study filed in the Amended Application:

- Average Life Group Procedure;
- Equal Life Group Procedure;
- Amortization Accounting.

31.0 **Reference: DEPRECIATION**
Exhibit B-1-1, Appendix C, p. II-23
Depreciation rates

Page II-23 of the Depreciation Study indicates that for Account 477.00 – Distribution – Measuring and Regulating Equipment, Iowa 35-R4 is recommended to represent the expectations for the equipment in this account.

31.1 Please explain if a retirement rate analysis was prepared for Account 477. If so, please provide the results and if not, please explain why not.

32.0 **Reference: DEPRECIATION**
Exhibit B-1-1, p. 52
Depreciation of Land Rights

On page 52 of the Amended Application, PNG(NE) states that:

Consistent with the 2010 Depreciation Study, the 2017 Depreciation Study recommends the depreciation of Land Rights (Accounts 461, 471 and 481) over a period of 75 years. At the time of implementing the recommendations of the 2010 Depreciation Study, PNG made the determination that its Land Rights had an indefinite life and as such should not be depreciated.

32.1 Please provide the factors that were considered by PNG(NE) in making the determination that Land Rights have an indefinite life and should not be depreciated.

32.2 Please explain if PNG(NE)'s proposed treatment to not depreciate Land Rights is acceptable under US GAAP. Please provide the applicable US GAAP section(s) in support of this response.

- 32.3 Please provide examples of other Canadian gas distribution utilities that use the same methodology for Land Rights as proposed by PNG(NE).

H. DEFERRAL ACCOUNTS AND AMORTIZATION

- 33.0 **Reference: DEFERRAL ACCOUNTS**
Exhibit B-1-1, p. 55
Demand Side Management deferral account

On page 55 of the Amended Application, PNG(NE) states that:

In June 2015, PNG and PNG(NE) submitted a Consolidated Energy Management and Efficiency Program Funding Application (Demand Side Management (DSM) Funding Application) seeking approval for funding of various DSM programs and proposed that the DSM expenditures (for PNG(NE): \$55,000 in 2015; \$182,000 in 2016; and \$165,000 in 2017) be included in a rate base deferral account. Under Commission Order G-203-15A, PNG(NE) was directed to amortize these DSM expenditures over a 5-year period.

The amortization in Test Year 2018 and Test Year 2019 reflect actual DSM expenditures incurred of \$55,000 in 2015 and \$16,000 in 2016, and \$33,000 in 2017 and forecast expenditures of \$165,000 in Test Year 2018.

- 33.1 Please provide the 2018 DSM expenditures approved under Order G-203-15A for the FSJ/DC Division.
- 33.2 Please provide the Decision 2016 and Decision 2017 additions to the DSM deferral account for the FSJ/DC Division and provide an explanation for any variance between the 2016 and 2017 Actuals.
- 33.3 Given the historic underspending in 2016 and 2017, please provide a program spending schedule for 2018 and explain if PNG(NE) FSJ/DC Division is on track so far in 2018.

- 34.0 **Reference: DEFERRAL ACCOUNTS**
Exhibit B-1-1, p. 56; Tab 2 pp. 12-13
DC Industrial Deliveries deferral account

Pages 12 and 13 of Tab 2 show an addition to the DC Industrial Deliveries deferral account of 192,000 in 2016 and -126,000 in 2017.

Page 27 of the Amended Application states that “A gas deliveries deferral account is used to record the difference between the forecast and actual deliveries for this customer.”

- 34.1 Please confirm, or explain otherwise, that the DC industrial deliveries deferral account captures the variance between the forecast and actual margin for all customers in the DC small industrial sales customer classification.
- 34.2 Please explain why variances between forecast and actual margin for the FSJ small industrial sales customers are not included in the deferral account.
- 34.3 Please explain the forecast variances for 2016 and 2017 related to the DC small industrial sales deliveries.

I. MISCELLANEOUS OTHER INCOME AND CREDITS

35.0 **Reference: MISCELLANEOUS OTHER INCOME AND CREDITS**
Exhibit B-1-1, Section 2.11, p. 58
Penalty charges and overheads recovered

- 35.1 Please explain why penalty charges are forecast to increase by \$16,000 or 21.6 percent in Test Year 2018 compared to Actual 2017.
- 35.2 Please explain why overheads recovered are forecast to increase by \$26,000 or 144 percent in Test Year 2018 compared to Actual 2017.

J. RATE BASE

36.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, pp. 61 and 66
Test Year 2018 and 2019 capital expenditures

On page 61 of the Amended Application PNG(NE) forecasts Total Capital Expenditures, excluding overhead, of \$7,433,431 for Test Year 2018.

36.1 Please confirm that all the Capital expenditures planned for 2018 are still expected to be completed in 2018.

36.1.1 For each of the projects identified that are expected to extend beyond Test Year 2018, please provide the full project schedule and the total project cost, including a breakdown of the expenditures by year.

Further, on page 66 of the Amended Application, PNG(NE) forecasts Total Capital Expenditures excluding overhead of \$6,276, 127 for Test Year 2019

36.2 Please confirm that all the Capital expenditures planned for 2019 are still expected to be completed in 2019.

36.2.1 For each of the projects identified that are expected to extend beyond Test Year 2019, please provide the full project schedule and the total project cost, including a breakdown of the expenditures by year.

37.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.1, pp. 26–28 and Section 2.13, p.62, 67
Recurring capital expenditures- New Services

On pages 62 and 67 of the Amended Application PNG (NE) forecast \$849,000 for New Services to meet the needs of new customers for Test Year 2018, and \$1,022,000 for Test Year 2019

37.1 Please confirm how many new distribution service lines PNG(NE) plan to install in each of the Test Years 2018 and 2019.

37.2 Please confirm the locations and associated development where PNG(NE) are installing new distribution services for each of Test Year 2018 and 2019.

37.3 Please reconcile, by rate class, the number of new customers driving the need for new distribution services lines to the customer count information provided on pages 26-28 of the Amended Application.

38.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, pp. 62 and 67
Planned-Recurring Capital Expenditures- Distribution Main Improvements –Couplings,
Recurring capital expenditures – Distribution Main Improvement

On pages 62 and 67 of the Amended Application, PNG(NE) forecast \$490,000 in Test Year 2018 and \$510,000 in Test Year 2019 for the removal of mechanical couplings, \$320,000 in Test Year 2018 and \$333,000 in Test Year 2019 for the replacement of PE2306 Pipe, and \$461,000 in Test year 2018 and \$480,000 in Test Year 2019 for other distribution mains improvements.

- 38.1 What percentage of the mechanical couplings on the distribution system of Dawson Creek (DC) and Fort St John (FSJ) remain to be removed?
- 38.1.1 What is the estimated date of completion for the removal of all mechanical couplings?
- 38.1.2 Please provide the amount of mechanical couplings that were forecast to be removed in Test Years 2016 and 2017 as compared to the actual amount of mechanical couplings that were removed for the same years.
- 38.1.3 Please provide the amount of mechanical couplings that are forecast to be removed in Test Years 2018 and 2019.
- 38.1.4 Please describe the specific risks to integrity and failures that are driving the need for the ongoing removal of mechanical couplings.
- 38.2 What percentage of the PE2306 pipe remains to be replaced?
- 38.2.1 What is the estimated date of completion for the replacement of all PE2306 pipe?
- 38.2.2 Please provide the amount of PE2306 pipe that was forecast to be removed in Test Years 2016 and 2017 as compared to the actual amount of pipe replaced for the same years.
- 38.2.3 Please provide the amount of PE2306 pipe that is forecast to be removed in Test Years 2018 and 2019.
- 38.2.4 Please describe the specific risks to integrity and failures that are driving the need to replace the PE2306 pipe.

Further on page 62 of the Amended Application, PNG(NE) states:

Other distribution main improvements include a provision of \$461,000 for the lowering of distribution main in public thoroughfares to meet the needs of changes to the surrounding roadway and to avoid conflict with new civil works and ensure the on-going safety of the pipe.

- 38.3 Please clarify if the lowering of the distribution mains to meet the needs of the changing surrounding is driven by PNG(NE) or a third party.
- 38.4 Please detail any changes to the regulation for this pipe to be lowered.
- 38.5 Please detail any CIAC associated with the \$480,000 for the Distribution Mains Improvement costs.

39.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 63
Recurring capital expenditures-Distribution Mains

PNG(NE) states on page 63 of the Amended Application:

The forecast 2018 expenditures relate to new distribution mains and are all related to providing service to new customers (residential, commercial, industrial) throughout the Fort St. John and Dawson Creek service areas. Growth continues in the region with both residential and commercial growth and the resultant economic development has created opportunities to provide natural gas infrastructure to service this demand.

39.1 Please provide a breakdown of the \$445,000 distribution mains expenditure.

39.1.1 Please explain the differences between the costs associated with new distribution mains, as referenced in the preceding IR, and the costs associated with the New Services expenditure category.

40.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 63, 64
Non -recurring capital expenditures- Replace Dawson Creek #1 Gate Station

PNG (NE) states on pages 63 and 64 of the Amended Application:

This replacement project is required to ensure the station and related facilities are in full compliance with safety and integrity related regulations. At this time, PNG (NE) has completed [*sic*] the front-end engineering and has developed a thorough Class III estimate, including complete vendor budgetary pricing for all 3 materials and services.

40.1 Please clarify what safety and integrity related regulations PNG(NE) are complying with, as referenced on pages 63 and 64 of the Amended Application.

40.2 Please provide a breakdown of the total project costs by year, including those project costs that have already been incurred.

40.2.1 Please clarify if the \$1,121,000 includes the front-end engineering.

40.2.2 If not, please provide all costs associated with the front-end engineering.

40.3 Please provide the project schedule, including the commencement date, and how it is currently tracking against the schedule. Specifically, please address if the project is on track to be completed in 2018 and if construction has already commenced.

40.4 Please provide the adverse effects of this project being deferred.

40.5 Please provide details of alternative solutions, if any, that were considered.

41.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, pp. 64 and 68
Non -recurring capital expenditures-Cecil Lake Aluminum Replacement

On pages 64 and 68 of the Amended Application PNG(NE) forecast Total Capital Expenditure excluding overhead of \$282,000 for Cecil Lake Aluminum Replacement for Test Year 2018 and \$1,065,000 for Test Year 2019.

41.1 Please confirm if PNG(NE) plans to submit a Certificate of Public Convenience and Necessity (CPCN) application for this project. If not, please explain why not.

41.2 Please provide details of the justification and need for PNG (NE) to carry out this project at this time.

41.2.1 What alternative solutions, if any, were considered by PNG(NE)?

41.3 Please provide a breakdown of the total project costs by year, including those project costs that have already been incurred.

- 41.4 Please provide the project schedule, including the commencement date, and how it is currently tracking against the schedule. Specifically, please address if the project is on track to be completed in 2018 and if construction has already commenced.
- 41.5 How critical is the integrity risk associated with this project?
- 41.6 Please discuss the expected adverse effects, if any, of this project being deferred.

42.0 **Reference: RATE BASE
Exhibit B-1-1, Section 2.13, pp. 35, 64, 68 and 100
Non -recurring capital expenditures-Geographical Information System**

On pages 64 and 68 of the Amended Application PNG(NE) forecasts capital expenditures of \$242,128 and \$376,860 for Test Years 2018 and 2019 respectively for the Geographical Information System (GIS).

On Page 64 of the Amended Application PNG (NE) states that:

In the third quarter of 2017, PNG engaged an engineering/geomatics consultancy firm to execute a needs assessment and requirements project to support the GIS initiative. The primary motivating factors for moving forward with a GIS implementation are: (1) develop an authoritative system of record with regard to PNG's assets; (2) provide an enterprise wide system to allow PNG staff (particularly field staff) to operate much more efficiently and consistently; (3) improve integration between key business systems; (4) improve capabilities and capacity for reporting and regulatory compliance (i.e. CSA standards, BC Oil and Gas Commission and Technical Safety BC regulations, Association of Professional Engineers and Geoscientists of BC (APEGBC) bylaws); and (5) incorporate contemporary industry best practices and technology to PNG's operations. Based on a comprehensive assessment of alternatives, PNG has plans to execute implementation recommendations over a three-year period (2018 to 2020). The overall project cost is estimated at \$2.4 million, which will be incurred over three years and will be shared by PNG-West and PNG(NE) service areas.

- 42.1 Please include an outline of how this project is managed, and identify the parts of the project that were put out for bids on a competitive basis.
- 42.2 Please provide a comparison of the alternatives that were considered to the GIS project as it is proposed in the Amended Application. Please include a discussion on the pros and cons of the alternatives and why the proposed GIS project was ultimately chosen as the preferred alternative.
- 42.3 Please confirm the engineering/geomatics consultancy firm that was used by PNG(NE) in relation to the GIS project and provide any reports that were provided by the firm to support the needs assessment and project requirements to support the GIS initiative.
- 42.4 Does PNG(NE) plan to file a CPCN for the GIS project? If not, please discuss why not.
- 42.5 Please elaborate on the need for this project, specifically in relation to the five motivating factors cited in the Amended Application.
- 42.6 Please provide the full project planning schedule, including the commencement date, and how it is tracking against the schedule so far in 2018. Specifically, please address if the project has commenced.
- 42.7 Please provide a cost schedule for the project showing annual capital expenditures and for each year please clearly show the cost allocation between PNG-West and PNG(NE).

On page 100 of the Amended Application, PNG(NE) states:

The actual costs for 2017 included in this account are \$49,000 or 51.8% greater than those approved under Decision 2017. This account is over budget primarily due to the costs related to a Geographic Information System (GIS) assessment study undertaken during the year (see discussion of this initiative in Section 2.13.1.1 – Plant in Service).

On page 64, PNG(NE) states:

In the third quarter of 2017, PNG engaged an engineering/geomatics consultancy firm to execute a needs assessment and requirements project to support the GIS initiative.... Based on a comprehensive assessment of alternatives, PNG has plans to execute implementation recommendations over a three-year period (2018 to 2020). The overall project cost is estimated at \$2.4 million, which will be incurred over three years and will be shared by PNG-West and PNG(NE) service areas.

42.8 Please confirm, or explain otherwise, that the costs related to the GIS assessment study undertaken in 2017 as mentioned on page 100 is the same as the costs related to the engineering/geomatics consultancy firm undertaken in the third quarter of 2017.

42.9 Please provide the total consulting costs related to the GIS assessment study broken down by year and discuss how were these costs allocated between PNG-West and PNG(NE)-FSJ/DC and PNG(NE)-TR.

On page 33 of the Amended Application, PNG(NE) states:

Forecast Test Year 2018 costs are \$286,000 or 40.5% higher than Decision 2017. Factors contributing to this increase include: additional engineering projects including digital data mapping and the implementation of a geographical information system; increased labour costs attributable to a new position in the areas of engineering; asset management system licensing costs; and inflation. Test Year 2019 costs are forecast to be comparable to Test Year 2018.

Further on page 44, PNG(NE) states with respect to shared services cost allocation for Account 685:

Overall PNG-West cost pool increase of approximately \$198,000 primarily due to costs related to new engineering initiatives including digital data mapping and the geographic information system (GIS) project, as well for licensing costs for the computerized maintenance management system (CMMS).

On page 35 of PNG-West's Amended Application for PNG-West's 2018-2019 RRA Proceeding, PNG states:

Test Year 2018 expenditures of \$2.801 million are forecast to increase by approximately \$383,000 or 15.8% over Decision 2017. Factors contributing to this increase include: additional engineering projects including digital data mapping and the implementation of a geographical information system; increased labour costs attributable to new positions in the areas of engineering and records management; asset management system licensing costs, and inflation....These cost increases are offset in part by greater cost recoveries of \$40,000 reflected in this account for shared-service cost allocations to PNG(NE).

42.10 Please provide a table with the total operating, maintenance and administrative costs of the GIS project broken down by test year, by BCUC account code and by recurring and one-time costs. For any project costs that are shared by PNG-West and PNG(NE), please also breakdown of the

costs by division (i.e. PNG-West, PNG(NE)-FSJ/DC and PNG(NE)-TR) and provide the cost allocation methodology.

42.10.1 Please discuss if any of the costs identified in the preceding IR are considered project management costs or pre-feasibility study costs.

42.10.2 Please also identify the costs of the project that have been allocated from PNG-West to each of PNG(NE)'s divisions through shared services costs.

42.10.3 Please discuss any differences between the cost allocation methodology of this project versus the methodology used to allocate shared services costs.

42.10.4 Please explain how the activities associated with the GIS project for PNG(NE) are different from the activities performed at PNG-West and allocated to PNG(NE) through shared-service costs.

42.11 Please discuss if the GIS project will result in a reduction in the positions currently held at the company (i.e. certain tasks currently performed may no longer be required or are redundant once PNG(NE) moves to a digital system).

42.11.1 If so, please quantify the cost savings from the positions that will no longer be required and explain in which account and test year(s) these forecasted savings have been recorded.

42.12 Are there any amounts in Test Year 2018 and 2019 being transferred to capital in relation to the Geotechnical Information System? If yes, please provide the amounts for each of Test Year 2018 and 2019 and explain the rationale for this treatment.

43.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 69
Non -recurring capital expenditures-Station Modifications

On page 69 of the Amended Application PNG(NE) forecast Total Capital Expenditure excluding overhead of \$167,000 for Station Modification in Test Year 2019.

43.1 Please confirm when construction of the station modifications will commence and the expected completion date.

43.1.1 If the station modifications are expected to extend beyond Test Year 2019 please provide the total forecast capital expenditures for the project by year.

43.2 Please discuss the adverse effects, if any, of these expenditures being deferred.

44.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 69
Non -recurring capital expenditures-Baldonnel Line Lowering

On page 69 of the Amended Application PNG(NE) forecast Total Capital Expenditure excluding overhead of \$141,000 for Baldonnel Line lowering –Phase 1-FSJ.

44.1 Please clarify the geotechnical concerns associated with this pipeline.

44.2 Please provide the total forecast capital expenditures for the project by year.

44.3 Please discuss the adverse effects, if any, of these expenditures being deferred.

45.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 69
Non -recurring capital expenditures-Steel Main Replacements

On page 69 of the Amended Application PNG(NE) forecast Total Capital Expenditure excluding overhead of \$156,000 for Steel Main Replacement in Test Year 2019.

- 45.1 Please confirm when construction of the steel main replacements will commence and when the steel main replacements are expected to be complete.
- 45.1.1 If the steel main replacements are expected to extend beyond 2019, please provide a schedule showing the forecast expenditures by year for the steel main replacements.
- 45.2 Please discuss the adverse effects, if any, of these expenditures project being deferred.

46.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13, p. 70
Non -recurring capital expenditures-Structure Improvements

On page 70 of the Amended Application, PNG(NE) forecast Total Capital Expenditure excluding overhead of \$96,000 for Structure Improvements in Test Year 2019.

- 46.1 Please confirm when construction of the structure improvements will commence and when the improvements are expected to be complete.
- 46.1.1 If the structure improvements are expected to extend beyond 2019, please provide a schedule showing the forecast expenditures by year for the steel main replacements.
- 46.1.2 What are the adverse effects, if any, of these expenditures being deferred?

47.0 **Reference: RATE BASE**
Exhibit B-1-1, Section 2.13.2, p. 71
Pension

- 47.1 Please confirm, or explain otherwise, that PNG(NE) and PNG-West share the same registered pension plan.
- 47.1.1 If confirmed, what proportion of the plan is funded by each of PNG(NE)'s divisions and PNG-West, and how is the allocation determined?

On page 71 PNG(NE) states:

Forecast cash contributions to PNG(NE)'s pension plan for Test Year 2018 and Test Year 2019 reflect expected normal cash contributions as well as special contributions. PNG(NE) notes that its 2016 pension valuation identified a solvency deficiency such that, commencing once again in 2017, there is a requirement for PNG(NE) to make special cash contributions to its registered pension plan.

- 47.2 Please elaborate further on the "solvency deficiency" mentioned in the above preamble, including the cause of the "solvency deficiency", the amount of the deficiency, the amount of "special cash contributions" forecast for Test Years 2018 and 2019 and future years, and for how many years the pension plan is expected to remain in a "solvency deficiency" position.
- 47.3 Please discuss PNG(NE)'s plan to pay down the "solvency deficiency" and the expected time period involved.
- 47.4 Please identify and discuss the requirements of any regulations regarding how solvency deficiencies should be resolved (i.e. minimum pay down amounts and prescribed time periods

that deficiencies should be eliminated), and PNG(NE)'s compliance with such regulations.

47.5 Please discuss the implications to PNG(NE) if it is unable to pay down the "solvency deficiency" within its planned time period or the prescribed time period.

47.6 Has PNG(NE) previously been in a "solvency deficiency" position?

47.6.1 If so, please identify the time period that PNG(NE) had a "solvency deficiency" and the amounts of the deficiency and "special cash contributions" made during that period. Please also discuss the events leading up to how PNG(NE) became solvency deficient and the plan and timeframe involved to resolve the deficiency compared to the current deficiency.

47.7 Please provide a copy of the pension valuation that was completed at December 2017.

48.0 **Reference: RATE BASE
Exhibit B-1-1, Section 2.13.2, p. 71; Amended Schedules, Tab 2, p. 33
Non-pension post-retirement benefits**

On page 71, PNG(NE) states:

As shown in the referenced schedule, PNG(NE) expects to make cash contributions of \$128,000 to its RCA in Test Year 2018, up from \$174,000 in Decision 2017. However, the cash contributions are expected to drop to \$94,000 in Test Year 2019 as Test Year 2018 represents the sixth and final year of amortization of regulatory assets associated with historical NPPRB expense. [*Emphasis added*]

48.1 Please confirm, or explain otherwise, that the cash contributions to the RCA in Test Year 2018 are actually down from \$174,000.

The following is an extract of the Non-pension post-retirement benefits continuity schedule from Tab 2, page 33 of the Amended Application:

Line No.	Description	Test Year 2019	Test Year 2018	Decision 2017	Actual 2017	Actual 2016	Actual 2015	Actual 2014	Actual 2013
1	Cash contributions to RCA/tax account	\$30	\$128	\$174	\$183	\$179	\$187	\$169	\$248
2	Cash cost of retiree benefits	30	29	31	28	27	23	21	22
3	Expense (recovered in rates)	(60)	(55)	(103)	(113)	(103)	(113)	(91)	(168)
4	Amortization of regulatory assets (recovered in rates)	(0)	(102)	(102)	(102)	(102)	(102)	(102)	(102)
5	Change in unfunded status of NPPRB plans	0	0	0	(4)	1	(4)	(3)	0
6	Current income taxes	(0)	0	0	1	(0)	1	1	(0)
7	Related future income taxes	0	0	0	(1)	0	(1)	(1)	0

48.2 Please reconcile line 1 in the schedule above with the statement in the preamble above that "cash contributions are expected to drop to \$94,000 in Test Year 2019."

48.2.1 If line 1 should be \$94,000 for Test Year 2019, please discuss the implications to the cost of service revenue deficiency and rates. Please also refile the affected schedules with the amount corrected.

K. CAPITAL STRUCTURE AND RETURN ON CAPITAL

49.0 **Reference: CAPITAL STRUCTURE AND RETURN ON CAPITAL
Exhibit B-1-1, FSJ/DC division, p. 76
Credit rating assessment**

On page 76 of the Amended Application for the FSJ/DC division, PNG(NE) states:

For the purposes of this Amended Application for both Test Year 2018 and Test Year 2019, PNG(NE) has used the Decision 2017 approved rate of return on common equity (ROE) of 9.25% and common equity thickness of 41.00% following the issuance of the Stage 2 GCOC Decision in 2014 and the Decision on the Fortis BC Energy Inc.'s (the Benchmark Utility) Application for its Common Equity Component and Return on Equity for 2016.

- 49.1 What is PNG(NE)'s current credit rating? Has PNG(NE)'s credit rating changed in the last five years?
- 49.2 Please provide PNG(NE)'s last three credit rating reports.

50.0 **Reference: BUSINESS RISK ASSESSMENT
Exhibit B-1-1, FSJ/DC division, Appendix F
Business Risk Assessment – 2018 Update**

In Appendix F of the Amended Application, in compliance with Order G-77-13, PNG-West and PNG(NE) (collectively, PNG) filed a Business Risk Assessment update for 2018 based on a consolidated entity level for PNG. Its assessment of business risks are in the following areas: Aboriginal Rights, competitive position of natural gas, customer growth, market demand and throughput, regulatory risk, supply risk and other risks.

On page 6 of Appendix F, PNG concludes that it does not propose any changes to its cost of capital to compensate for the increasing risk as the change has not been overly substantive at this time.

- 50.1 With respect to Aboriginal rights, PNG submits that there are numerous requirements for dealing with various aspects of Aboriginal Rights which require a much more resource intensive effort, and cites recent court cases. Please provide a brief overview of these court cases.
 - 50.1.1 If applicable, please discuss how these court cases will affect PNG(NE)'s business risk related to Aboriginal rights, and in terms of more investments in resources and efforts, specifically for the FSJ/DC division.
- 50.2 With respect to the competitive position of natural gas, PNG states: "[c]ommodity prices continue to be lower than 2016 and 2012, and market prices have shown less volatility in recent years". Please provide the FSJ/DC division commodity rates from 2011 to present.
 - 50.2.1 Please provide supporting quantitative evidence to substantiate the claim that "market prices have shown less volatility in recent years."
 - 50.2.2 PNG notes that the competitive position of natural gas has not improved. Please confirm that PNG in this statement is referring to the more expensive upfront installation costs and the carbon tax associated with natural gas service, and not natural gas commodity rates in comparison with electricity. If not confirmed, please explain.
- 50.3 With respect to customer growth, PNG(NE) submits that the FSJ/DC service area has experienced an average customer growth rate of approximately 2% per year, though that trend has recently slowed significantly. Please clarify in what time period PNG experienced the 2% average customer growth rate, and the recent slowdown.

51.0 **Reference: CAPITAL STRUCTURE AND RETURN ON CAPITAL
Exhibit B-1-1, Sections 2.14 and 2.14.1, pp. 74–76, Amended Schedules, Tab 5, p. 1
Capital structure and financing costs**

On page 74 of the Amended Application, PNG provides the following table:

Table 33: Capital Structure

Expense Item	Test Year 2019	2019 to 2018 Change		Test Year 2018	2018 to Decision 2017 Change		Decision 2017	Actual 2017	Actual 2016	Actual 2015	Actual 2014	Actual 2013
		\$	%		\$	%						
		(\$000's)										
Short-term Debt												
Balance (\$000's)	4,053	684	20.3%	3,369	488	16.9%	2,881	1,958	6,188	3,964	2,489	3,762
Proportion (%)	5.26%	0.04%	0.82%	5.22%	(0.00)%	(0.08)%	5.22%	2.91%	9.76%	6.67%	4.52%	7.80%
Long-term Debt												
Balance (\$000's)	41,421	6,683	19.2%	34,738	5,058	17.0%	29,680	37,199	30,550	30,139	30,100	24,444
Proportion (%)	53.74%	(0.04)%	(0.08)%	53.78%	0.00%	0.01%	53.78%	55.20%	48.20%	50.70%	54.61%	50.68%
Common Equity												
Balance (\$000's)	31,601	5,120	19.3%	26,481	3,854	17.0%	22,627	28,228	26,645	25,347	22,533	20,025
Proportion (%)	41.00%	0.00%	0.00%	41.00%	0.00%	0.00%	41.00%	41.89%	42.04%	42.64%	40.88%	41.52%
Total Capitalization (\$000's)	77,075	12,487	19.3%	64,588	9,401	17.0%	55,187	67,384	63,383	59,450	55,122	48,231

Source: Tab Schedules, Tab 5, Page 1

In Tab 5 on page 1 of the Amended Application, PNG(NE) shows the following schedule:

Line No.	Description	Test Year 2019	Test Year 2018	Decision 2017	Actual 2017	Actual 2016	Actual 2015	Actual 2014	Actual 2013	Source
1	Short term borrowings	\$4,053	\$3,740	\$3,480	\$1,958	\$6,188	\$3,964	\$2,489	\$3,762	
2	proportion	5.26%	5.26%	5.04%	2.91%	9.76%	6.67%	4.52%	7.80%	
3	rate of return	4.50%	4.81%	4.13%	4.73%	3.53%	3.22%	3.02%	4.06%	Tab 5, page 2, line 12
4	return component	0.24%	0.25%	0.21%	0.14%	0.34%	0.21%	0.14%	0.32%	
5										
6	Long term debt	\$41,421	\$38,226	\$37,233	\$37,199	\$30,550	\$30,139	\$30,100	\$24,444	Tab 5, page 3, line 46
7	proportion	53.74%	53.74%	53.96%	55.20%	48.20%	50.70%	54.61%	50.68%	
8	rate of return	4.25%	4.11%	3.26%	3.32%	3.25%	3.87%	3.86%	4.36%	Tab 5, page 3, line 48
9	return component	2.28%	2.21%	1.76%	1.84%	1.57%	1.96%	2.11%	2.21%	
10										
11	Common equity	\$31,601	\$29,162	\$28,292	\$28,228	\$26,645	\$25,347	\$22,533	\$20,025	
12	proportion	41.00%	41.00%	41.00%	41.89%	42.04%	42.64%	40.88%	41.52%	
13	rate of return	9.25%	9.25%	9.25%	9.01%	8.24%	8.17%	9.47%	8.41%	
14	return component	3.79%	3.79%	3.79%	3.77%	3.47%	3.48%	3.87%	3.49%	
15										
16	Total capitalization	\$77,075	\$71,128	\$69,005	\$67,384	\$63,383	\$59,450	\$55,122	\$48,231	
17										
18	Return on rate base	6.31%	6.25%	5.76%	5.75%	5.38%	5.66%	6.11%	6.02%	
19										
20	Utility rate base	\$77,075	\$71,128	\$69,005	\$67,384	\$63,383	\$59,450	\$55,122	\$48,231	Tab 2, page 1, line 23

51.1 Please reconcile the amounts in Table 33 with the schedule above for Test Year 2018 and Decision 2017.

On page 74 of the Amended Application, PNG(NE) states:

In Test Year 2019, PNG(NE)'s short-term debt expense is almost flat relative to 2018 as the forecast increase of 52 basis points in underlying interest rates in 2019 relative to 2018 is offset by a lower allocation of fees and expenses associated with the operating line shared with PNG.

51.2 Please explain why PNG(NE) will be allocated less fees and expenses associated with the operating line shared with PNG in Test Year 2019.

On page 75 of the Amended Application, PNG(NE) states:

In addition to the interest rate increase, the increase in short term debt expense in 2018 and 2019 also reflects a provision for operating line renewal fees in those years while 2017 did not require a provision for renewal fees.

On page 76 of the Amended Application, PNG(NE) states:

PNG(NE)'s only planned refinancing activity for 2018 and 2019 is the renewal of its operating line in mid-2019.

51.3 How much is the provision for operating line renewal fees forecast for each of Test Years 2018 and 2019?

51.4 Please explain why a provision has been forecast for both 2018 and 2019 when the operating line is planned for refinancing in mid-2019.

L. CAPITAL EXPENDITURE REPORTING

52.0 **Reference: OTHER MATTERS**
Exhibit B-1-1, Section 3.1.1, pp. 83 and 86
Capital expenditures variance analysis

In Tables 36 and 38 on pages 83 and 86 of the Amended Application, PNG (NE) identifies several projects with variances in excess of \$50,000 for Test Years 2018 and 2019, respectively.

52.1 Please explain if there are any overarching reasons why PNG(NE) has several projects in 2016 and 2017 with a capital expenditure variance greater than \$50,000.

52.2 To what extent has PNG(NE) considered the larger capital variances in 2016 and 2017 and applied the necessary adjustment when budgeting for the 2018/2019 capital expenditures?

52.3 Please populate the table below and provide a detailed reason for any variances that exceed \$50,000 between the 2017 actual costs and 2018 budgeted costs.

Major Capital Projects	2017 Approved Expenditure (Excluding Overhead)	2017 Actual Expenditure (Excluding Overhead)	2018 Budgeted Cost (Excluding Overhead)
Planned – Recurring New Services Distribution Mains Distribution Mains Improvement – Mechanical Couplings Distribution Mains – PE2306 Replacement Distribution Mains – Other Meter and Regulator Purchases Mobile/Heavy Equipment New/Replacement Meters Other Minor Projects <\$50,000 Planned – Non-recurring Replace Line Heaters Other Minor Projects <\$50,000			

53.0 **Reference: OTHER MATTERS**
Exhibit B-1-1, Section 3.1.1, pp. 83-88
Capital expenditures variance analysis - 2016

On page 84 of the Amended Application PNG(NE) states that the Distribution Main Improvements – Other category was greater than approved in 2016 by \$723,000 “primarily due to unbudgeted line lowerings in Fort St. John as a result of Ministry of Transportation and Infrastructure construction work on Old Fort Road, as well as continued fusion tee replacements.”

Page 61 of the Amended Application in the 2016-2017 PNG(NE) RRA proceeding states that “Other distribution main improvements include a provision of \$300,000 for the lowering of distribution main in public thoroughfares to meet the needs of changes to the surrounding roadway and to avoid conflict with new civil works and ensure the on-going safety of the pipe.”

- 53.1 Please provide a breakdown of the 2016 budget for other distribution main improvements of \$300,435 between fusion tee replacements, line lowerings and any other cost categories.
- 53.2 Please provide a breakdown of the actual 2016 expenditures for other distribution main improvements of \$1,023,400 between fusion tee replacements, line lowerings and any other cost categories.
- 53.3 Is there are any CIAC associated with the unbudgeted line lowerings? Please discuss why or why not.

On page 84 of the Amended Application PNG(NE) states that Mobile/Heavy Equipment is greater than approved in 2016 by \$189,000 due to the unplanned replacement of a backhoe stolen from the gated compound in Dawson Creek.

- 53.4 Please indicate if any insurance claim funds were received to account for the loss associated with the stolen backhoe. Please discuss why or why not.

54.0 **Reference: OTHER MATTERS**
Exhibit B-1-1, Section 3.1.1, pp. 83-88
Capital expenditures variance analysis - 2017

On page 87 of the Amended Application PNG(NE) states that other distribution main improvements were greater than approved by \$1,137,000 for the following reason:

This variance is primarily due to acceleration of electrofusion tee replacement activity during the year beyond that originally planned (\$1,122,000) due to the reassessment of the work as high risk and necessary to ensure system safety and reliability. PNG(NE) notes that the cost of this initiative were offset in part by a CIAC of \$325,000 from the contractor who undertook the original installation. Also of note is that this expenditure includes \$171,000 incurred in 2017 for finalize repairs on the Pouce River washout which occurred in late 2016.

- 54.1 Please provide a breakdown of the original budgeted cost and the final budgeted cost associated with the electrofusion tee replacement activity during 2017.
 - 54.1.1 Please confirm the year in which the electrofusion tee replacement activity was originally planned and indicate if there is an associated approved amount in PNG(NE)RRA for that year.
- 54.2 Please discuss the assessed risks associated with the electrofusion tee replacement and how they differ from the risks that were originally assessed.
- 54.3 Please elaborate on why a CIAC was associated with this expenditure and how the amount of \$325,000 was determined.

M. IDENTIFIED SERVICE QUALITY METRICS

55.0 **Reference:** **IDENTIFIED SERVICE QUALITY METRICS**
Exhibit B-1-1, Section 3.3, p. 103
Key service quality metrics

On page 103, PNG(NE) provided the following table:

Service Quality Metric	2017	2016	2015	2014	2013
Number of Emergency Calls	331	448	579	403	423
Average Response Time per Call	16 minutes	17 minutes	18 minutes	19 minutes	21 minutes
Number of Calls with a Response Time over 40 Minutes	2	12	15	24	20
Number of Underground Leaks	24	16	11	8	18
Number of Reportable Environmental Incidents	–	–	–	–	–
Lost-time Injury Frequency Rate *	2.07	2.84	1.01	1.19	–
Customer Complaints to the BCUC **	2	–	–	1	1

* Reflects PNG consolidated rate; not tracked by individual service area

** Information reflects Commission's March 31 fiscal year end (i.e. data for 2017 is from April 1, 2016 to March 31, 2017)

55.1 Are there specific benchmarks that PNG(NE) works towards with respect to the key service quality metrics provided in the table above? If not, please explain why not.

55.1.1 If so, please provide these benchmarks and discuss PNG(NE)'s performance relative to these benchmarks.

55.2 Please discuss the reasons why the number of underground leaks have been increasing since 2014 and PNG(NE)'s plans to reduce the number of unground leaks in the future, if applicable.

55.3 Please discuss the reasons why lost-time injury frequency rate has more than doubled since 2015 and PNG(NE)'s plans to reduce the frequency rate, if applicable.

N. OTHER MATTERS TO BE ADDRESSED FROM PRIOR YEAR DECISIONS

56.0 **Reference:** **DEMAND FORECAST, REVENUE AND MARGIN**
Exhibit B-1-1, Section 2.23, pp.29-31; Appendix B; Appendix B, Figure 1 & Figure 3, pp. 4-6
Unaccounted for Gas

On page 29 of the Amended Application, PNG(NE) states:

PNG(NE) reiterates that UAF is a calculated variance resulting from various sources which may include loss of gas due to utility or third party activities and measurement inaccuracies both in the deliveries received and the deliveries to customers.

On page 5 of Appendix B, PNG(NE) states:

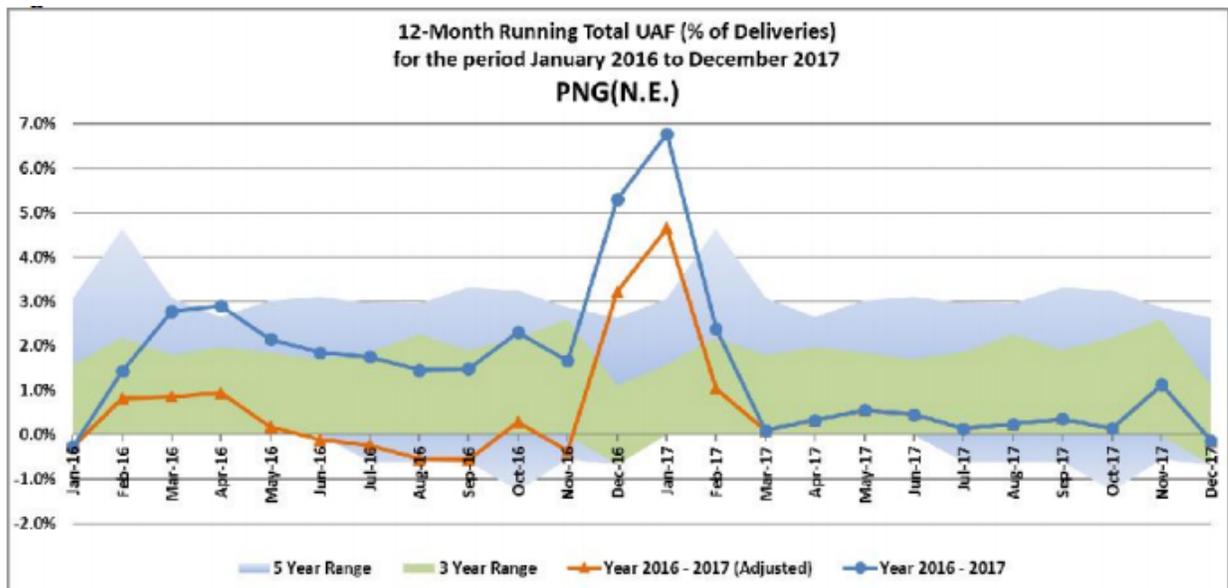
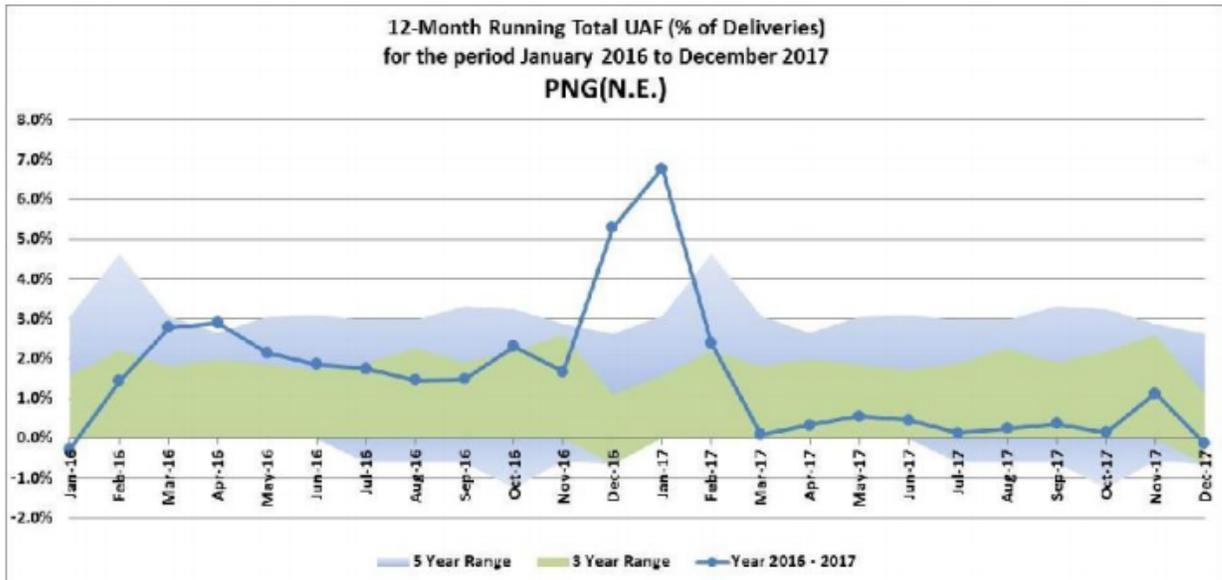
A determination of the monthly UAF volume is dependent upon an unbilled estimate; in other words, an estimate of the volume of natural gas delivered to residential and small commercial customers but not yet billed. This amount is estimated based on the number of unbilled days of

service (DOS) from when a customer was last billed, to the end of the current calendar month. In February 2016, PNG(N.E.) implemented a change in how the unbilled DOS are reported. The change in reporting resulted in a reduction in the estimate of unbilled consumption of residential customers, and a resultant increase in the monthly UAF loss, during the months of February and March 2016.

56.1 Please explain what is meant by utility or third party activities. How do these impact UAF calculations?

56.2 Please explain what is meant by measurement inaccuracies. How does this impact UAF calculations?

On page 4 of Appendix B, referring to Figure 1, PNG(NE) states: “The blue and green shaded areas represent the range of 12-month running total UAF during the periods 2013-2015 and 2011-2015, respectively.”



56.3 Please confirm that the blue shaded area in Figures 1 and 3 represent the 5 year range and green represents the 3 year range.

- 56.4 Please explain how PNG(NE) estimates the volume of natural gas delivered but not yet billed to customers.
- 56.5 Please explain how UAF is correlated to the estimate of the volume of natural gas delivered.
- 56.6 Please confirm, or explain otherwise, that a reduction in the estimate of unbilled consumption results in a decrease in the monthly UAF loss, as shown by the orange line in Figure 3, and not an increase as stated in the above preamble.
- 56.7 What change did PNG(NE) implement in February 2016 in the way unbilled days of service (DOS) were reported?
- 56.7.1 Why did this change result in the reduction in the estimate of unbilled residential customers?
- 56.7.2 Why did this change only impact unbilled residential customers? Were Commercial and Industrial customers UAF volumes affected by this change? Please discuss.
- 56.8 Please provide a graph, showing the estimate of the volume of gas delivered relative to the actual delivered volume by month and customer classification from January 2016 onwards.
- 56.9 Why did the change in unbilled DOS only affect February and March 2016? Please explain.
- 56.9.1 Why was the largest adjustment made to the March 2016 volume, both in absolute terms and relative to the total?

On page 6 of Appendix B, PNG(NE) states

PNG(N.E.) has determined that the most likely cause of the significant UAF volume during December 2016 is a residential and small commercial unbilled estimate that did not correctly reflect the impact of the sudden and significant cold snap that occurred during the middle of December. PNG(N.E.) has not found a probable cause for the high UAF volume recorded in

January 2017 but PNG(N.E.) notes that the January UAF loss was subsequently reversed over the following two months (February and March 2017)

On page 8 of Appendix B, PNG(NE) states

In an effort to improve its unbilled estimate under these circumstances, PNG(N.E.) continues to evaluate the costs and benefits of accessing more accurate customer information, such as may be provided using advanced metering infrastructure (AMI), or through a renewed residential end-use survey (REUS).

- 56.10 How did PNG(NE) determine that a sudden and significant cold snap was the most likely cause of the significant volume in December 2016? Please provide details of this analysis.
- 56.10.1 How can PNG(NE) isolate weather related and non-weather related effects which may jointly result in the significant December 2016 UAF volume?
- 56.10.2 Does PNG(NE) assign probabilities to likely cold weather events, similar to the one observed in December 2016, from occurring again in the future? If so, please provide details. If not, how could this analysis be implemented?
- 56.11 Please explain why UAF volumes peaked in January 2017, when the cold snap occurred in December 2016. What could cause this lagged effect? Please elaborate.
- 56.12 Please confirm, or otherwise explain, that the December 2016 unbilled estimate was included as an adjustment based on actual deliveries and billed on a subsequent billing cycle.
- 56.13 What measures does PNG(NE) have in place to ensure customers are billed accurately?

- 56.14 Has PNG(NE) experienced a significant weather related UAF volume prior to December 2016? If so, please provide a detailed analysis on when this occurred. If not, why was December 2016 the first occurrence?
- 56.15 What measures, if any, are in place to mitigate the effects this isolated event has on UAF volumes?
- 56.16 What are the associated costs and benefits to PNG(NE) of accessing more accurate customer information? Please provide any financial and/or UAF volume analysis PNG(NE) has performed.
- 56.17 Is PNG(NE) likely to implement solutions to access more accurate customer information in the future? If so, how would PNG(NE) achieve this and how would associated costs be recovered?