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BRITISH COLUMBIA UTILITIES COMMISSION

ORDER NUMBER G-140-14

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

and

Pacific Northern Gas Ltd. and Pacific Northern Gas (N.E.) Ltd.
2014 Resource Plan for the PNG-West Pipeline System and
Resubmission of the DSM Portion of the 2012 Resource Plan for PNG (N.E.) Pipeline Systems

BEFORE: R.D. Revel, Panel Chair/Commissioner
C.A. Brown, Commissioner
N.E. MacMurchy, Commissioner

September 16, 2014

O R D E R

WHEREAS:

A. On April 8, 2014, Pacific Northern Gas Ltd. (PNG) filed its Resource Plan for its PNG-West pipeline system (PNG-West 2014 Resource Plan) and the resubmission of the Demand-Side Management (DSM) portion of the 2012 Resource Plan for the Pacific Northern Gas (N.E.) Ltd. Fort St. John, Dawson Creek and Tumbler Ridge distribution pipeline systems (PNG (N.E.) DSM Resubmission) with the British Columbia Utilities Commission (Commission) pursuant to section 44.1 of the *Utilities Commission Act* (UCA) and in accordance with Commission Order G-60-13;

B. PNG provided a copy of the PNG-West 2014 Resource Plan and the PNG (N.E.) DSM Resubmission (collectively, the Applications) to the parties who registered as Interveners in the PNG 2014 Revenue Requirement and 2012 PNG (N.E.) Resource Plan proceedings, respectively;

C. By Order G-61-14 dated May 6, 2014, the Commission established a combined Written Hearing Process and a Regulatory Timetable with two rounds of Information Requests to review the Applications;

D. The British Columbia Old Age Pensioners' Organization *et al.* (BCOAPO) and BC Sustainable Energy Association and the Sierra Club British Columbia (BCSEA-SCBC) registered as Interveners, and Peace River Regional District registered as an Interested Party in this proceeding;

E. During the course of the proceeding, PNG responded to two rounds of information requests;

F. On August 8, 2014, PNG submitted its Final Argument, in which it:

- sought approval in principle and acceptance of the proposed DSM Plan as being in compliance with the resource and conservation planning requirements of section 44.1(8) of the UCA*;*
- sought acceptance of a proposal to file consolidated resource plans on a less frequent basis than has historically been required; and
- submitted that the PNG-West 2014 Resource Plan and the PNG (N.E.) 2012 Resubmission, and their underlying elements meet the requirements of section 44.1 of the UCA*,* and can be accepted by the Commission as filed;

G. Subsequently, BCOAPO and BCSEA-SCBC submitted their Final Arguments;

H. On August 26, 2014, PNG submitted its Reply Argument; and

I. The Commission has reviewed the Applications and the evidence submitted through the review process.

NOW THEREFORE for the reasons set out in the Reasons for Decision attached as Appendix A to this Order:

1. The Commission accepts the Pacific Northern Gas Ltd. (PNG) 2014 Resource Plan for its PNG-West pipeline system to be in the public interest pursuant to subsection 44.1(6) of the *Utilities Commission Act* (UCA), including the Demand-Side Management (DSM) part of the Resource Plan subject to discussions and determinations contained in the Reasons for Decision.

2. The Commission accepts the Resubmission of the DSM part of the 2012 Resource Plan for the Pacific Northern Gas (N.E.) Ltd. (PNG (N.E.)) pipeline systems to be in the public interest pursuant to subsection 44.1(6) of the UCA subject to discussions and determinations contained in the Reasons for Decision.

3. The Commission accepts that PNG and PNG (N.E.) may defer their DSM expenditures and amortize them over a multi-year period; however the Commission defers any determination on the amortization period to the Commission Panel that considers PNG's DSM Application and Expenditure Schedule.

4. The Commission accepts PNG's proposal to submit its future PNG-West and PNG (N.E.) resource plans on a consolidated basis and to reduce the frequency of filing the plans to every five years subject to discussions and determinations contained in the Reasons for Decision.

5. The Commission directs PNG and PNG (N.E.) to file a consolidated DSM Application and Expenditure Schedule with the Commission by no later than June 30, 2015.

6. The Commission directs PNG and PNG (N.E) to include the detailed results of the cost-effectiveness evaluation of the DSM Programs in the DSM Application, demonstrating how the DSM portfolio meets the cost-effectiveness requirements of section 4 of the DSM Regulations.

7. The Commission directs PNG and PNG (N.E.) to comply with all determinations and directives applicable to each utility as set out in the Reasons for Decision accompanying this Order.

DATED at the City of Vancouver, In the Province of British Columbia, this 16th day of September 2014.

BY ORDER

Original signed by:

R.D. Revel
Commissioner

Attachment

IN THE MATTER OF

PACIFIC NORTHERN GAS LTD. 2014 RESOURCE PLAN
FOR THE PNG-WEST PIPELINE SYSTEM
AND
PACIFIC NORTHERN GAS (N.E.) LTD. RESUBMISSION
OF THE DSM PART OF THE 2012 RESOURCE PLAN
FOR THE PNG (N.E.) PIPELINE SYSTEMS

REASONS FOR DECISION

September 16, 2014

BEFORE:

R.D. Revel, Panel Chair/Commissioner
C.A. Brown, Commissioner
N.E. MacMurchy, Commissioner

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1. INTRODUCTION

On April 8, 2014, Pacific Northern Gas Ltd. (PNG) filed its 2014 Resource Plan for its PNG-West pipeline system (PNG-West 2014 Resource Plan), which examines the supply and demand outlook over the next twenty-year period and the supply resources available to PNG to provide service to its customers, in compliance with British Columbia Utilities Commission (Commission) Order G-209-11. As an appendix to the Resource Plan PNG included a consolidated Demand-Side Management (DSM) Plan to provide energy conservation opportunities to low-income customers and educate students on energy conservation in both PNG-West and Pacific Northern Gas (N.E.) Ltd. (PNG (N.E.)) service territories.

Also on April 8, 2014, PNG (N.E.) filed its Resubmission of the DSM portion of its 2012 Resource Plan and Load Forecast Update for the PNG (N.E.) Pipeline Systems (PNG (N.E.) 2012 Resubmission), in compliance with Commission Order G-60-13. In Commission Order G-60-13, the Commission accepted the 2012 Resource Plan for the PNG (N.E.) pipeline systems with the exception of the DSM part of the Resource Plan, and directed PNG (N.E.) to resubmit the DSM part to the Commission at the same time as PNG files its next Resource Plan for the PNG-West Pipeline System.

The PNG (N.E.) 2012 Resubmission includes the same consolidated DSM Plan as included in the PNG-West 2014 Resource Plan.

1.1 Applicant Requests

PNG is seeking the Commission's acceptance of the PNG-West 2014 Resource Plan as being in compliance with section 44.1 of the *Utilities Commission Act* (UCA). PNG is also seeking acceptance of the proposed DSM Plan as being in compliance with the requirements of section 44.1(8)(c) of the UCA. As part of its DSM Plan, PNG seeks the Commission's acceptance of its proposal to defer DSM expenditures and amortize them over a multi-year period.

In addition, PNG asks the Commission for approval to submit future PNG-West and PNG (N.E.) resource plans on a consolidated basis and to reduce the frequency of filing the plans to every five years.

1.2 Regulatory Process

By letter dated May 2, 2014, PNG notified the Commission that for the purposes of facilitating an effective and efficient process, PNG would be amenable to address any DSM related matters for PNG (N.E.) under the PNG-West Resource Plan proceeding, and in effect have only one proceeding.

Given that the DSM Plan filed as Appendix G of the PNG-West 2014 Resource Plan and as Appendix A of the PNG (N.E.) Resubmission are the same consolidated plan, the Commission established a single, combined written hearing process and regulatory timetable for the review of both applications, as requested by the companies.

The review included two rounds of Information Requests (IRs). Two organizations registered as interveners in the proceeding:

- The British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Counsel of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre (BCOAPO et al); and
- The BC Sustainable Energy Association and Sierra Club British Columbia (BCSEA-SCBC).

The Peace River Regional District registered as an interested party.

1.3 Legislative Framework

Section 44.1 "Long-term Resource and Conservation Planning" of the UCA provides the legislative framework for the filing and approval of a public utility's resource plans. Subsection 44.1(2) of the UCA, requires that a utility must file a long-term resource plan with the Commission.

Subsections 44.1(6) and (7) require the Commission to accept or reject the resource plan, or a part thereof. The Commission must accept the plan if it determines that carrying out the plan would be in the public interest.

In deciding whether to accept the plan the Commission is bound by subsection 44.1(8), and must consider:

- the applicability of British Columbia's energy objectives;
- the extent to which the plan is consistent with the applicable requirements under sections 6 and 19 of the *Clean Energy Act* (CEA);
- whether the plan shows that the public utility intends to pursue adequate, cost-effective demand-side measures; and
- the interests of persons in British Columbia who receive or may receive service from the public utility.

The Demand-Side Measures Regulation, BC Reg. 326/2008, (DSM Regulation) defines the adequacy requirements and cost-effectiveness tests to be used by the Commission in evaluating a DSM Application. [1]

As required by the UCA, the Commission must consider the applicability of British Columbia's energy objectives in reviewing resource plans filed by utilities under its jurisdiction. Section 2 of the CEA sets out BC's energy objectives. Those most relevant to this proceeding include:

- to take demand-side measures and to conserve energy;
- to use and foster the development in British Columbia, of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
- to reduce BC greenhouse gas emissions;
- to encourage switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia; and
- to encourage economic development and the creation and retention of jobs.

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[1] The DSM Regulations were modified by Ministerial Order 233 dated June 4, 2014, which amended the Demand-Side Measures Regulation (BC Reg. 326/2008) in a number of areas, including an expanded definition of 'low income household'. PNG submits that the amendments to the DSM Regulations do not impact the proposed DSM Plan, other than to possibly improve the cost effectiveness outcome of the low-income programs PNG has proposed. (Exhibit B-7, BCOAPO 2.8.1)

1.4 Resource Planning Guidelines

The Commission established Resource Planning Guidelines (Guidelines), which outline a process to assist utilities in developing their resource plans. It should be noted that sections of the UCA referred to in the Guidelines have been revised since issuance of the Guidelines in December 2003; however the spiri t and substance of the Guidelines continue to be applicable. In particular, the Commission requires utilities consider all resources for meeting the demand for their utilities product, and must include those that "focus on the conservation of energy and Demand Side Management" (Guidelines, p. 1). Eleven elements of the plan are itemized and include "consideration of government policy" (Guidelines, p. 5).

1.5 Primary Issues

In order to accept the PNG-West 2014 Resource Plan, the Commission must find that it meets the requirements of the UCA and outlined in the Guidelines.

In making this determination, the Commission Panel considered the following key issues:

- The rigour and reasonableness of the annual and peak day demand forecasts and alternate demand scenarios;
- The pipeline looping project that PNG intends to construct, in the event that new small-scale LNG projects are constructed in Kitimat;
- Energy supply purchase and price risks, including LNG supply; and
- The appropriateness and adequacy of the DSM Plan.

The adequacy of the DSM Plan is also the primary issue in the Commission's consideration of the PNG (N.E.) 2012 Resubmission.

2. OVERALL COMMISSION DECISION

In reaching the decision of whether to accept the 2014 PNG-West Resource Plan and the PNG (N.E.) 2012 Resubmission, the Commission Panel must consider whether the Resource Plan and Resubmission complies with the list of requirements under subsection 44.1(2) of the UCA. In addition, the Panel must consider the applicability of BC's energy objectives, demand-side measures and the public interest. Finally, the Panel is guided by the Commission's Resource Planning Guidelines.

The Commission Panel reviewed the 2014 PNG-West Resource Plan and the PNG (N.E.) 2012 Resubmission, the evidentiary record and the arguments of the parties, and makes the following determinations:

1. **The Panel accepts the 2014 Resource Plan for the PNG-West Pipeline System to be in the public interest pursuant to subsection 44.1(6) of the UCA, including the DSM part of the Resource Plan subject to discussions and determinations in the remainder of these Reasons.**
2. **The Panel accepts the Resubmission of the DSM part of the 2012 Resource Plan for the PNG (N.E.) pipeline systems to be in the public interest pursuant to subsection 44.1(6) of the UCA subject to discussions and determinations in the remainder of these Reasons.**
3. **The Panel accepts that PNG and PNG (N.E.) may defer their DSM expenditures and amortize them over a multi-year period; however the Panel defers any determination on the amortization period to the Commission Panel that considers PNG's DSM Application and Expenditure Schedule.**

4. **The Panel accepts PNG's proposal to submit its future PNG-West and PNG (N.E.) resource plans on a consolidated basis and to reduce the frequency of filing the plans to every five years subject to discussions and determinations in the remainder of these Reasons.**

Specific considerations, decisions and directions related to: demand forecast and supply portfolio planning; demand side measures and subsequent resource plan filings are presented in the following sections.

3. DEMAND FORECAST AND SUPPLY PORTFOLIO PLANNING

3.1 Demand Forecast

PNG submits that it has spent considerable effort to refine and improve its forecasting methodology in response to the Commission's direction in Order G-60-13, which accepted the 2012 PNG (N.E.) Resource Plan. Order G-60-13 also directed PNG (N.E.) to provide a more rigorous load forecast in its next Resource Plan and requested stronger rationales and more complete analysis. In particular, PNG undertook a Residential End Use Survey (REUS) to improve the use-per-account forecast. This was PNG's first large-scale outreach effort to residential customers (Exhibit B-1, p. 96). PNG used data from the REUS to carry out Conditional Demand Analysis (CDA) in order to determine the influence of various factors. PNG submits that: "residential use per account [UPA] determined through the performance of a Conditional Demand Analysis ("CDA") on base data acquired through a Residential End Use Survey ("REUS") undertaken better inform[s] PNG's resource planning activities" (PNG Final Argument, p. 4). PNG has also revised the small commercial UPA forecast methodology to be based on the long term historical trend rather than an extension of historical UPA decline rate.

BCOAPO submits that overall it is: "satisfied with PNG's demand forecast, and appreciates that PNG has revised its demand forecast methodology to allow for a more rigorous analysis of the demand in its service territories" (BCOAPO Final Argument, p. 3). BCSEA-SCBC made no submission on this issue.

The refined residential demand forecast methodology is comprehensive and generally includes all crucial inputs. The modification of demand forecast methodology for small commercial customers is more transparent than the one previously used and produces a reasonable forecast. The Commission Panel acknowledges the improvements PNG has made to its forecasting methodology and appreciates that PNG clearly identified the assumptions and inputs that went into its forecast. Further, the Panel also notes that the methodology was practical, frugal in its implementation and not overly elaborate. The Panel commends PNG for this approach. Further, the Panel considers the REUS was a worthwhile endeavour that contributed to a more rigorous forecast of the residential UPA.

The Commission Panel accepts PNG's demand forecast; however the Panel makes the following observations and identifies some instances where PNG could further improve and refine its forecast methodology to be even more useful for resource planning purposes.

- Large Commercial Annual Demand

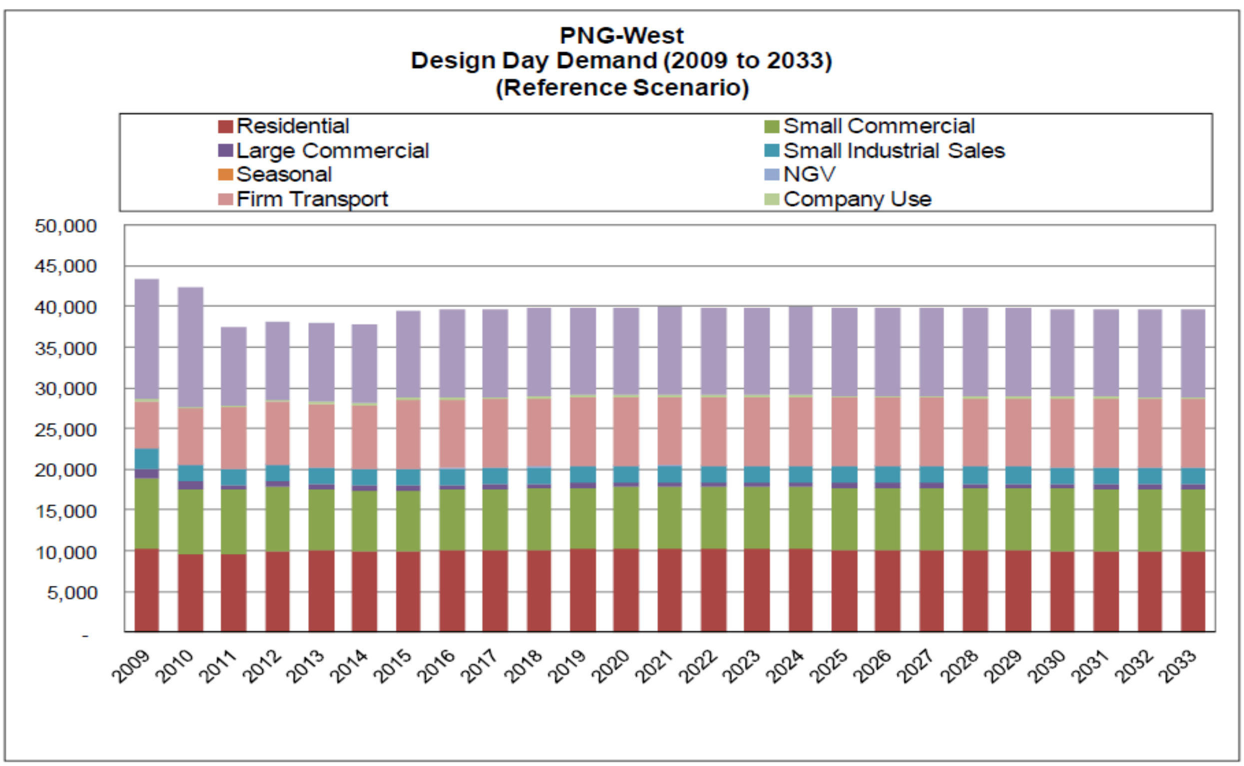
To forecast the annual demand of its large commercial customers over the planning period, PNG used the customers' forecast of their 2014 consumption, which customers provided PNG in summer 2013. PNG made some adjustments to these forecasts in instances where the customer's forecast did not align with historical operations. PNG submits that because it has no information to the contrary, it has maintained the existing number and type of large customers over the planning period, and for all large commercial customers except Rio Tinto Alcan, PNG held each individual customer's forecast constant over the planning period. (Exhibit B-1, p. 72)

The Commission Panel observes that the forecast methodology for large commercial customers lacks detail and rigor. The Panel appreciates it is difficult to refine the methodology for forecasting large commercial demand in a meaningful way, given the lumpy nature of industrial use. However, given the sensitivity of PNG-West's operation to the loss of large commercial customers, **the Commission requests that in future forecasts of commercial demand PNG provide a load forecast that includes an assessment of the impact to PNG of losing or gaining a large commercial customer on its PNG-West pipeline system.**

- Peak Demand Forecast

Using the historical temperature data, PNG applied an extreme value analysis methodology to determine the lowest temperatures expected over a 50 year period. PNG calculated the peak day demand for all customers based on regression of historical consumption and temperature data, rather than on estimated load factors (Exhibit B-5, BCOAPO 1.4.1).

In response to the Commission's information request, PNG provided a graph of peak day demand, which shows historical peak day demand for 2009 and 2010, and forecast peak demand for 2014 through to 2033.



Note: data for years 2009-2013 are historical data; data from 2014 onwards are forecasted

(Exhibit B-4, BCUC 1.11.1)

As shown in the graph, the historical peak day demand in years 2009 and 2010 exceed the forecasted peak day demand in any year between 2014 and 2033. The forecasted peak day demand increases from years 2014-2021, and decreases from years 2024 to 2033. (Exhibit B-4, BCUC 1.11.1) This overall trend is primarily driven by residential peak day demand, which increases from 2015 to 2021 and decreases from 2022 to 2033. PNG submits that the peak day demand decreases for residential customers over the latter half of the planning period because the rate of furnace replacements is expected to accelerate (Exhibit B-1, p. 76). The overall trend is also in part driven by small commercial peak day demand, which increases across the forecast period. PNG submits that the peak day demand per customer of small commercial customers decreases in a manner consistent with the decrease in UPA forecast for annual demand (discussed above) (Exhibit B-1, p. 76). The peak day demand for other customer classes is forecast to remain constant from 2015 onwards (Exhibit B-4, BCUC 1.11.1).

The Commission Panel observes that the peak day demand reached recently in years 2009 and 2010 is evidently higher than the forecasted design day demand in any year, which raises a concern of whether the forecasted design day demand adequately anticipates the maximum demand the system is expected to serve. The trend of the forecast is also not consistent throughout the forecasting period. Given the surplus capacity on the PNG-West pipeline system, a precise peak demand forecast is not crucial from a capacity supply perspective. However, from a gas contracting perspective, an accurate peak demand forecast is necessary. The design day forecast and forecasting methodology used by PNG should be consistent across all of its filings. Therefore, the Commission Panel encourages PNG to refine the forecast methodology to better reflect the maximum demand that the system is expected to serve in time for its next Annual Gas Contracting Plan, as well as for use in its next Resource Plan filing.

- <u>Sensitivity Analysis</u>

PNG developed a "Reference Scenario" as well as two alternative demand scenarios – a "Competitive Gas" scenario and a "Competitive Electric" scenario – in order to provide a range of demands that could be reasonably expected and also provide some indication of the sensitivity of the demand forecasts to changes in economic or climatic conditions (Exhibit B-1, pp. 77-78).

Under the "Competitive Gas" scenario the cost of natural gas is competitive compared to electricity and the cost competitive benefit of natural gas is understood by existing and new customers, as well as developers. By contrast, under the "Competitive Electric" scenario natural gas loses market share to electricity. (Exhibit B-1, pp. 78-79)

The two alternative scenarios are based on changes to the residential and small commercial demand resulting from changes in the penetration of natural gas versus electricity.

PNG submits it did not adjust the forecast for its large commercial customers in either of the alternative demand scenarios (Exhibit B-1, p. 78). However, it later goes on to state that in the Competitive Gas scenario it did include a sensitivity that includes the addition of a large commercial/industrial customer (a wood pellet plant) (Exhibit B-1, p. 79). While the Commission Panel appreciates the difficulty of forecasting demand of large commercial customers, the Panel anticipates that the gain or loss of a major industrial customer would have a significant impact on PNG. The Panel finds that the inclusion in the sensitivity analyses of scenarios incorporating the gain or loss of a large commercial/industrial customer to be useful in assessing the future demands on the PNG system. **The Panel directs PNG to include such analyses in its next Resource Plan.**

PNG also did not include demand resulting from any regional Liquefied Natural Gas (LNG) strategy in its scenario analysis. PNG submits that no specific projects have been identified as proposals for LNG supply to potential LNG projects are only preliminary in nature (Exhibit B-1, p. 78; PNG Final Argument, p. 5). However, PNG did discuss its strategy in the event that any of the proposed LNG projects come to fruition. The Commission Panel appreciates that PNG included this discussion, and agrees there is too much uncertainty to include the LNG projects in its sensitivity analysis at this time.

The Commission Panel also acknowledges that PNG included a carbon tax in its demand forecast. In developing the demand forecast for the "Reference Scenario", PNG holds the carbon tax constant at $1.49/GJ ($30 per ton) until 2017, and then moderately increases it until it doubles to $2.98/GJ ($60 per ton) in 2024 (Exhibit B-1, p. 39). However, the Panel observes that PNG did not appear to alter the carbon tax between the reference case and the competitive electric scenario (Exhibit B-6, BCUC 2.6.2).

The Panel accepts the sensitivity analysis as presented, however it encourages PNG to refine its demand forecast sensitivity analysis in its next Resource Plan to include the following scenarios:

- **a. A scenario where electricity prices continue to increase more aggressively than as set out in this application over the entirety of the planning period;**
- **b. A competitive electric scenario in which the carbon tax is increased significantly; and**
- **c. A scenario including demand from LNG projects if their likelihood of implementation increases.**

3.2 Supply Side Resources

The Resource Planning Guidelines require that the utility identifies all feasible supply resources or actions, both committed and potential, that the utility will use to modify energy and/or capacity supply to meet the forecast demand of its customers (Guidelines, p. 4).

The Commission Panel finds that PNG provided sufficient evidence to demonstrate it does not need to modify its capacity or adjust its energy supply resources to meet demand on the PNG-West pipeline system at this time. However, several questions regarding capacity and energy supply did arise throughout the proceeding, which the Commission Panel will address in the following sections.

- Capacity

With respect to capacity, PNG submits:

> "Through its analysis of the current and forecast design day demand, PNG has demonstrated that the capacity of the pipeline is sufficient to meet the design day firm and interruptible demand of its customers over the entire planning period. No capital expenditures for providing additional pipeline capacity to serve the firm demand are therefore anticipated."
> (Exhibit B-1, p. 91)

Although PNG considers it premature to include the demand from potential LNG facilities in its forecast scenarios, PNG does submit that it is exploring the possibility of a Pipeline Looping Project (PLP) to expand the capacity of its gas transmission pipeline between Summit Lake and Kitimat in order to meet the requirements of two new small-scale liquefied natural gas projects in Kitimat: (i) AltaGas Idemitsu Joint Venture Limited Partnership (AIJVLP) and (ii) Douglas Channel Gas Services Ltd. (DCGS) (Exhibit B-1, pp. 30-32, 91; Exhibit B-4, BCUC 1.5.6, BCUC 1.12.1-12.1.1).

PNG observes that there remains considerable uncertainty on the advancement of the AIJVLP and DCGS projects and, therefore, the PLP remains in its early stages. However, PNG submits that should the project continue to advance and a Certificate of Public Convenience and Necessity (CPCN) application is filed with the Commission, PNG would expect that at that time all project risks would be fully identified, reviewed and evaluated through the application review process. (Exhibit B-4, BCUC 1.16.1; Exhibit B-8, BCSEA 2.17.1)

The Commission Panel considers it appropriate that PNG included a description of the Pipeline Looping Project and the potential of an eventual CPCN even though there is still much uncertainty at this time. **If and when PNG files a CPCN application for the PLP, the Panel directs that PNG inform BCOAPO and BCSEA-SCBC of the filing.**

- <u>Energy Supply</u>

With respect to energy supply, PNG submits:

> "PNG has engaged a third-party to provide energy management services (EMS) in order to facilitate natural gas supply and transportation contracts necessary to meet the supply requirements for its geographically dispersed customer base. Acting on behalf of PNG, the EMS provider is responsible for: gas supply planning and resource selection analysis; gas supply contract negotiation and administration; daily energy management services; and monitoring and reporting on credit, hedging positions and gas prices." (Exhibit B-1, p. 92)

The proceeding raised concerns for several potential energy supply risks, namely price risks and liquidity at Station 2.

1.1.1.1 Price Risk Management

Prior to 2011, PNG had a Price Risk Management Plan (PRMP) to help manage and reduce short-term gas price volatility by making use of various hedging instruments. The objective was to levelize gas prices and minimize gas price variance risk. PNG withdrew its proposed 2011 PRMP in consideration of Commission Order G-120-11, denying the FortisBC Energy Inc. (FEI) 2011-2014 PRMP. (Exhibit B-1, p. 93)

While PNG currently has no PRMP in place, it presently makes use of gas storage in its gas supply portfolio to provide a physical hedge by allowing winter gas to be secured at a summer price. Storage also minimizes PNG's exposure to the winter spot market by minimizing the resale of supply that PNG would normally be forced to sell with a firm supply contract. (Exhibit B-4, BCUC 1.18.1)

PNG submits that it is difficult, if not impossible to quantify the factors that would warrant a PRMP. All customers on the PNG system will have a different tolerance for volatility in their gas bill and therefore, some would pay more and some would pay less for insurance in the form of a PRMP. However, PNG has not considered conducting a customer survey to better understand customers' tolerance for volatility and their desire to mitigate rate volatility. PNG submits that it does not have the resources at this time to undertake what it believes to be a time consuming and costly undertaking. (Exhibit B-4, BCUC 1.18.2; Exhibit B-6, BCUC 2.12.1)

In terms of costs, PNG's price risk management contracts had a consolidated net cost of $6.178 million in 2009 and $7.454 million in 2010. These contract payments were equivalent to $0.94/GJ and $1.35/GJ for PNG's consolidated natural gas sales in each of those years, respectively. PNG's then energy services manager, FortisBC, administered the PRMP as part of the energy management services contract. (Exhibit B-5, BCOAPO 1.5.1) PNG also notes that a hedging program will almost always cost more than the spot market (Exhibit B-4, BCUC 1.18.2.1).

BCOAPO supports PNG's decision at this time not to enter into a price risk management plan as part of its portfolio planning and BCSEA-SCBC make no submissions on the matter.

The Commission Panel agrees with PNG and BCOAPO that a PRMP is not necessary at this time. Should circumstances change such that PNG considers a PRMP is warranted, the Panel invites PNG to bring it forward to the Commission at that time.

1.1.1.2 Gas Supply Alternatives and Liquidity at Station 2

PNG has developed a supply resource portfolio of gas commodity, storage and pipeline contracts in order to satisfy its gas contracting objectives through its annual Gas Contracting Plan process. PNG ensures secure reliable supply by entering into a diversified gas supply portfolio to minimize the risk associated with any one particular supply option. (Exhibit B-1, p. 92)

PNG submits that the natural gas market at Station 2 has become increasingly isolated and has begun to lose some liquidity as producers have greater access to the Alberta market and producers view Station 2 as a seasonal market (Exhibit B-1, p. 38).

Further, PNG submits that if the Pacific Trail Pipeline from Summit Lake to Kitimat comes to fruition there is a possibility that additional infrastructure will be built to bring gas from Alberta to the pipeline, which would create an alternative supply option for PNG rate payers. PNG also submits that if Spectra increases capacity on T-south from Station 2 to serve the new pipeline, liquidity at Station 2 could improve. (Exhibit B-6, BCUC 2.8.1)

PNG submits that the Merrick Mainline Pipeline proposed by TransCanada, which would extend from Groundbirch to Summit Lake, could potentially give PNG additional access to the Alberta [AECO] market. PNG already has the ability to contract for physical AECO supply through the Gordondale interconnection on Spectra's T-North system. In the past, the added cost of the NOVA Gas Transmission Ltd. transportation has not justified the addition of AECO gas into the PNG supply portfolio. PNG already has an AECO exposure through its Monthly Index priced supply as it is based off of an AECO price. The company may adjust its resource plan in the future if the Merrick Mainline is built, capacity on it is available, and the tolls and AECO pricing are favorable relative to the alternatives at that time. (Exhibit B-6, BCUC 2.8.2)

The Commission Panel notes that in addition to the gas supply available at Station 2, there appear to be a number of additional gas supply options on the horizon which may be beneficial to customers. **PNG is directed to include an update on all gas supply options and to examine the merits of these options in its next Resource Plan.**

4. DEMAND-SIDE MEASURES

PNG seeks acceptance of the proposed consolidated DSM Plan for PNG-West and PNG (N.E.), and submits that, if accepted, it will submit a DSM Application, including the DSM expenditure request, to the Commission. The proposed DSM plan is PNG's first foray into offering of DSM programs to its ratepayers.

The DSM Plan was developed with the primary objective of meeting the adequacy requirements of section 44.1(8)(c) of the *Utilities Commission Act.* (Exhibit B-4, BCUC 1.20.1) PNG submits that: "PNG has limited experience with developing and delivering DSM programs. It therefore, believes that limiting the planned DSM programs to the sectors identified in section 3 of the DSM Regulation at this time allows it to develop its expertise and comply with the Regulation…" (Exhibit B-5, BCSEA-SCBC 1.5.1). PNG has proposed a limited initial portfolio, with programs focused on the sectors identified in section 3 of the DSM Regulations, as follows:

- Energy Savings Kits (ESK);
- Energy Conservation Assistance Program (ECAP);
- General Conservation Education and Outreach;
- K-12 Conservation Education and Outreach;
- Post-Secondary Conservation Education and Outreach.

PNG submits this is a good starting point in that the company can comply with the regulations and assess market acceptance of these programs before expanding its DSM portfolio beyond section 3 requirements (Exhibit B-5, BCSEA-SCBC 1.5.7). PNG submits it: "expects its DSM portfolio to evolve based on changes in market conditions, customer responses to programs, input from potential program partners, input from other stakeholders, changes in the political environment PNG operates in, the results of detailed program design, and approval of the funding application" (Exhibit B-6, BCUC 2.15.1.1).

BCSEA-SCBC requests the Commission reject PNG's proposed DSM Plan and direct PNG to implement a "full-scale" DSM portfolio (BCSEA-SCBC Final Argument). PNG, on the other hand, maintains: "that a "full-scale" DSM program, as recommended by the BCSEA-SCBC, will further increase delivery rates for ratepayers due to additional costs and the allocation of these costs over, potentially, modestly lower throughput volumes" (PNG Reply Argument, p. 5). PNG does not believe increasing costs to ratepayers is a desired outcome of the requirements of section 44.1(2)(b) of the UCA, and that therefore BCSEA-SCBC's request for a "full-scale" DSM program is inappropriate and clearly not in PNG's ratepayers' best interest at this time (PNG Reply Argument, p. 5).

BCOAPO supports the initial scope of DSM offerings, submitting: "The modest start may be justified given the excess capacity for PNG West and the limited number of customers in the service territory. With surplus capacity, an aggressive DSM program would increase delivery rates for ratepayers since these fixed costs would be spread out over lower throughput volumes" (BCOAPO Final Argument, p. 6).

In its Reply Argument, PNG further notes that although BCSEA-SCBC does not support the limited scope of offerings in PNG's DSM Plan, it does support the concept of submitting a single, consolidated DSM Plan for both PNG-West and PNG (N.E.) (PNG Reply Argument, pp. 3-4).

The Commission Panel agrees with all parties that when a DSM plan is submitted in the future, it is in the public interest and the interests of all ratepayers for PNG to submit it as a consolidated plan representing the DSM proposals of both companies. The Panel is of the view that this approach will afford possible economies of scale and also provide equal opportunity for all customers to participate across the service territories of both related companies.

With regard to the DSM plan as presented, the Panel notes that PNG has proposed a DSM plan for PNG-West that exceeds the requirement stipulated in Order G-209-11 Reasons, page 2, for PNG-West to simply consider DSM plans and further has proposed a limited initial DSM plan for PNG (N.E.). The Panel finds itself in agreement with the BCOAPO and PNG that, as proposed, the DSM plan is an appropriate first step and will afford PNG the opportunity to gain experience with DSM programs and ramp up those programs based on experience and changing conditions. The Commission Panel also notes the concern that the PNG-West pipeline system has significant excess capacity with a limited number of customers in the service territory, and this could have negative rate implications for its customers. The Panel does not consider that an aggressive DSM Plan for the PNG-West pipeline system would serve the interests of the ratepayers and utility given the excess capacity.

The Commission Panel therefore accepts the DSM Plan as an initial first step in conservation programs for PNG-West and PNG (N.E). PNG is encouraged to pursue partnerships with BC Hydro and FEI to design and deliver programs and reduce costs.

While the Commission Panel accepts the DSM plan as presented, it has concerns related to the DSM proposal and is also cognisant of the concerns raised by the BCSEA-SCBC. These matters will be in more detail in the following sections.

4.1 Conservation Potential Review

BCSEA-SCBC submits that PNG's 2014 DSM Plan intentionally excludes any cost-effective DSM measures other than "adequacy" measures (BCSEA-SCBC Final Argument, p. 6). In response, PNG submits that BCSEA-SCBC's view "…is predicated on BCSEA-SCBC's assumption that there are cost-effective DSM measures that PNG is deliberately excluding from its scope of its proposed offering. This is incorrect" (PNG Reply Argument, pp. 4-5).

However, PNG also submits that it has not conducted a Conservation Potential Review (CPR) to determine the conservation potential DSM programs for each service area (Exhibit B-6, BCUC 2.13.3). PNG submits that the cost of a standalone CPR could be cost prohibitive for the company; however PNG notes it may be able to participate in a joint CPR with BC Hydro and FEI for a fraction of the total cost. BC Hydro and FEI are planning to conduct their next joint CPR in 2014. Any costs for PNG to participate in a CPR, standalone or otherwise, would be in addition to the proposed DSM budget (Exhibit B-6, BCUC 2.13.3).

The Commission Panel considers that a CPR is useful in determining the conservation potential and opportunities for energy savings in a service area. A CPR may also provide PNG with insight into any differences in conservation potential that may exist between the West and N.E. pipeline systems. This may help PNG determine how to allocate the DSM budget between the service territories. At the same time, the Panel recognizes it would be very expensive for PNG to do a CPR on its own. **Therefore, the Panel encourages PNG to participate in BC Hydro and FEI's upcoming joint CPR, in order to identify conservation potential in PNG and PNG (N.E.)'s service territories. As part of its evaluation process the Panel urges PNG to consider all potential economic alternatives, including outsourcing, for DSM implementation.**

4.2 DSM Application

Subsequent to the Commission's approval of the DSM Plan, PNG will submit a DSM Application, in which PNG will evaluate its proposed DSM programs against its own Resource Planning Objectives and the DSM Regulations' cost-effectiveness tests. The DSM Application will also include the expenditure schedule with a more detailed budget, more precise estimates of energy savings, and a request for the rate-base deferral account.

PNG states: "Given the timing of the proceeding presently underway, a DSM Application might be expected to be filed in late-2014 or early-2015, either as part of PNG's revenue requirements application or as a stand-alone application" (PNG Final Argument, pp. 16-17).

The Panel directs PNG and PNG (N.E.) to file a consolidated DSM Application and Expenditure Schedule with the Commission by no later than June 30, 2015. The following section describes several recommendations and directives with respect to what PNG should include in the DSM Application.

- <u>Compliance with DSM Regulations</u>

1.1.1.3 Rental Programs

The DSM Regulations specifically require that, for a portfolio to be adequate, it must include measures intended specifically to assist residents of low-income households and rental accommodation, and include educational programs for students. However, PNG is not proposing any programs targeted exclusively at improving energy efficiency of rental accommodations at this time.

According to PNG, most other utilities, including other utilities in BC, do not offer specific programs targeted at the rental market only. Rather, eligible renters can participate in other DSM programs (Exhibit B-2, Appendix A, p. 2). PNG estimates that 6.5 percent of its residential customers live in rentals, while 28.2 percent of these renters will qualify as low-income and can therefore participate in PNG's low-income DSM programs. PNG considers that, based on this proportion, it will reach an appropriate percentage of renters with this first offering of DSM. (Exhibit B-2, Appendix A, p. 15) PNG submits that it will potentially expand its offerings to more renters in the future. Specifically, PNG will look into the applicability of an efficient boiler program for multi-unit residential buildings (MURBs) before it files its Expenditure Schedule. (Exhibit B-4, BCUC 1.23.2)

The Commission Panel finds that without a specific Expenditure Schedule and associated evidence on the DSM programs flowing from the Schedule, it is unable to make a determination with respect to whether the DSM program will meet the adequacy requirements of the DSM regulations. To assist the Commission in making such an assessment when the DSM Expenditure Schedule is filed, the Panel directs PNG to include the results of its research and analysis of the applicability of an efficient boiler program for multi-unit residential buildings in the PNG-West and PNG (N.E.) service territories in the DSM Application.

1.1.1.4 Cost Effectiveness

In addition, the DSM Regulations generally require that DSM programs, or the portfolio as a whole, are cost effective and sets out specific criteria for evaluating cost-effectiveness.

PNG has not yet calculated the cost-effectiveness scores of the individual programs or portfolio as a whole, but has selected programs it expects to be cost effective based on FEI's cost-effectiveness Total Resource Cost/Benefit (TRC) scores of the same programs. PNG submits that it will calculate the cost-effectiveness scores once it develops its own model for this purpose. For now PNG has used the cost-effectiveness results of FEI's DSM programs as a proxy to gauge how cost-effective PNG's DSM portfolio will be. (Exhibit B-5, BCOAPO 1.6.1; PNG Final Argument, p. 12)

PNG states: "Further, PNG submits that it has selected programs that are expected to be cost effective, despite the limited market size of PNG service areas, and that the DSM Plan is compliant with the requirements of the DSM Regulation" (PNG Argument, p. 9).

PNG submits:

> "PNG intends to develop a more detailed program plan, including a fulsome budget and cost-benefit analysis based on PNG's review of its own costs to implement these programs and on its own expected energy savings. PNG submits that the proxy approach it has used up to now in evaluating DSM programs is entirely appropriate for this screening level review" (PNG Reply Argument, p. 7).

PNG proposed two low-income programs based on FEI's cost effectiveness scores: (i) Energy Conservation Assistance Program (ECAP), and (ii) Energy Savings Kits. FEI's ECAP has a low TRC score, but the Energy Savings Kit has a high TRC score. PNG estimates that, taken together, the low income program as a whole will have a TRC greater than one (Exhibit B-5, BCSEA-SCBC 1.5.5). PNG estimates that the low income programs make up 27 percent of the total DSM expenditure, while conservation education and outreach is 33 percent, and enabling activities make up the rest at 40 percent (Exhibit B-4, BCUC 1.27.2.3).

In its Final Argument, BCSEA-SCBC submits: "the cost-effectiveness of even this limited selection of programs is the subject of considerable uncertainty" and "excluding cost-effective DSM measures from the portfolio is counter-productive because it reduces the overall cost-effectiveness of the portfolio" (BCSEA-SCBC Final Argument, pp. 6, 8). BCSEA-SCBC expresses they: "are very concerned that even though the DSM Plan nominally includes low-income, educational and possibly rental programs PNG's overly narrow portfolio design will squeeze out any cost-effective programs at all" (BCSEA-SCBC Final Argument, p. 6). In response, PNG further notes that DSM programs and portfolios will also be assessed for cost-effectiveness as prescribed by section 4 of the DSM Regulation (PNG Reply Argument, p. 2).

While the Panel finds it reasonable for PNG to start with DSM focused on the section 3 adequacy requirements, the Panel agrees with BCSEA-SCBC's point, that excluding other cost-effective DSM measures will reduce the overall cost-effectiveness of the portfolio (BCSEA-SCBC Final Argument, p. 8). Based on the evidence before the Panel, there is uncertainty that the DSM Plan meets the section 4 cost effectiveness requirements of the DSM Regulations; there is no evidence before the Panel that the DSM Plan will not meet the cost effectiveness tests. PNG argues that when it brings forward the detailed program expenditure plan the company will demonstrate compliance with the cost effectiveness requirements of the DSM Regulation. At this point in time, the Panel considers it premature to assess the cost effectiveness of the DSM Plan without the detailed calculations. In the above section, the Commission Panel has directed PNG to file its DSM Application by June 30, 2015. The filing of the DSM Application by PNG will be the appropriate time to review the cost effectiveness of the DSM portfolio. **In accordance with filing requirements, the Panel directs PNG and PNG (N.E.) to include the detailed results of the cost-effectiveness evaluation of the DSM Programs in the DSM Application, demonstrating how the DSM portfolio meets the cost-effectiveness requirements of section 4 of the DSM Regulations.**

- Expenditure Schedule and Budget Allocation Methodology

PNG's DSM Plan includes a proposed budget of $451,000 on a consolidated basis. The proposed budgets included in the DSM Plan were developed based on FEI's program budgets. Specifically, "[p]reliminary program costs were developed by determining FEI's program costs as a percentage of FEI's applicable delivery margin and applying the same percentage to PNG's applicable delivery margin" (Exhibit B-4, BCUC 1.21.1).

In response to IRs on how the consolidated budget will be allocated between the PNG-West and PNG (N.E.) pipeline systems PNG submits:

> "The total budget allocated to each pipeline system is based on the margin contribution of each pipeline system to PNG's consolidated margin. PNG-West represents approximately 70 percent of PNG's total margin, therefore the budget allocated to PNG-West is $316,000. PNG(N.E) represents approximately 30 percent of PNG's total margin, therefore the budget allocated to PNG(N.E.) is $135,000." (Exhibit B-4, BCUC 1.26.2)

However, PNG also states that: "Upon approval of the DSM Plan by the Commission, PNG submits that it will refine its program budget based on PNG's review of its own costs to implement these programs for each service area and will also consider whether there may be a more appropriate basis on which to allocate program costs to each service area" (PNG Final Argument, p. 16).

The Commission Panel directs PNG to include in its DSM Application a description and justification of the cost allocation methodology by which to divide program budgets to each service area. The Panel recommends that PNG in its DSM Application include the various allocation options and its proposed allocation option.

- Request for Deferral Account

PNG seeks acceptance of its proposal to defer DSM expenditures and amortize them over a multi-year period. PNG will apply for the rate base deferral account, and a ten year amortization period when it submits its DSM application and expenditure schedule.

PNG submits that because the benefits of DSM are realized over a number of years, while the expenditures are made up front, a multi-year amortization period is appropriate. PNG also submits that a longer amortization period results in steady, manageable rate increases, which is important given the high rates PNG customers already face. However, PNG further submits that the life expectancy of the energy savings of its DSM programs is less than 10 years.

PNG notes that section 60(1) of the UCA provides a fair and reasonable return to public utilities on any expenditure made to reduce energy demands. PNG further submits that a ten year amortization period is consistent with the treatment accorded to FEI for its DSM costs. (Exhibit B-2, p. 7)

BCOAPO submits that when PNG makes its application for the deferral account, BCOAPO may ask the Commission to require that costs are expensed in the current period, as opposed to being amortized over such a long time frame (BCOAPO Final Argument, p. 6).

Order G-55-95 contemplates allowing DSM expenditures to be included in rate base and earning a return with appropriate amortization rates. The Panel notes that the Commission has generally allowed DSM expenditures from other utilities to be deferred.

The Panel acknowledges PNG's proposal to defer DSM expenditures and amortize them over a multi-year period; however the Panel defers any determination on the amortization period to the Commission Panel that considers PNG's DSM Application and Expenditure Schedule. The Panel advises PNG, at minimum, to include the rate impacts of a five, eight and ten year amortization period in its application.

5. SUBSEQUENT RESOURCE PLAN FILINGS

PNG proposes to file a single resource plan for both the western system (PNG-West) and the three delivery areas of PNG (N.E.) (Fort St. John, Dawson Creek, and Tumbler Ridge), five years after receiving Commission approval of the 2014 Resource Plan for the PNG-West Pipeline system. PNG proposes to file a single resource plan pertaining to all systems every five years thereafter, unless there are significant changes in circumstances which prompt an earlier filing. (Exhibit B-1 Cover Letter; Exhibit B-4, BCUC 1.1.1)

BCOAPO supports PNG's proposal to file a consolidated long-term resource plan every 5 years with the proviso that there is a periodic, high-level reporting of any material changes to supply and demand pressures on PNG's pipeline systems. BCOAPO suggests, and PNG concurs, that the revenue requirement applications would be an appropriate opportunity for PNG to provide such updates (BCOAPO Final Argument, p. 6; PNG Reply Argument, p. 2).

BCSEA-SCBC, on the other hand, is concerned about the frequency of review of the DSM part of the resource plan. BCSEA-SCBC suggests the Commission establish a two-year resubmission and review cycle for future DSM Plans, rather than every five years (BCSEA-SCBC Final Argument, p. 1).

In response to BCSEA-SCBC's suggestion PNG submits:

> "While resource plans would include PNG's strategic direction with regard to DSM, PNG has proposed a DSM Application process to provide approval for specific DSM programs and program expenditures and submits that this may be effectively and efficiently addressed as an element of the more-frequent revenue requirements application process when required by either the Commission or PNG." (PNG Reply Argument, p. 7)

The Panel acknowledges the concerns of BCSEA-SCBC regarding the frequency of the review of the DSM part of the resource plan, but is satisfied that these concerns will be adequately addressed in the DSM Application.

PNG is indifferent as to the reference date from which the five year increments would be determined (Exhibit B-4, BCUC 1.1.1.1). PNG submits that it still intends to file the 2015 Resource Plan for PNG (N.E.) by April 18, 2015 (as directed by Order G-60-13), unless provided a variance from Commission Order G-60-13 (Exhibit B-4, BCUC 1.1.1.2).

The Panel does not consider a variance from Order G-60-13 is warranted for PNG (N.E.). The Panel declines to vary the 2015 filing date for PNG (N.E.)'s next Resource Plan.

However, the Panel finds that subsequent to this cycle of separate Resource Plans for PNG-West and PNG (N.E) there is merit to the filing of a consolidated resource plan every five years. The Panel directs PNG to file its Consolidated Resource Plan for PNG-West and PNG (N.E.) no later than April 8, 2019, unless there is a significant or material change in its circumstances which would prompt an earlier filing. If there is such a change, the Panel directs PNG to inform the Commission promptly and provide a timeline for submission of the Resource Plan.

Circumstances that would trigger an earlier filing include but are not limited to:

- PNG's CNG/LNG strategy is triggered in any way (i.e. any of the large or small-scale LNG/CNG projects that impact the PNG system come to fruition);
- Changes to liquidity at Station 2;
- Any other change in circumstances either for PNG or PNG (N.E.), such that the nature, management or organization of PNG's business changes to the extent that it materially affects the company's economic circumstances or would significantly impact the rates of either utility's customers.

5.1 Filing of the DSM Expenditures Application

PNG submits that: "…on a go-forward basis, the application and approval of DSM program expenditures might be most effectively and efficiently addressed as part of PNG's revenue requirements application process" (PNG Final Argument, p. 17).

BCOAPO would like to see updates in the DSM Application on the progress of development of partnerships with FEI and/or BC Hydro to maximize programs for the lowest cost to PNG ratepayers.

The Commission Panel notes that it will be PNG's first DSM Application, and DSM expenditure issues are for the most part separate from revenue requirement issues. **The Panel directs that PNG submit its DSM Application on a stand-alone basis so that it can be reviewed on its own merits.**

DATED at the City of Vancouver, in the Province of British Columbia, this 16th day of September 2014.

Original signed by:

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R.D. REVEL
PANEL CHAIR/COMMISSIONER