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Pacific Northern Gas (N.E.) Ltd.

Application for a Certificate of Public Convenience and Necessity to Implement Automated Meter Reading Infrastructure

Decision and Order C-3-20

November 9, 2020

Before:
W. M. Everett, Q.C., Panel Chair
C. Brewer, Commissioner
R. I. Mason, Commissioner

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COMMISSION ORDER C-3-20

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Executive summary

Pacific Northern Gas (N.E.) Ltd. (PNG(NE)) is a public utility operating natural gas distribution infrastructure serving over 21,000 residential, commercial and industrial customers in Northeastern British Columbia. On March 25, 2020, PNG(NE) filed an Application with the British Columbia Utilities Commission (BCUC) seeking a Certificate of Public Convenience and Necessity (CPCN) pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA) for the implementation of Automated Meter Reading (AMR) Infrastructure (Project).

On April 9, 2020, the BCUC established a written process to review PNG(NE)'s Application. The British Columbia Old Age Pensioners' Organization *et al.* (BCOAPO) registered as an intervener and participated in the proceeding. One letter of comment was also submitted. The regulatory review process included two rounds of BCUC and intervener written information requests followed by written final and reply arguments.

PNG(NE) proposes to update and replace the current manual read meter infrastructure for the residential and commercial customers in its service territory with automated remote-read AMR infrastructure. Currently, PNG(NE) uses meter reading employees to manually read customers' meters each billing cycle. PNG(NE) submits that there are several benefits to replacing the current manual meter reading with an automated system, including operational efficiency, worker safety and cost savings. PNG-West had successfully conducted an AMR pilot project in its service territory in 2018.

PNG(NE) evaluated both Advanced Metering Infrastructure (AMI) and two AMR project technologies from two different vendors. PNG(NE) proposes to implement the Itron 500G Encoder Receiver Transmitter (ERT) module technology as part of its preferred AMR infrastructure solution including vehicle-mounted radio transceivers to collect data and a Field Deployment Manager (FDM) interface at the PNG(NE) central server. The Panel finds that PNG(NE) has established the need for the Project to upgrade its meters to AMR infrastructure and that PNG(NE)'s choice of AMR technology and the selection of Itron Canada Inc. as the supplier to be reasonable.

The implementation of the Project has a positive net present value (NPV) of approximately \$2.1 million over a 20-year term, equating to a rate impact of an \$8 annual savings for the average residential ratepayer. Key project risks include inclement weather during project implementation and the sensitivity of the NPV analysis to the number of meter-reading employees and vehicles eliminated post-implementation. The Panel finds that PNG(NE) has estimated the Project on a basis consistent with the CPCN Guidelines, and further finds that overall, both capital costs and changes in operating costs are reasonable.

PNG(NE) provides for customers to opt-out of the AMR technology both before and after project implementation. Customers opting-out after the project is implemented will be charged an opt-out fee and all customers opting-out will be charged ongoing manual meter reading fees. The Panel finds that PNG(NE)'s opt-out provision for customers who do not want AMR installed is reasonable.

The Panel considered safety, cost savings, the *Clean Energy Act* and Regulations in determining that the public convenience and necessity require that the Project proceed. Pursuant to section 45 of the UCA, the Panel grants a CPCN to PNG(NE) for the Project.

1.0 Introduction

1.1 Background

On March 25, 2020, Pacific Northern Gas (N.E.) Ltd. (PNG(NE)) filed an Application with the British Columbia Utilities Commission (BCUC) seeking a Certificate of Public Convenience and Necessity (CPCN) pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA) for the implementation of Automated Meter Reading (AMR) Infrastructure (Project) (Application).¹

1.2 The Applicant

PNG(NE) owns and operates a natural gas distribution system and provides natural gas service to over 21,000 residential, commercial and industrial customers in the British Columbia municipalities of Fort St. John, Dawson Creek and Tumbler Ridge, as well as in the rural areas of Doe River, Pouce Coupe, Rolla, Tomslake, Taylor and Pink Mountain.²

PNG(NE) is a subsidiary of Pacific Northern Gas Ltd. (PNG) which is, in turn, a wholly-owned subsidiary of AltaGas Canada Inc. (ACI). On October 21, 2019, ACI announced that it had concluded a definitive agreement with the Public Sector Pension Investment Board (PSPIB) and the Alberta Teachers' Retirement Fund Board (ATRFB) to acquire all the issued and outstanding common shares of ACI in an all cash transaction. On March 24, 2020, the BCUC approved the purchase by Order Number G-59-20.

1.3 Approvals Sought

In its Application, PNG(NE) applies for a CPCN to authorize the Project, to update and replace the current manual read meter infrastructure in its service territory with automated remote-read AMR infrastructure. The AMR infrastructure would be installed for PNG(NE)'s residential and commercial customers in its service territory.³

The estimated cost of the Project is \$4.2 million.⁴

PNG(NE) requests an expedited review of its CPCN application to facilitate installation of the AMR infrastructure by the end of 2020.⁵

1.4 Regulatory Process

By Order G-86-20, dated April 9, 2020, the BCUC established a regulatory timetable for reviewing the Application which consisted of public notice, intervenor registration and one round of information requests (IRs).

By Orders G-126-20, dated May 28, 2020, and G-169-20 dated June 24, 2020, the BCUC amended the regulatory timetable to include a second round of IRs, followed by final and reply arguments.

British Columbia Old Age Pensioners' Organization *et. al.* (BCOAPO) is the only registered intervenor in this proceeding. A letter of comment was submitted by K. Bains (Letter of Comment).

¹ Exhibit B-1, p. 6.

² Exhibit B-1, p. 6.

³ Exhibit B-1, p. 6.

⁴ Exhibit B-1, p. 6.

⁵ Exhibit B-1, cover letter, p. 2.

1.5 Legal and Regulatory Framework

Section 45(1) of the UCA provides that:

[E]xcept as otherwise provided, after September 11, 1980, a person must not begin the construction or operation of a public utility plant or system, or an extension of either, without first obtaining from the BCUC a certificate that public convenience and necessity.

Section 45(2) of the UCA provides that a public utility that is operating a public utility plant or system on September 11, 1980 is deemed to have received a certificate of public convenience and necessity, authorizing it to operate the plant or system, and, subject to subsection (5), to construct and operate extensions to the plant or system.

Section 46(3) provides that the BCUC may issue or refuse to issue a CPCN or may issue a CPCN for the construction or operation of a part of the proposed facility, line, plant, system or extension, and may attach terms and conditions to the CPCN. Sections 46 (3.1) and (3.2) provide that for public utilities, other than British Columbia Hydro and Power Authority (BC Hydro), the BCUC must consider:

- a) the applicability of British Columbia's energy objectives,⁶
- b) the most recent long-term resource plan filed by the public utility under section 44.1, if any, and
- c) the extent to which the application for the certificate is consistent with the applicable requirements under sections 6 and 19 of the Clean Energy Act [CEA].⁷

Section 46(8) provides that a public utility to which a CPCN has been issued is authorised, subject to the UCA, to construct, maintain and operate the plant, system or extension authorised in the CPCN.

The BCUC's CPCN Guidelines⁸ provide general guidance regarding the information that should be included in a CPCN application and the flexibility for an application to reflect the specific circumstances of the applicant, the size and nature of the project and the issues raised by the application.⁹

2.0 Project Need, Alternatives and Justification

2.1 Project Need

PNG(NE)'s current manual meter reading infrastructure has been in place and substantively unchanged since PNG(NE) commenced operations. Over 99% of PNG(NE) meters in the Fort St. John, Dawson Creek, and Tumbler Ridge service areas are manually read by a meter reader. Residential meters are read on a bi-monthly basis and commercial meters are read monthly. Meter reading is performed over a series of 8 cycles, with each cycle taking approximately 3 days.¹⁰ Additionally, manual meter reads are required when a customer completes a move-in or move-out or makes a special request for a meter read. Meter reads are also required to correct errors or verify previous reads.¹¹ PNG(NE)'s current meter reading workforce consists of two area managers and five full-time equivalent (FTE) meter readers.¹²

⁶ BC's energy objectives are defined in section 2 of the *Clean Energy Act*.

⁷ Sections 6 and 19 of the CEA do not apply to PNG(NE).

⁸ BCUC Order G-20-15, 2015 Certificate of Public Convenience and Necessity Application Guidelines
https://www.bcuc.com/Documents/Guidelines/2015/DOC_25326_G-20-15_BCUC-2015-CPCN-Guidelines.pdf.

⁹ BCUC CPCN Guidelines, p. 1.

¹⁰ Exhibit B-1, p. 10.

¹¹ Exhibit B-1, p. 10.

¹² Exhibit B-1, p. 10.

PNG(NE) submits that it is committed to making improvements that positively impact the safety, efficiency and reliability of its natural gas service. While PNG(NE)'s existing manual meter reading infrastructure has been reliable and has produced adequate results for customers, PNG(NE)'s primary objectives for giving consideration to the automation of the meter reading function include achieving operational efficiencies and improving customer safety and satisfaction¹³.

An automated meter pilot program (Pilot Program) was undertaken in PNG-West's service territory in the community of Thornhill in 2019 (PNG-West AMR Pilot Program). The PNG-West AMR Pilot Program successfully implemented AMR infrastructure for 1,700 customers over a 12-week period. The PNG-West AMR Pilot Program provided increased meter reading efficiency and accuracy, cost savings and reduced safety risks related to meter reading.¹⁴

2.2 Description of Project Alternatives

2.2.1 Alternative Meter Reading Technology

In its evaluation of the Project, PNG(NE) considered the following alternative meter reading technologies to replace the existing manual meter reading technology:¹⁵

- 1) Automated Meter Reading (AMR); and
- 2) Advanced Metering Infrastructure (AMI).

Both AMR and AMI technologies read gas meters by electronic devices installed on each meter (Encoder Receiver Transmitter, or ERTs) that collect readings from the meter and transmit them via radio signals to data collection units (DCUs).¹⁶

AMR is a one-way communication system that provides basic gas consumption readings at regular utility-scheduled intervals.¹⁷ In respect of the AMR technology, meter readers are required to drive routes in vehicles equipped with a DCU in order to collect readings by radio signals. Once all readings have been gathered, the data collected by the DCU is downloaded to a server at the utility and used for customer billing purposes.¹⁸

AMI technology is a collection of endpoint, software, and communications network systems that enables two-way communication (ability to transmit and receive information) between a customer's meter and the utility. With AMI systems, DCUs are permanently located strategically across the service area and relay the collected data to the utility using radio signals.¹⁹

A key distinction between AMI and AMR is the ability to enhance system safety. PNG(NE) explains:

An AMI endpoint [meter] may also have the ability to record a variety of other physical data (i.e. pressure, flowrate, temperature, corrosion data and methane detection) and the ability to

¹³ Exhibit B-1, p. 4.

¹⁴ Exhibit B-1, p. 25.

¹⁵ Exhibit B-1, p. 12.

¹⁶ Exhibit B-1, p. 14.

¹⁷ Exhibit B-3, BCUC IR 4.3.

¹⁸ Exhibit B-1, pp. 12-13.

¹⁹ Exhibit B-1, pp. 13-14.

virtually and remotely shut off the gas supply, offering the potential for further operational efficiencies for system safety and integrity.²⁰

However, PNG(NE) notes that the configuration of its gas distribution system is such that there is reduced potential for benefits to be realized from remote shut-off capability. PNG(NE) states:

PNG(NE)'s systems are relatively small with taps from upstream gas suppliers and, as such, line pack is not significant. Further, PNG(NE)'s systems do not serve large urban centres where the supply/demand balance can be managed through load shedding in the event of an upstream upset.²¹

A second key distinction between AMI and AMR is how often meter data can be collected and made available to customers. AMI-enabled meter's data can be made available the day following the reading or in some cases, with proper integration, every four to six hours.²² Such data offers the ability to provide customers with greater details on their consumption and the potential to allow for flexible billing dates.²³ However, in its evaluation of alternatives, PNG(NE) did not determine customer interest in these potential benefits. PNG(NE) explains:

PNG(NE) has not engaged customers regarding interest in access to real time consumption data. PNG(NE) further notes that none of the customers in the PNG-West Thornhill AMR Pilot, nor any participants in the public consultations expressed interest in terms of this type of data access. PNG(NE) submits that as real or near real time data is not as valuable for gas customers as it may be for electric customers, PNG(NE) did not consider customer interest in real time data in its assessment.²⁴

2.2.1.1 Evaluation of Meter Reading Technology Alternatives

PNG(NE) evaluated a full-scale deployment of the AMR and AMI alternatives (i.e., for all active and inventoried meters), considering the capital cost of metering, collection and support systems to allow for automated meter reading, the cost of installation, and the cost of project management.²⁵

Capital cost estimates for AMR deployment were in the range of \$4 million to \$5 million.²⁶ The net present value (NPV) of the proposed AMR technology over a 20-year test period was calculated to be \$2.1 million to the benefit of ratepayers.²⁷

PNG(NE)'s analysis of a fully-functioning AMI system indicated initial capital costs of \$23.1 million²⁸ and results in a negative NPV of \$32.7 million over a 20-year test period.²⁹ Removing the capital cost of the network infrastructure from the \$23.1 million, the NPV is negative \$10.9 million over a 20-year test period before provision for any joint use agreement payments that may be required for using a third-party's network. As well, the NPV is negative \$6.2 million over a 20-year test period when removing both the capital cost of the network infrastructure and the capital and operating costs for an AMI system, and before provision for any joint use agreement payments.³⁰

²⁰ Exhibit B-1, p. 15.

²¹ Exhibit B-1, p. 15.

²² Exhibit B-3, BCUC IR 6.6.

²³ Exhibit B-1, p. 15.

²⁴ Exhibit B-3, BCUC IR 6.6.1.

²⁵ Exhibit B-1, pp. 15-16.

²⁶ Exhibit B-1, p. 16.

²⁷ PNG(NE) Final Argument, p. 7.

²⁸ Final Argument pp. 8-9.

²⁹ PNG(NE) Final Argument, p. 8.

³⁰ PNG(NE) Final Argument, p. 8.

PNG(NE) concludes that an AMR solution is more cost effective than an AMI solution for automated meter reading.³¹

PNG(NE) submits that AMI is not viable in any way at this time. It states:

PNG(NE)'s evaluation of AMI indicated significantly greater capital and operating costs, primarily for fixed communication network requirements and for system integration and for added human resources to operate and support a comprehensive AMI system. In addition to these significant additional costs and negative NPV, there were no significant incremental benefits to PNG(NE) or its customers beyond those identified for the proposed AMR Project; specifically the reduction in the number of meter reading staff and the reduction in the number of vehicles required for the meter reading function.³²

Given the unfavourable financial indications for the AMI technology in comparison to a positive NPV of \$2.1 million for the proposed AMR Project, PNG(NE) submits that there is no basis to support undertaking an AMI project at this time.³³

In its assessment of alternatives, PNG(NE) did not quantify cost benefits from operational efficiencies related to AMI beyond automated meter reading.³⁴ PNG(NE) explains:

Given the sheer magnitude of additional costs that would be borne by ratepayers under the AMI alternative, it determined that the cost benefits associated with operational efficiencies would be minor relative to the total costs and did not further attempt to quantify such efficiencies.³⁵

2.2.2 AMR Vendor Alternatives

The products of Itron and Sensus, two industry leaders in the field of manufacturing meter reading technologies, were considered for PNG(NE)'s AMR alternatives. PNG(NE) regarded the technologies of the two manufacturers to be equivalent in terms of general functionality.³⁶

PNG(NE) solicited bids from Itron Canada Inc. and KTI Ltd.³⁷ In Canada, Itron Canada Inc. supports the Itron product line, while KTI Ltd. supports the Sensus product line.³⁸

PNG(NE) describes Itron Canada Inc. as a global company offering innovative and secure utility service solutions. PNG and PNG(NE) have had a successful working relationship with Itron Canada Inc. for over 10 years using Itron meter reading hardware and software. As such, interfaces are presently in place between the Itron meters and PNG(NE)'s billing system.³⁹

KTI Ltd. is a Canadian company specializing in the distribution of high quality and energy efficient products for gas, water, and electric utilities, including the Sensus product line.⁴⁰

PNG(NE) submitted the summary of costs and rate impacts from both vendors for their AMR solution:⁴¹

³¹ Exhibit B-1, p. 16.

³² PNG(NE) Final Argument, pp. 7-8.

³³ PNG(NE) Final Argument, pp. 8-9.

³⁴ Exhibit B-3, BCUC IR 6.5.1.

³⁵ Exhibit B-3, BCUC IR 6.5.2.

³⁶ Exhibit B-3, BCUC IR 5.1.

³⁷ Exhibit B-9, Cover Letter p. 4.

³⁸ Exhibit B-1, p. 15.

³⁹ Exhibit B-1, pp. 15-16.

⁴⁰ Exhibit B-1, pp. 15-16.

⁴¹ Table prepared by Panel. Exhibit B-1, Table 2-5, p. 17; Exhibit B-3, BCUC IR 19.1; Exhibit B-9, BCUC Confidential IR 3.3.

Table 1 – Summary of Project Costs – Comparison of Itron Canada Inc. and KTI Ltd.

20 Year Evaluation Period - All Service Area	Itron Canada Inc. (Itron)	KTI Ltd. (Sensus)
Cost Impacts		
Capital Cost	\$ 4,198,000	\$ 5,203,108
Average Annual Incremental Costs	\$ 393,000	\$ 489,000
Average Annual Cost Savings	\$ (673,000)	\$ (661,000)
Average Annual Net Impact on Costs	\$ (280,000)	\$ (172,000)
Average Rate Impacts		
Incremental cost of service (per GJ)	\$ (0.08)	\$ (0.05)
Residential usage/year (GJ)	100.6	100.6
Impact to annual residential bill	\$ (7.67)	\$ (4.72)
Net Present Value of Customer Benefits	\$ 2,119,493	\$ 1,042,920

PNG(NE) used Itron AMR products for the PNG-West AMR Pilot Program. Based on the lower capital and incremental costs, greater anticipated financial benefits for customers, and prior established working relationships, PNG(NE) proposes proceeding with implementation of Itron AMR infrastructure from Itron Canada Inc..⁴²

PNG(NE)'s chosen AMR technology is the Itron 500G Encoder Receiver Transmitter (ERT) module. PNG(NE) had originally selected the Itron 100G ERT module, which has since been discontinued by the manufacturer, but Itron Canada Inc. offered to provide PNG(NE) the more sophisticated Itron 500G ERT at the original cost quoted for the discontinued model.⁴³ In addition to being a fully functional AMR system, the Itron 500G module also supports extension of the system to AMI in the future, if PNG(NE) seeks to invest in upgrading its network at a later time.⁴⁴

PNG(NE) states that the ERT selected for the AMR Project (Itron 500G ERT) has the capability to move from a mobile to a fixed network radio reading system at some point in the future, which will allow it to retain some optionality to further assess the potential of AMI. PNG(NE) explains:

Itron's 500G ERT technology does provide an avenue for a future networked solution with BC Hydro, and could be considered if and when it meets both utilities [BC Hydro and PNG(NE)] economical goals. While no such plan presently exists, if such a project were to be contemplated, PNG(NE) would develop an appropriate business case, undertake stakeholder consultation and seek BCUC approval.⁴⁵

PNG(NE) has selected Itron Canada Inc. as the preferred vendor to support the AMR Project with the implementation of Itron AMR technology. Itron Canada Inc. has provided PNG(NE) with a quotation for materials and services whereby it will undertake the installation and implementation of a fully functioning AMR system for all residential and small commercial customers in PNG(NE) service area.⁴⁶

2.3 Project Justification

PNG(NE) submits a key benefit of AMR infrastructure is the reduction in costs to ratepayers, primarily due to the elimination of 5 meter-reading staff positions and corresponding reduction in vehicle usage. The Project has a positive NPV of approximately \$2.1 million over the 20-year analysis period. Once fully implemented, on a net

⁴² Exhibit B-1, p. 17.

⁴³ Exhibit B-7, response to BCUC IR 23.1.

⁴⁴ Exhibit B-7, response to BCUC IR 22.2.

⁴⁵ Exhibit B-7, BCUC IR 22.2.

⁴⁶ Exhibit B-1, p. 26.

basis, the AMR Project will provide significant operating cost savings, averaging \$673,000 per year, and residential ratepayers will realize annual cost savings of approximately \$8 over the 20-year life of the project.⁴⁷ Financial benefits are discussed further in Section 5 below.

Further, PNG(NE) submits the following are several non-financial (qualitative) benefits of AMR infrastructure:⁴⁸

- AMR will protect the workforce from potential injuries from traversing ground in inclement weather and accessing customer premises.
- AMR will provide timely and accurate meter reads leading to improved accuracy in customer billing.
- Customer satisfaction is expected to increase.
- PNG(NE) submits environmental impacts will be positive from reduced vehicle emissions.
- Revenue protection will improve because actual consumption data can be analyzed for anomalies that may be indicative of gas theft. Further, AMR infrastructure has tamper technology to record meter movement.

PNG(NE) submits it is committed to making improvements that positively impact the safety, efficiency and reliability of its natural gas service. While PNG(NE)'s existing manual meter reading process has been reliable and has produced adequate results for customers, PNG(NE) has determined that the implementation of AMR technology is a prudent decision when the potential financial and operational benefits are considered.⁴⁹

Position of Parties

BCOAPO is supportive of PNG(NE)'s desire to streamline its meter reading activities. BCOAPO states: "PNG's evidence on AMR is persuasive on this point: we accept the utility's submission that PNG's plan would increase the accuracy of its meter reads and reduce the need to use utility resources to manually adjust billing or bill based on estimates. In addition, PNG's evidence also presented qualitative benefits of timely meter readings: evidence our clients accept and support."⁵⁰

BCOAPO submits that there is no evidence on the record that AMI is the better option and that residential ratepayers have no desire "to add unnecessarily to their energy costs absent clear and compelling evidence of either the necessity or net benefit to the and the utility.... As such, BCOAPO's position is that PNG(NE) has provided adequate evidence of its inquiries into project alternatives to satisfy residential ratepayers that we have sufficient information upon which to contrast their application with 'the roads not taken.'"⁵¹

In its Reply Argument, PNG(NE) acknowledges BCOAPO's support for the Project and its chosen alternative and states: "BCOAPO has expressed satisfaction that the evidence placed on record supports PNG(NE)'s proposal to proceed with the AMR Project rather than with the alternatives identified for both vendors and configurations. PNG(NE) reiterates that the proposed AMR Project utilizing mobile reads is a prudent, cost-effective solution that is supported by the opportunity to realize tangible financial and operational benefits."⁵²

Panel Determination

The Panel finds that PNG(NE) has established the need for the Project to upgrade its meters to AMR infrastructure. The Panel is satisfied with the need for operational efficiencies, savings on operating costs and notes that worker safety will be improved. BCOAPO, the sole intervener, is supportive of the Project.

⁴⁷ Exhibit B-1, pp. 17-18.

⁴⁸ Exhibit B-1, pp. 11-12.

⁴⁹ PNG(NE) Final Argument, p. 3.

⁵⁰ BCOAPO Final Argument, p. 6.

⁵¹ BCOAPO Final Argument, p. 4.

⁵² PNG(NE) Reply Argument, p. 2.

The Panel finds PNG(NE)'s choice of AMR technology and the selection of Itron Canada Inc. to be reasonable.

The AMR technology proposed by PNG(NE) automates the capture of customer usage data at the meter, but still requires the data to be collected by a vehicle driving past the meter on a regular basis. The alternative AMI technology would further automate this process by delivering the billing data to PNG(NE) electronically via a telecommunications network. AMI technology captures more detailed usage data than AMR and may also be capable of performing other functions such as remote shut-off of gas by the utility. The Panel considered two issues in this regard: would there be sufficient benefits to justify implementing an AMI solution now; alternatively, if PNG(NE) were to implement an AMI solution in future, would the current proposed investment in AMR technology become redundant, leaving ratepayers paying for stranded assets.

The Panel is satisfied that there is presently no economic justification for implementing AMI. PNG(NE)'s analysis shows that no level of AMI technology implementation would have positive economic benefits at this time. A full AMI implementation would be a negative NPV of \$32.7 million over 20 years. A partial implementation of AMI, excluding the telecommunications network, would reduce the risk of the assets becoming redundant, but would still have a negative NPV of at least \$10.9 million over 20 years.

The Panel is also satisfied that there are insufficient non-economic benefits to justify the additional cost of the AMI solution compared to AMR. PNG(NE)'s system does not require remote shut-off or load balancing for residential customers, and there is no evidence that residential customers would benefit from more detailed or real-time usage data.

If PNG(NE) upgrades from the proposed AMR technology to an AMI solution at some point in future, it is possible some AMR assets will be made redundant. However, the degree of redundancy is reduced by PNG(NE)'s use of the more advanced Itron 500G ERT unit which has the capability to use a telecommunication network. Further, PNG(NE) will be expected to justify the move to AMI on its own merits, including consideration of the effect of any write-off of redundant assets. For these reasons, the Panel is satisfied that the risk of redundancy in choosing to implement AMR technology now is low, and that in the circumstances AMR is an appropriate choice of technology for PNG(NE).

The Panel accepts PNG(NE)'s selection of Itron Canada Inc. to implement its AMR solution. The cost of the solution involving Itron Canada Inc. is less than that using KTI Ltd., and Itron Canada Inc. has experience with PNG(NE)'s chosen Itron product. Further, Itron Canada Inc. has worked with PNG(NE) for over 10 years, and supported PNG(NE)'s AMR pilot scheme. In the Panel's view this working relationship and joint experience on the pilot mitigates some of the implementation risk associated with project.

3.0 Project Implementation

PNG(NE) proposes implementation of an AMR technology for residential and commercial customers in its service area as an alternative to current manual meter reading. Industrial customers are not within the scope of the Project as many already have advanced metering systems in place.⁵³

PNG(NE)'s Manager, Operations Northeast, will have primary responsibility for overseeing the execution of the Project plan. Additional internal resources identified to support Project execution include PNG(NE) Leadership, Information Technology, Customer Billing, Customer Services and Customer Care personnel.⁵⁴

⁵³ Exhibit B-1, p. 26.

⁵⁴ Exhibit B-1, p. 27.

PNG(NE) states it first informed the International Brotherhood of Electrical Workers (IBEW) Local 213 in early 2019 of its plans to examine the possibility of an AMR deployment. It adds that it will work with the IBEW to follow the collective agreement and execute a detailed plan as necessary project approvals are obtained. PNG(NE) states it has been in discussion with affected staff, and that it views ongoing communications as critical in reducing any unnecessary impact to the individuals directly affected.⁵⁵

3.1 Project Schedule and Milestones

Implementation of the AMR Project is planned for 2020, with activation anticipated late in the fourth quarter of the year. The AMR Project is comprised of the following major components:⁵⁶

- 1) Installation of the Field Deployment Manager (FDM) interface, server and work-flow configuration and testing;
- 2) Field installation of ERTs on existing meters; and
- 3) Route acceptance process testing.

The following table provides a schedule of key Project milestones, including the execution of these key components.⁵⁷

Table 2 – Key Project Milestones

Milestone	Date (2020)
Procure Materials	August
Baseline Deployment Plan	August – September
Project Control Manual Reviewed and Approved	August – September
FDM/ERT Interfaces Complete and Tested	September – October
FDM Servers Configured and Tested	October – November
FDM System and Workflow Tested	October – November
Receipt of ERTs	October
Field Installation of ERTs	October – November
Route Acceptance Process Tested	November – December
Deployment (Up and Running)	December

3.2 Project Risks

PNG(NE) states it has been able to implement lessons learned from the PNG-West AMR Pilot Program into the planning for the PNG(NE) AMR Infrastructure Project which should reduce the risk of Project delays and cost over-runs.⁵⁸

PNG(NE) provided a summary of project risks and mitigation strategies in its Application. PNG(NE) submits that any complex project carries potential risks and PNG(NE) will continue to focus resources on more likely and higher cost risks to ensure that mitigation efforts strike a reasonable balance between cost and risk.⁵⁹

PNG(NE) states the structure of the contract with Itron Canada Inc. provides cost certainty on major project elements.⁶⁰ PNG(NE) adds:⁶¹

⁵⁵ Exhibit B-1, p. 28.

⁵⁶ Exhibit B-1, pp. 12-13.

⁵⁷ Exhibit B-1, p. 28.

⁵⁸ Exhibit B-1, p. 25; Appendix D.

⁵⁹ Exhibit B-1, p. 22.

⁶⁰ Exhibit B-1, p. 23.

⁶¹ Exhibit B-1, p. 31.

The Vendor A [Itron Canada Inc.] cost estimate is considered to be definitive as it is understood that Vendor A [Itron Canada Inc.] has a clear and thorough understanding of PNG(NE)'s requirements and applied this knowledge when preparing its quotation. Further, Vendor A [Itron Canada Inc.] is considered to be proficient in the implementation of AMR projects such as that proposed by PNG(NE), and hence knowledgeable of the anticipated costs to be incurred.

Field installation of the AMR infrastructure will start when site conditions are favorable. ERT installation route sequencing will be included as part of project planning. Route sequencing will be reviewed and accepted by PNG(NE) prior to installation.⁶²

PNG(NE) ranked its Project risks and discusses its mitigation strategies for its two highest project risks: elimination of staff positions and installation during inclement weather.⁶³ The former will be addressed in section 5.2 below; the latter in this section on project implementation.

With respect to inclement weather, PNG(NE) states that weather may impact the field installation of the AMR technology if the Project encounters unfavorable weather conditions.⁶⁴ PNG(NE) confirms it has not made any provision in the AMR Project cost estimate for any additional resources required to support installation of AMR technology in the event of unfavorable weather conditions. However, it has included a 15% contingency.⁶⁵ PNG(NE) explains:

As weather conditions at time of implementation are unknown and cannot be predicted with any certainty, costs above current estimates are extremely difficult to predict with precision. Upon successful award of the AMR Project, a full implementation plan will be developed with schedules and costs being considered. Based on weather conditions during this time, resources may be added to adapt to the weather or there may be modifications to the implementation schedule. PNG(NE) reiterates that potential incremental costs are expected to be within the 15% contingency.⁶⁶

Position of the Intervener

BCOAPPO made no submissions on the Project implementation, schedule or milestones.

Panel Discussion

The Panel considers PNG(NE)'s implementation planning for the AMR Project to be reasonable.

PNG(NE)'s project plan addresses responsibilities and staffing, schedule, risks, and communications with affected staff. The Panel views the level of detail in the plan to be satisfactory, and the assignment of primary responsibility to the manager of operations to be appropriate.

The focus on more likely and higher cost risks is also appropriate. PNG(NE) states its contract with Itron Canada Inc. "provides cost certainty on major project elements", and that the cost for Itron Canada Inc. is considered to be "definitive" based on Itron Canada Inc.'s knowledge of PNG(NE)'s requirements, its experience with PNG(NE), the Itron technology, and the pilot project. The project budget also includes a contingency of 15 percent to address the risk of capital cost overruns, such as additional effort required to implement the AMR technology in the event of unfavorable weather conditions. For these reasons, the Panel is satisfied that PNG(NE) has adequately mitigated its most likely and impactful project implementation risk.

⁶² Exhibit B-1, pp. 22-23.

⁶³ Exhibit B-1, p. 23.

⁶⁴ Exhibit B-3, BCUC IR 14.1.

⁶⁵ Exhibit B-3, BCUC IR 14.2.

⁶⁶ Exhibit B-7, BCUC IR 24.1 Series.

4.0 Opt-Out Provisions

PNG(NE) submits that the chosen technology has minimized the radio frequency emissions and complies with Industry Canada safety standards.⁶⁷ PNG(NE) has also included provision to allow customers to opt-out of the proposed AMR technology.⁶⁸ Customers with existing manual-read meters who elect to opt-out will not have AMR technology installed, because the AMR technology module cannot be programmed with the radio off.⁶⁹ PNG(NE) notes that if a customer opts-out prior to Project deployment, there will be no opt-out fee levied.⁷⁰ Once installed, PNG(NE) proposes a one-time fee of \$60 to opt-out of or opt back into the AMR infrastructure.⁷¹

PNG(NE) also proposes ongoing fees of \$30 per reading for customers who elect to opt-out of AMR technology. This is to cover the cost of manually reading their meters. PNG(NE) further submits this proposed fee is consistent with the Customer Requested Meter Reading Fee under the Standard Fees and Charges Schedule of PNG's Consolidated Gas Sale General Terms and Conditions.⁷²

PNG(NE) notes it has had zero customer requests to opt-out during the PNG-West AMR Pilot Program and anticipates any customer requests to opt-out of the proposed AMR infrastructure in its service territory to be low. In the 2013 FortisBC Inc. proceeding for a radio-off option for AMI infrastructure, an anticipated opt-out of 0.5% of customers was established as appropriate.⁷³ PNG(NE) further submits that if a similar opt-out percentage was applied to PNG(NE)'s service territory, a total of 93 customers would be anticipated to opt-out of AMR. This represents only a small financial impact to PNG(NE) and would not materially impact the cost savings of the AMR Project, since these customers would be charged a fee to have their meters read manually.⁷⁴

Positions of the Parties

A Letter of Comment was received from Ms. K. Baines raising concerns about the potential adverse effect of radio frequency emissions arising from the installation of AMR.⁷⁵

BCOAPO states:

Our client groups have been involved in proceedings where other utilities have sought CPCN's for similar projects and as such, they think it unlikely that Ms. Kira Baines is alone in her concerns regarding the addition of AMR-related radio frequency capability to PNG(NE)'s meters. However, because this issue is so divisive and the science so contradictory our clients do not take a position on applications of this type either supporting or rejecting a project based on radio frequency related concerns.⁷⁶

Panel Discussion

The Panel finds that PNG(NE)'s opt-out provision for customers who do not want AMR installed, is reasonable. Requirements for project reporting regarding opt-out adoption rates is detailed in Section 10.0 below.

⁶⁷ Exhibit B-1, pp. 28-29.

⁶⁸ Exhibit B-1, p. 30.

⁶⁹ Exhibit B-3, response to BCUC IR 15.4.

⁷⁰ Exhibit B-3, response to BCUC IR 15.2.

⁷¹ Exhibit B-1, p. 30.

⁷² Exhibit B-1, p. 30.

⁷³ Order G-220-13, Reasons to Decision in the FortisBC Inc. Application for a Radio-Off Advanced Metering Infrastructure Meter Option, p. 21.

⁷⁴ Exhibit B-1, p. 30.

⁷⁵ Exhibit E-1, Letter of Comment.

⁷⁶ Exhibit E-1, Letter of Comment.

The Panel reminds PNG(NE) to file an application with the BCUC in respect of any amended tariff pages if PNG(NE) intends to implement the opt-out fee and the associated meter read fee.

5.0 Project Cost and Rate Impact

5.1 Project Cost Estimate

PNG(NE) submits that the total estimated capital cost of the proposed AMR Project is approximately \$4.2 million as shown in Table 3 below. The total capital cost estimate is based upon a Class 2 level of accuracy as per the Association of Cost Engineering Guidelines 17R-97 and 18R-97 (Cost Estimating Classification System – revision November 2011) based on PNG(NE)'s assessment.⁷⁷

Table 3 – Capital Cost Components of AMR Project⁷⁸

Component	Cost (\$)
Materials – ERT Modules	1,561,000
Materials – Mobile Collection System	72,000
Installation – ERT Retrofit	1,203,000
Project Management / Quality Assurance	302,000
	3,138,000
PST (7%)	220,000
	3,358,000
Overhead (10%)	336,000
	3,694,000
Contingency (15%)	504,000
Total Capital Cost	4,198,000

In developing its capital cost estimate, PNG(NE) obtained a quotation from its proposed product vendor, Itron Canada Inc., for materials, installation and project management/quality assurance components of the AMR Project using Itron AMR technology. The quotation was submitted confidentially to the BCUC through Appendix E to the Application.

While PNG(NE) submits that the Itron Canada Inc. cost estimate is definitive because it is proficient in implementing AMR projects and it has “a clear and thorough understanding” of PNG(NE)'s requirements, PNG(NE) states that it included a 10 percent provision for overhead costs in the total capital cost estimate. PNG(NE) submits that the overhead provision is typically included in PNG(NE)'s forecasting for capital projects and is for any internal resources that may be incidental to the base components of the project. In PNG(NE)'s opinion, there is a high likelihood that the 10 percent overhead cost will be realized.⁷⁹ In addition, PNG(NE) added a 15 percent contingency in the total capital cost estimate with respect to Itron Canada Inc.'s quotation to address the risk of capital cost overruns, submitting that the quotation is subject to certain conditions.⁸⁰ These conditions include the assumption that the project duration will not exceed nine months and the Implementation Manager will make one on-site trip every other month during the project.⁸¹ At this point in time, PNG(NE) submits that it cannot ascertain the likelihood of whether some or all of the contingency will be realized.⁸² Overall, PNG(NE) submits “it [is] prudent, conservative and appropriate” to include overhead and

⁷⁷ PNG(NE) Final Argument, pp. 5-6.

⁷⁸ Exhibit B-1, p. 31.

⁷⁹ Exhibit B-1, pp. 26, 31; PNG(NE) Final Argument, p. 6; Exhibit B-8, BCOAPO IR 3.2.

⁸⁰ Exhibit B-1, pp. 26, 31; PNG(NE) Final Argument, p. 6; Exhibit B-8, BCOAPO IR 3.2.

⁸¹ Exhibit B-8, BCOAPO IR 3.1.

⁸² Exhibit B-8, BCOAPO IR 3.2.

contingency provisions in its NPV analysis so as not to overstate the net benefits to customers of the AMR Project.⁸³ The net benefits to customers of the AMR Project are discussed in Subsection 5.2 below.

Positions of the Parties

BCOAPO is concerned that the capital cost estimate is overly conservative as it relates to the inclusion of a 10 percent overhead cost estimate and a 15 percent contingency on a vendor cost estimate which is otherwise characterized as definitive. However, based on the information available, BCOAPO leaves it to the BCUC's discretion to determine whether PNG(NE) has struck the appropriate balance between costs and risk.⁸⁴

PNG(NE) replies to BCOAPO stating that the overhead and contingency provisions which have been applied are common to its forecasting for all PNG(NE)'s capital projects. PNG(NE) reiterates that it does not expect project costs to materially exceed the quotation but that the provisions remain "prudent, conservative and appropriate" in light of project cost risks associated with delayed implementation. Finally, PNG(NE) submits that there is minimal risk to customers as, irrespective of the noted provisions for overhead and contingency, only the actual costs incurred will be recovered from customers.⁸⁵

Panel Determination

The Panel finds that PNG(NE) has estimated the Project on a basis consistent with the CPCN Guidelines, and further finds that overall, both capital costs and changes in operating costs are reasonable.

The Panel reminds PNG(NE) that the recoverability of the Project's final costs, including whether any budgeted overhead or contingency amounts were properly spent, is subject to prudence review.

5.2 Rate Impact

PNG(NE) submits that the proposed AMR Project will result in a net benefit to customers of approximately \$2.1 million⁸⁶ based on a NPV analysis prepared over a 20-year evaluation period.⁸⁷ This equates to cost savings for the average PNG(NE) residential customer of approximately \$8 annually.⁸⁸

The financial benefits as determined by PNG(NE) are primarily in the form of net operating and maintenance cost savings averaging \$673,000 per year, beginning in 2021. PNG(NE) states that operating cost reductions are from avoided labour and vehicle operating costs associated with the elimination of five full-time equivalent (FTE) meter reading positions and the elimination of five vehicles currently dedicated to meter reading, following AMR Project implementation. These savings are offset by some incremental maintenance costs for the new mobile collection system and the recovery of incremental capital costs in rates⁸⁹. PNG(NE) submits that the NPV analysis is prepared over a 20-year evaluation period assuming that the AMR infrastructure assets are depreciated over their estimated useful life, which is 20 years to be consistent with its depreciation rate for meters.⁹⁰ A discount rate of 7.66 percent is used based on PNG(NE)'s pre-tax weighted average cost of capital.⁹¹ For clarity, qualitative benefits of the AMR Project discussed in Subsection 2 are not included in the NPV analysis. Additionally, there are no incremental revenues from the AMR Project.⁹²

⁸³ PNG(NE) Final Argument, p. 6.

⁸⁴ BCOAPO Final Argument, p. 3.

⁸⁵ PNG(NE) Reply Argument, pp. 1-2.

⁸⁶ \$2,119,493.

⁸⁷ PNG(NE) Final Argument, pp. 3, 7.

⁸⁸ PNG(NE) Final Argument, p. 3.

⁸⁹ Cost of service effects include impacts to depreciation, taxes, capital cost allowance, interest and return on equity.

⁹⁰ Exhibit B-1, p. 19.

⁹¹ Exhibit B-1, p. 20.

⁹² Exhibit B-8, BCOAPO IR 1.1.

After AMR Project implementation, PNG(NE) submits that an existing non-meter reading FTE (with an existing truck) will assume the responsibility of meter reading. Considering that PNG(NE) does not expect any additional salary expenses to be assumed by this FTE, PNG(NE) states that the NPV analysis does not include any incremental annual labour costs. However, additional fuel and maintenance costs which are equivalent to 40 percent of the vehicle fuel and maintenance costs associated with existing meter reading trucks are included.⁹³ The figure of 40 percent is an estimate of the time that the planned FTE will spend on meter reading activities after AMR Project implementation, as explained by PNG(NE).⁹⁴

PNG(NE) submits, should the need arise for one additional FTE and a truck, it will result in an approximate reduction of \$1.3M in the NPV of customer savings.⁹⁵

Sensitivity Analysis

PNG(NE) examined several scenarios to evaluate the sensitivity of the net benefits to customers to a change in one or more financial assumptions, while holding all other assumptions constant. The scenarios examined and the impacts on the NPV analysis included the following:

Table 4 – Sensitivity Analysis

	Scenario	Impact on NPV analysis	PNG(NE) assessment⁹⁶
1	Change the number of eliminated meter reading positions and vehicles by 1 FTE and 1 truck (i.e. need 1 additional FTE and 1 truck post implementation)	Reduces NPV by approximately \$1.3 million ⁹⁷	“Moderate” likelihood
2	Change the timing of headcount reductions after the project is fully implemented from 3-months to 9-months (i.e. 6-month delay)	Reduces NPV by approximately \$200,000 ⁹⁸	“Moderate” likelihood
3	Reduce the Canadian to US dollar foreign exchange rate by \$0.05	Reduces NPV by approximately \$7,000 ⁹⁹	“Low-Moderate” likelihood
4	Remove average 0.5% annual failure rate of equipment	Reduces NPV by approximately \$100,000 ¹⁰⁰	“Moderate” likelihood
5	Increase future vehicle fuel and maintenance costs by 10 percent	Reduces NPV by \$11,648 ¹⁰¹	Not assessed
6	Decrease future vehicle fuel and maintenance costs by 10 percent	Increases NPV by \$11,647 ¹⁰²	Not assessed

PNG(NE) submits that it will focus resources in areas that rank higher in likelihood and cost impact to ensure that its mitigation efforts provide a reasonable balance between cost and risk.

⁹³ Exhibit B-3, BCUC IR 17.2, 17.3.

⁹⁴ Exhibit B-7, BCUC IR 26.3.

⁹⁵ Exhibit B-1, p. 22.

⁹⁶ Exhibit B-1, p. 23.

⁹⁷ Exhibit B-1, p. 22, Exhibit 2-8.

⁹⁸ Exhibit B-1, p. 22. Exhibit 2-8.

⁹⁹ Exhibit B-1, p. 22. Exhibit 2-8.

¹⁰⁰ Exhibit B-1, p. 22, Exhibit 2-8.

¹⁰¹ Exhibit B-7, BCUC IR 26.4.

¹⁰² Exhibit B-7, BCUC IR 26.4.

Position of the Parties

BCOAPO submits, “there is clear evidence that AMR will yield efficiency and accuracy benefits as well as a reasonably likely net consumer benefit of \$2.178 [million] [sic] over the course of twenty years.”¹⁰³

Panel Discussion

PNG(NE) submits that the Project’s rate impact will be positive for ratepayers over the 20-year term of the submitted NPV analysis. However, the Panel notes that the positive NPV, and associated rate impact, is most sensitive to the number of eliminated meter reading positions and eliminated vehicles. Accordingly, Project reporting detailing the actual eliminated meter reading positions and required vehicles and the associated realized financial benefits will be required. The details of Project reporting are contained in Section 10.0 below.

6.0 Consultation

PNG(NE) states during February 2020, PNG(NE) held community information sessions in each of the communities of Fort St. John, Dawson Creek and Tumbler Ridge. PNG(NE) advertised the sessions in print media circulating in these communities, including the Alaska Highway News and the Dawson Creek Mirror, and also via social media on PNG(NE)’s Twitter and Facebook interfaces.¹⁰⁴ In addition, in late-February 2020, PNG(NE) met with representatives from the City of Fort St. John, the City of Dawson Creek and the Peace River Regional District and provided an overview of the planned AMR Project, including a walk through of the presentation made at the Community Information Sessions.¹⁰⁵ PNG(NE) explains that issues raised by the public at the public information and municipal leader sessions were addressed directly at that time with project details and technology facts.¹⁰⁶

With regards to First Nations consultation, PNG(NE) states that the scope of the AMR Project is limited to the installation of ERT devices on existing metering infrastructure at customer premises and does not involve any greenfield construction on any First Nations land or traditional territory. On this basis, PNG(NE) submits that no Indigenous or treaty rights are potentially affected, adversely or otherwise, as a result of the proposed project and therefore limits the duty to consult with First Nations on this Application.¹⁰⁷

PNG(NE) planned to further engage with stakeholders and customer as the AMR Project progresses. PNG(NE) provides the following external consultation and communication plan milestones:

¹⁰³ BCOAPO Final Argument, p. 7; The Panel notes BCOAPO referenced a net customer benefit of \$2.178 million in its final argument; however, this amount was subsequently updated by PNG(NE) to \$2.119 million as stated on page 7 of PNG(NE)’s final argument.

¹⁰⁴ Exhibit B-1, p. 33.

¹⁰⁵ Exhibit B-1, p. 34.

¹⁰⁶ Exhibit B-3, BCUC IR 20.2.

¹⁰⁷ Exhibit B-1, p. 34.

Table 1: External Consultation and Communication Plan Milestones¹⁰⁸

Item	Activity	Complete By
1	Community information sessions	February 2020
2	Informational meeting with local governmental agencies (City of Fort St. John, City of Dawson Creek, Peace River Regional District, District of Tumbler Ridge)	February 2020
3	Further communication with government agencies	July 2020
4	Advertisements on PNG website, social media and in local newspaper and radio, direct communication to affected customers via letters and emails	August 2020
5	Stakeholder communication on project updates	August 2020
6	Direct written communication to residential and commercial customers on field installation schedule	September 2020
7	Stakeholder communication on project completion	December 2020

PNG(NE) explains that the occurrence of the COVID-19 pandemic has required PNG(NE) to limit face-to-face interaction with the public. However, PNG(NE) is proceeding with the coordination of virtual meetings with local district representatives and municipalities to further communicate information regarding the AMR Project.¹⁰⁹ PNG(NE) is currently organizing web conference meetings with local municipal leaders and council members to distribute information and provide an opportunity for feedback. Further, direct communications with customers will occur upon the successful approval of the proposed Project to ensure there is widespread awareness of PNG(NE)'s planned activities. This direct communication is anticipated to include direct mailings and the provision of social media informational updates.¹¹⁰

Position of the Parties

No intervenor raised issues with PNG(NE)'s consultation.

Panel discussion

The Panel is satisfied with PNG(NE)'s consultation to date, as well as its planned consultation activities.

7.0 British Columbia Government Energy Objectives

Energy Objectives

PNG(NE) submits its investment in the AMR Project is such that it does not provide direct support for the advancement of the provincial government's energy objectives as set out in Part 1 of the Clean Energy Act that primarily pertains to the matters of generation, cost and conservation of electricity.

However, PNG (NE) further submits the AMR Project generally supports the intent of British Columbia's GHG reduction objectives as driven by provisions of the following legislation:

- Climate Change Accountability Act;
- BC Climate Action Charter;
- Carbon Tax Act; and
- Utilities Commission Act.

¹⁰⁸ Exhibit B-1, p. 32.

¹⁰⁹ Exhibit B-3, BCUC IR 21.1.

¹¹⁰ Exhibit B-3, BCUC IR 21.1.1.

PNG(NE) further submits the AMR Project will eliminate the use of five vehicles associated with meter reading and will therefore contribute to a significant reduction in GHG emissions related to meter reading activities.¹¹¹

Clean Energy Act

As stated earlier, section 46(3.1) of the UCA requires the BCUC to consider “the applicable of British Columbia’s energy objectives” and the extent to which the Application is consistent with the requirements of the Clean Energy Act.¹¹²

Section 17(6) of the *Clean Energy Act* (CEA) provides as follows:

If a public utility, other than the authority [BC Hydro], makes an application under the Utilities Commission Act in relation to smart meters, other advanced meters or a smart grid, the commission, in considering the application, must consider the government's goal of having smart meters, other advanced meters and a smart grid in use with respect to customers other than those of the authority.

Section 17(1) defines a smart meter as “a meter that meets the prescribed requirements, and includes related components, equipment and metering and communication infrastructure that meet the prescribed requirements.”

Section 2 of the Smart Meters and Smart Grid Regulation (Smart Meter Regulation) defines the prescribed requirements as follows:¹¹³

For the purposes of the definition of "smart meter" in section 17 (1) of the Act, the prescribed requirements for a meter are that it is capable of doing all of the following:

- (a) measuring electricity supplied to an eligible premises;
- (b) transmitting and receiving information in digital form;
- (c) allowing the authority remotely to disconnect and reconnect the supply of electricity to an eligible premises, unless
 - i. the point of metering for the eligible premises
 - (a) is greater than 240 volts,
 - (b) is greater than 200 amperes, or
 - (c) is three phase, or
 - ii. the eligible premises
 - (a) has a bottom-connected meter,
 - (b) has an output or input pulse meter, or
 - (c) has a meter that measures maximum electricity demand in watts;
 - (d) recording measurements of electricity, and recording the date and time of the recording, at least as frequently as in 60-minute intervals;
 - (e) being configured by the authority at a location either remote from or close to the meter;
 - (f) measuring and recording measurements of electricity generated at the premises and supplied to the electric distribution system;

¹¹¹ Exhibit B-1, p. 35.

¹¹² UCA, sections 46(3.1)(a) & (c).

¹¹³ https://www.bclaws.ca/civix/document/id/complete/statreg/368_2010.

- (g) transmitting information to and receiving information from an in-home feedback device, unless the point of metering for the eligible premises meets any of the criteria set out in paragraph (c) (i) or the eligible premises meets any of the criteria set out in paragraph (c) (ii).

Panel Discussion

The prescribed requirements under the Smart Meter Regulation for a smart meter do not apply to gas metering. However, section 17(6) of the CEA requires the BCUC when considering an application by a public utility to consider the BC government's goal of having "other advanced meters" in use with respect to customers other than those of the authority [BC Hydro]. As such, while the proposed automated meters are not within the definition of smart meter in the Smart Meter Regulation, the Panel is of the view that the legislation is broad enough to include the proposed AMR meters as "advanced meters" within the meaning of section 17(6) of the CEA. [Underlining Added]

The Panel notes that BCOAPO did not comment on this aspect of the Application.

The Panel also considers the AMR Project will contribute to a reduction of GHG emissions by the reduction in the use of vehicles associated with meter reading activities.

For the foregoing reasons, the Panel considers the AMR Project and its proposed meters are aligned with the applicable energy objectives in the CEA.

8.0 PNG(NE) Long Term Resource Plan

PNG(NE)'s most recent long-term resource plan was filed with the BCUC in October 2019 as the 'PNG and PNG(NE) 2019 Consolidated Resource Plan.' The 2019 Consolidated Resource Plan does not include the AMR Project. However, PNG(NE) submits that the Project aligns with several resource plan objectives: safe, reliable service, least cost service, economic viability of utility, stable rates, environmental and socioeconomic impacts.¹¹⁴

Panel Discussion

The AMR Project will make the existing process of meter reading more efficient by automation. BCOAPO did not provide comment on the alignment of the Project with PNG(NE)'s long-term resource plan. The Panel considers that the Project is aligned with PNG(NE)'s most recently filed long-term resource plan as it will contribute to a lower the cost of service, more stable rates and reduced environmental impact.

9.0 CPCN Determination

PNG(NE) states it has demonstrated that AMR is a cost-effective meter reading solution that will enable more efficient and effective meter reads, while providing quantifiable financial benefits and a number of qualitative operational benefits. PNG(NE) submits that the proposed AMR Project is in the public interest and that the approval sought in the Application should be granted.¹¹⁵

Position of the Parties

BCOAPO is supportive of the project. BCOAPO states:

¹¹⁴ Exhibit B-1, pp. 23-24.

¹¹⁵ PNG(NE) Reply Argument p. 4.

We can advise that PNG(NE) has satisfied our clients that the cost risk of this project is low and that its chosen vendor (Vendor A [Itron Canada Inc.]) appears to have provided a solid, well-informed estimate. Our clients also note there is clear evidence that AMR will yield efficiency and accuracy benefits as well as a reasonably likely net consumer benefit of \$2.178M over the course of twenty years. As such, our clients support PNG(NE)'s application, subject to the comments offered above and any consideration the Commission might make of Ms. Baines' or other individuals' radio frequency concerns.¹¹⁶

Panel Determination

The Panel has found that there is a need to improve the meter reading in PNG(NE)'s service territory, that Itron Canada Inc.'s proposed Itron 500G ERT technology is the appropriate alternative, and that the capital cost of the Project is reasonable.

The Panel finds that the public convenience and necessity require that the Project proceed. The Panel, therefore, grants a CPCN to PNG(NE) for the Project to replace the current manual meter reading process for residential and commercial customers with AMR infrastructure.

10.0 Reporting

PNG(NE) submits that it had not planned formal tracking and reporting on the realization of expected financial and qualitative AMR Project benefits. However, should the BCUC request reporting on quantifiable metrics, PNG(NE) is amenable to annual reporting that would focus on the resources dedicated to meter reading (i.e. staffing and vehicles) before and after AMR Project implementation.¹¹⁷

Panel Determination

The Panel directs PNG(NE) to submit the following Project reporting:

1. Project Final Report to be filed 90 days after substantial completion of the Project, to include:
 - a. Final costs using the same cost category breakdown as the Project estimate and an explanation of all material cost variances of greater than 5% to the estimate provided in this CPCN; and
 - b. Any material schedule delays or issues encountered during implementation of the Project.
2. AMR Operational Report to be filed 18 months after substantial completion of the Project, to include:
 - a. Operational information related to implementation of the AMR Project including:
 - i. Number of meter reading FTE positions before and after substantial completion of the AMR Project;
 - ii. Number of vehicles (wholly or in part) dedicated to meter reading before and after substantial completion of the AMR Project; and
 - iii. Actual cost savings realised compared to anticipated cost savings as a result of:
 - reduced meter reading FTE positions,
 - reduced meter reading vehicle use, and
 - any other cost savings achieved.
 - b. An analysis of the number of customers who have opted out of AMR technology including:

¹¹⁶ BCOAPO Final Argument, p. 7.

¹¹⁷ Exhibit B-3, BCUC IR 11 series.

- i. Number of customers who opted out of AMR technology pre-implementation; and
- ii. Number of customers who opted out of AMR technology post-implementation.

DATED at the City of Vancouver, in the Province of British Columbia, this 9th day of November 2020.

Original Signed By:

W. M. Everett, Q.C.
Panel Chair / Commissioner

Original Signed By:

C. Brewer
Commissioner

Original Signed By:

R. I. Mason
Commissioner



ORDER NUMBER

C-3-20

IN THE MATTER OF

the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

Pacific Northern Gas (N.E.) Ltd.

Application for a Certificate of Public Convenience and Necessity

To Implement Automated Meter Reading Infrastructure

BEFORE:

W. M. Everett, QC, Panel Chair

C. Brewer, Commissioner

R. I. Mason, Commissioner

on September 24, 2020

ORDER

WHEREAS:

- A. On March 25, 2020, Pacific Northern Gas (N.E.) Ltd. (PNG(NE)) filed an application (Application) to the British Columbia Utilities Commission (BCUC), pursuant to sections 45 and 46 of the *Utilities Commission Act* (UCA), for approval of net capital expenditures of approximately \$4.2 million to implement Automated Meter Reading (AMR) Infrastructure in its service areas (the AMR Project);
- B. On April 9, 2020, by Order G-86-20, the BCUC established a regulatory timetable for the initial review of the Application, which provided for, among other things, provision of public notice, a round of BCUC Information Requests (IR), PNG(NE) responses to IRs, and intervener registration.
- C. On May 26, 2020, PNG(NE) filed a letter, Exhibit B-5, to the BCUC stating PNG(NE) was not compliant with Directive 2 of Order G-86-20, to provide a copy of the Application to local municipalities and to interveners in the two most recent PNG(NE) proceedings.
- D. On May 28, 2020, by Order G-126-20, the BCUC amended the regulatory timetable to extend intervener registration and solicit submissions on further process.
- E. British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and Tenants Resource and Advisory Centre (collectively, BCOAPO *et al.*) registered as an intervener in the proceeding.
- F. On June 24, 2020, by Order G-169-20, the BCUC amended the regulatory timetable, which provided for a subsequent round of IRs, final and reply arguments.
- G. In its Application dated March 25, 2020, supporting documents dated April 3, 2020, and responses to BCUC IRs dated May 21 and July 21, 2020, PNG(NE) filed non-confidential, redacted versions of these documents

requesting that certain portions of the Application, supporting documents and responses to BCUC IRs be kept confidential due to their commercially sensitive nature. The BCUC reserves its determination on the confidentiality of these documents until the reasons for its decision are issued.

- H. The BCUC has considered the Application and all submissions and determines the following order is warranted.

NOW THEREFORE, for reasons to follow, the BCUC orders as follows:

1. A Certificate of Public Convenience and Necessity (CPCN) is granted to PNG(NE) for the AMR Project pursuant to sections 45 and 46 of the UCA.
2. PNG(NE) is directed to comply with all directives and reporting requirements as outlined in the reasons for decision to follow.

DATED at the City of Vancouver, in the Province of British Columbia, this 24th day of September 2020.

BY ORDER

Original Signed By:

W. M. Everett, QC
Commissioner

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

and

Pacific Northern Gas (N.E.) Ltd.
Application for a Certificate of Public Convenience and Necessity to
Implement Automated Meter Reading Infrastructure

EXHIBIT LIST

Exhibit No.	Description
<i>COMMISSION DOCUMENTS</i>	
A-1	Letter dated March 26, 2020 - Appointing the Panel for the review of Pacific Northern Gas (N.E.) Ltd. Application for a Certificate of Public Convenience and Necessity to Implement Automated Meter Reading Infrastructure
A-2	Letter dated April 9, 2020 – BCUC Order G-86-20 establishing a regulatory timetable and public notice
A-3	Letter dated April 30, 2020 – BCUC Information Request No. 1 to PNGNE
A-4	CONFIDENTIAL – Letter dated April 30, 2020 – BCUC Confidential Information Request No. 1
A-5	Letter dated May 28, 2020 – BCUC Order G-126-20 further establishing the Regulatory Timetable
A-6	Letter dated June 24, 2020 – BCUC Order G-169-20 amending the Regulatory Timetable
A-7	Letter dated July 3, 2020 – BCUC Information Request No. 2
A-8	CONFIDENTIAL – Letter dated July 3, 2020 – BCUC Confidential Information Request No. 2
A-9	Letter dated October 8, 2020 – BCUC requesting information on confidentiality
A-10	Letter dated November 2, 2020 – BCUC Order G-278-20 granting confidentiality

APPLICANT DOCUMENTS

- B-1 **PACIFIC NORTHERN GAS (N.E.) LTD. (PNGNE)** - Application for a Certificate of Public Convenience and Necessity to Implement Automated Meter Reading (AMR) Infrastructure dated March 25, 2020

- B-1-1 **CONFIDENTIAL** - Letter dated March 25, 2020 – PNGNE Submitting Application for a CPCN to Implement AMR Infrastructure confidential Appendix E

- B-2 Letter dated April 1, 2020 – PNGNE Submitting excel Appendices B and C

- B-2-1 **CONFIDENTIAL** - Letter dated April 3, 2020 – PNGNE Submitting confidential excel Appendices B and C

- B-3 Letter dated May 21, 2020 – PNGNE Responses to BCUC Information Request No. 1

- B-4 **CONFIDENTIAL** - Letter dated May 21, 2020 – PNGNE Responses to Confidential BCUC Information Request No. 1

- B-5 Letter dated May 26, 2020 – PNGNE Request Amended Timetable regarding G-86-20 Compliance Fault

- B-6 Letter dated June 16, 2020 – PNGNE Submitting comment on Further Process

- B-7 Letter dated July 21, 2020 – PNGNE Submitting Responses to BCUC Information Request No. 2

- B-7-1 **CONFIDENTIAL** - Letter dated July 21, 2020 – PNGNE Submitting Responses to BCUC Confidential Information Request No. 2

- B-7-2 **CONFIDENTIAL** - Letter dated July 21, 2020 – PNGNE Submitting Redacted Responses to BCUC Confidential Information Request No. 2

- B-8 Letter dated July 21, 2020 – PNGNE Submitting Responses to BCOAPO Information Request No. 2

- B-9 Letter dated October 13, 2020 – PNGNE Submitting Considerations of Requests for Confidentiality

INTERVENER DOCUMENTS

- C1-1 **BRITISH COLUMBIA OLD AGE PENSIONERS' ORGANIZATION, DISABILITY ALLIANCE BC, COUNCIL OF SENIOR CITIZENS' ORGANIZATIONS OF BC, AND THE TENANT RESOURCE AND ADVISORY CENTRE (BCOAPO)** – Letter dated May 22, 2020 – Request for Intervener Status by Leigha Worth and Irina Mis
- C1-2 Letter dated June 18, 2020 – BCOAPO Submitting comment on Further Process
- C1-3 Letter dated July 7, 2020 – BCOAPO Submitting Information Request No. 1 to PNGNE

INTERESTED PARTY DOCUMENTS

- D-1 **FORTISBC ENERGY INC. (FEI)** - Submission dated April 6, 2020 Request for Interested Party Status

LETTERS OF COMMENT

- E-1 Bains, K. - Letter of Comment dated June 6, 2020