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March 21, 2016

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto ON M4P 1E4
Attn: Ms. Kirsten Walli, Board Secretary
Fax: 416-440-7656
BoardSec@ontarioenergyboard.ca

Attention: Kirsten Walli,
Board Secretary

Re: EB-2016-0004 - Application under the Ontario Energy Board's own motion to consider potential alternative approaches to recover costs of expanding natural gas service to rural, remote and First Nation communities that are not currently served.

Dear Ms. Walli:
Please accept this submission from Anwaatin Inc. on behalf of:

- Aroland First Nation
- Waaskiinaysay Ziibi Inc. Development Corporation (WZI) which is the economic development corporation representing the five First Nations in the Lake Nipigon Watershed:
    - Animbiigoo Zaagiigan Anishinaabek,
    - Bingwi Neyaashi Anishinaabek,
    - Biinjitiwaabik Zaaging Anishinaabek,
    - Red Rock Indian Band and
    - Whitesand First Nation.

This submission is organized by Larry Sault, CEO of Anwaatin. Larry Sault is the former Grand Chief of the Iroquios and Allied Indians, and former Vice President, Canadian Executive Services Organization (CESO) Aboriginal Services with oversight of seven regional offices, budgets, staff and a mandate of assisting First Nations across Canada in developmental stages of growth within their communities. Anwaatin is also, separately, providing support to MoCreebec for its submission of evidence to the Board.

Submission research was conducted by Dr. Don Richardson of Shared Value Solutions Ltd. Dr. Richardson has experience in Canada and internationally, including work for the World Bank and the UK Department for International Development, supporting Universal Service Funds and the extension of utilities to rural, remote and indigenous communities. Dr. Richardson also assisted the Ontario Power Authority (now part of the Independent Electricity System Operator) in developing the plan and guidelines for the Aboriginal Community Energy Plan (ACEP) program and has been involved in research and planning for several Aboriginal Community Energy Plan projects and Aboriginal energy initiatives.

1) Energy Poverty and Sustainable Development Goal #7

Anwaatin seeks to provide the Ontario Energy Board with an understanding of the interests of its First Nation clients (current and potential natural gas ratepayers) in Ontario for accessing low-carbon, low-cost natural gas for the purposes of home, business/industry and institutional heating, power generation, and enabling renewable energy by reducing the need for electrical grids to provide baseload heat energy.

A key theme of this submission is the serious need to address “energy poverty” within First Nation communities through energy access: affordable, reliable, sustainable and modern energy as per the 2030 Agenda for Sustainable Development, and the global Sustainable Development Goals (SDGs).

The concepts of energy poverty and energy access are normally associated with conditions in developing countries, but they apply well to the realities of First Nations in Ontario. The International Energy Agency describes energy access as including:

- Household access to a minimum level of electricity
- Household access to safer and more sustainable (i.e. minimum harmful effects on health and the environment as possible) cooking and heating fuels and equipment
- Access to modern energy that enables productive economic activity, e.g. mechanical power for business and industry
- Access to modern energy for public services, e.g. for health facilities, schools and community infrastructure

All of these elements are key to economic and social development – in a developing country, or for a First Nation community - as are a number of related issues that are sometimes referred to collectively as "quality of supply", such as technical availability, adequacy, reliability, convenience, safety and affordability. First Nations in Ontario generally lack “quality of supply” when it comes to access to energy.

In September, 2015, world leaders signed off on the 2030 Agenda for Sustainable Development, including 17 Sustainable Development Goals (SDGs). **Goal #7 of the SDGs is: Ensure access to affordable, reliable, sustainable and modern energy for all.** The SDGs have been adopted by nations around the world, including Canada, and therefore, the Ontario Energy Board has an important opportunity to contribute to contribute to Canada's success in meeting Goal #7 with the outcomes of this hearing process.

Access to affordable, reliable, sustainable and modern energy is not yet in reach of most First Nations in Ontario. The quality of energy supply is very poor to most First Nation communities, including technical availability, adequacy, reliability, convenience, safety and affordability.

2) Background on Client Interests

The First Nations supporting this submission ares exploring a variety of energy supply alternatives to reduce energy costs, manage carbon emissions, develop renewable energy supplies and improve community wellbeing. Access to natural gas is one of several options these First Nations are exploring. Taking heatloads off the electricity grid is key to freeing the electricity grid to enable solar, wind, geothermal, and other renewable energy supplies.

First Nation households among the First Nations represented for this submission are typically paying $1,000 to $1,500 per month for home heating costs – electrical forced air furnaces, electrical baseboard heating, propane, and wood supplies for supplemental wood stove heat are common. Similar homes on First Nations with access to natural gas pay $100 or less per month for home heating and have less reliance on supplemental wood stove heat and suffer fewer indoor air quality issues and related health issues.

Natural gas is the principal energy source for households in Ontario, with 62% of Ontario households relying on natural gas or home heating and water heating, but also to fuel other large appliances such as stoves and clothes dryers (Statistics Canada, 2011. Households and the Environment: Energy Use - http://www.statcan.gc.ca/pub/11-526-s/2013002/part-partie1-eng.htm). However, natural gas is not available to the First Nations supporting this submission, nor is it available to a great number of First Nations across Ontario, especially in the north. Due to the expense of transporting diesel, heating oil and propane fuels, the expense of heating with electricity, and the expense of securing wood supplies for supplemental wood stove heating, First Nations in the north commonly pay eight to ten times more for heating homes and other buildings than southerners do.

Energy poverty is a reality to the First Nations supporting this submission. Access to natural gas promises an alternative, low-carbon, low-cost source of heat energy that will have the additional benefit of opening local transmission grids to harness renewable energy sources such as solar, wind and hydro.

All of the communities supporting this submission are within 60 kilometres of one of the largest natural gas pipelines in North America – the TransCanada Mainline. Natural gas is within reach, but due to a variety of geographic and capital cost issues, remains out of reach. This is a situation that the Ontario

Energy Board can help change, with First Nation appropriate solutions that will also benefit rural and remote communities across the province.

3) Alternative Approaches to Recover Costs of Expanding Natural Gas Service to Rural, Remote and First Nation Communities

It is important to the First Nations supporting this application, and other First Nations across Ontario, that this hearing includes focus on the specific needs of First Nation communities in Ontario that do not have access to natural gas – both reserves and communities that include substantial First Nation populations. First Nations must have the option of low-cost, low-carbon natural gas as part of their potential energy supply mix. Natural gas is available to the majority of Ontario's population – enabling a wide variety of low-carbon and renewable energy opportunities. First Nations should have those same opportunities.

Union Gas' application EB-2015-0179 seeks approval for new approaches to expanding rural, remote and First Nation access to natural gas. The First Nations supporting this application that new approaches to expanding access to natural gas in rural, remote and First Nation communities are necessary. The First Nations further understand that this hearing connects directly to the Government of Ontario's desire to expand natural gas distribution systems to communities that do not have access to natural gas as soon as possible.

The First Nations supporting this submission understand that EB-2015-0179 includes potential expansion to or within six First Nations: Chippewas of the Thames First Nation, , and Kettle Point First Nation/Lambton Shores, Moraviantown First Nation, Nipissing First Nation / Jocko Point, Oneida First Nation, and Chippewas of the Saugeen First Nation. It is important to recognize that this hearing originates with an application that includes significant proposed natural gas services to First Nations. This hearing will also serve to draw attention to so many other First Nations that do not have access to natural gas.

Union Gas' efforts to assist First Nations with access to natural gas dates back to its work to create the Six Nations Natural Gas Company in 1989 - the first natural gas local distribution company (LDC) owned and built by a First Nation community in Canada. Fifteen years ago, in 2001, Union Gas and its partner Six Nations Natural Gas Company Limited were chosen by the Province of Ontario as the winner of its second annual Ontario Aboriginal Partnerships Award. At the time of the Award, the Honourable David Young, then Ontario's Attorney General and Minister Responsible for Native Affairs said, "This partnership has had a very positive ripple effect throughout the community. Ontario is working with Aboriginal communities and the corporate sector to build market-driven partnerships to support our mutual goal of Aboriginal self-reliance, entrepreneurship and the creation of long- term employment."

Unfortunately, beyond Union Gas' pioneering work, there are few examples of serious efforts to expand natural gas to First Nation reserves that include tailored Aboriginal programs and partnership approaches. In Ontario, the reality that natural gas service is unavailable in so many First Nation communities, and communities with substantial off-reserve First Nation populations indicates that there is a systemic bias that prevents indigenous peoples from having equitable access to natural gas.

Anwaatin has been unable to determine the full extent of unserved indigenous peoples across Ontario and submits that the Board would be well advised to rapidly assess the current situation and report to the Government of Ontario on the Board's efforts to expand natural gas distribution systems to First Nation reserves and communities with substantial indigenous populations that do not have access to natural gas, and further report on efforts to make sure those communities have access to natural gas as soon as possible.

4) Revenue Recovery – Universal Service Fund

The First Nations supporting this application submit that to expand natural gas service to unserved rural, remote and First Nation communities in Ontario, the Board should establish a Universal Service Fund. The Universal Service Fund would collect funds from all Ontario natural gas customers on a fair and equitable basis, and distribute those funds on a fair and equitable basis to any qualified utility which obtains a franchise and a leave to construct a community expansion from the Board. All utilities approved by the Board to provide natural gas service should collect funds using a universal formula, from each of their customers to put capital into the Universal Service Fund – a pool of funds available to all utilities to expand service to rural, remote and First Nation communities. The Universal Service Fund should cover both capital costs for expansion and circumstances where rural/remote/First Nation annual operating costs will be higher than the average community. The formula for collecting revenues, and the distribution of funds from the Universal Service Fund, can be reviewed annually to maximize benefits and service expansion, and minimize costs to all customers.

Where services are needed by rural, remote and First Nation communities, the Board can establish competitive Request for Proposal (RFP) mechanisms to select the utility that will provide the most cost-effective and highest quality of service to such communities, while drawing equitably from the Universal Service Fund. The First Nations further submits that such a competitive process works for a variety of rural utility services around the world, will bring in new entrants that can include First Nation LDCs and LDC partnerships, and will accelerate the Government of Ontario's commitments to expand natural gas distribution systems to communities that do not have access to natural gas as soon as possible. A Universal Service Fund approach is in the public interest and will maximize the extension of natural gas services to numerous unserved First Nation communities.

Universal Service Funds usually include the three following principles[1]:

- Availability: the level of service is the same for all users without geographical discrimination
- Affordability: for all users, the price of the service should not be a factor that limits service access
- Accessibility: all customers should be treated in a non-discriminatory manner with respect to the price, service and quality of the service, in all places, without distinction of race, sex, religion, etc.

Universal Service Funds must include defined and measurable objectives. In this case, a primary objective would be to make sure that First Nation reserves and communities with substantial indigenous

[1] International Telecommunications Union, 2013. Universal Service Fund and Digital Inclusion For All Study. https://www.itu.int/en/ITU-D/Conferences/GSR/Documents/ITU%20USF%20Final%20Report.pdf

populations that do not have access to natural gas, have access to natural gas as soon as possible. A Universal Service Fund with clearly defined objectives will provide all participants, and the Government of Ontario, with confidence in the funding approach and will build support for the program.

A Universal Service Fund should also be technologically neutral. Technology for natural gas transportation is evolving rapidly, especially with advances in natural gas liquefaction and technologies for transporting liquid natural gas (LNG). As technologies evolve and are more rapidly deployed – for example the various configurations of Virtual Pipelines to truck or rail, and store and distribute, natural gas in North America, Australia, Europe, Asia and Africa[2] – Virtual Pipelines stand to provide a competitive alternative to pipelines for communities that present distance, geophysical or "social license" challenges for traditional pipeline infrastructure. Various forms of Virtual Pipelines provide the ability to start natural gas services from small systems and progressively scale up as demand changes, or new communities and users come online. Scalability of Virtual Pipelines can support shortened project development timelines, scalable capital investments and a wide variety of participants. While physical pipelines are tied to the geographies they serve, the various forms of Virtual Pipelines are flexible to serve shifting demand wherever rail, road or port infrastructure permit.

Understanding the extent of unserved indigenous peoples across Ontario is of particular importance to First Nations in proximity to the TransCanada Mainline natural gas pipeline. Across the north of Ontario, many First Nation communities, and communities with substantial indigenous populations, are in proximity to this major Canadian natural gas transportation service built in 1958, but continue to lack access to natural gas despite efforts to convert part of this natural gas pipeline infrastructure to transport crude oil.

It is difficult to understand how First Nations are supposed to accept the risks of converting natural gas pipelines to crude oil transport while never seeing benefits from the natural gas transported through the TransCanada Mainline. The Board has reviewed the Energy East project, but this review did not include reference to implications of the Energy East project for First Nations unserved by natural gas.

5) Natural Gas Service Scenario – Northwestern Ontario Virtual Pipeline

A pipeline option most Northwestern Ontario First Nations would be uneconomic. Physical pipelines to expand service to many rural, remote and First Nation communities can be expensive, and challenging and time-consuming to build. Consequently, many prospective users do not have access to natural gas even though supplies are now plentiful and available at low-cost. Even where plans exist to get pipeline service, such access may be years away, resulting in higher energy costs every day for the energy user. Virtual Pipelines bridge this gap.

Scalable and modular, Virtual Pipelines utilize rail, road or port shipment to provide the reliable and flexible augmentation of the physical pipeline network that is necessary to monetize natural gas for diesel, propane or fuel oil replacement, or any other fueling need. Using trucks, rail or water transport,

[2] See: a) GE Power & Water, 2016. Delivering gas-fired power where no gas has gone before: Small gas networks for distributed power whenever and wherever it is needed. https://www.geoilandgas.com/sites/geog.dev.local/files/Brochure_virtual-pipeline_8pages_v06.pdf b) XNG, 2016. XNG Virtual Pipeline Case Studies, 2016. http://xng.com/case-studies/. c) Alaska Dispatch News, 2015. Juneau may look to Canadian natural gas to lower energy costs. http://www.adn.com/article/20151127/juneau-may-look-canadian-natural-gas-lower-energy-costs

commercial quantities of natural gas are delivered to customers that do not have access to physical pipelines, and Across the developed world, Virtual Pipelines enable cost-effective, efficient, and reliable transportation and delivery of natural gas.

Virtual Pipelines save customers a great deal of money. The cost per BTU of other liquid fuels is substantially higher than that of natural gas, and this spread is expected to continue for years to come. Savings for Virtual Pipeline customers in similar circumstances in Alaska are estimated to be about 35 percent over home heating oil and about 35 percent over propane.3 End users receive gas to their buildings and facilities as if there was a pipeline directly connect to their community.

Typically trucks, and unloading systems are owned and operated by the LDC operator. The gas purchasing, trucking logistics, capital costs, and equipment maintenance are all handled by the LDC. The end-user needs to convert their equipment to run on natural gas – an investment that, in the case of Union Gas, could be covered in full or partially through its Board approved Aboriginal Program.

A Virtual Pipeline network across Northwestern Ontario "road-connected" First Nations and adjacent non-native communities would make it possible for expansion of similar natural gas service to more remote communities that may soon be connected by all-season roads in conjunction with pending provincial and federal infrastructure funding. This would include opportunities to switch diesel generators to natural gas and including service heat schools, hospitals and medical clinics, and service to industrial users such as mining companies in remote areas.

6) Issue No. 3 – 2016-0004

With regard to Issue #3 Should the OEB consider exemptions or changes to the EBO 188 guidelines for rural and remote community expansion projects? Anwaatin submits that:

a) The Provincial Government has set out a goal of ensuring that Ontario consumers in communities that currently do not have access to natural gas are able to share in affordable supplies of natural gas. The OEB should expand the EBO 188 guidelines to include explicit mention of First Nations that do not currently have access to natural gas and would benefit significantly by being able to share in affordable supplies of natural gas, including the unique needs and situations of both "road connected" and "remote" First Nations that do not yet have all-season road connections. The overall net cost to receive natural gas via in a road-connected First Nation can be more than double that of a traditional natural gas pipeline distribution solution, and far more for remote First Nations. The added costs of LNG or CNG production, transportation and storage create a very different supply and distribution environment than in southern communities. But for families in northern Canada paying $1,000 to $1,500 per month for other heating energy options, paying double or triple the $100 per month cost of heating a similar home in southern Ontario is a bargain. For many low income families in the north, home heating costs can eat up as much as half of monthly household expenditures.

[3] Alaska Dispatch News, 2015. Juneau may look to Canadian natural gas to lower energy costs. http://www.adn.com/article/20151127/juneau-may-look-canadian-natural-gas-lower-energy-costs

As additional “remote” First Nations gain infrastructure funding to build all-season roads, their unique energy poverty can be substantially reduced through access to natural gas transported as LNG – to replace high-carbon diesel generation and supply natural gas for building heating and hot water heating. Natural gas will save money on electricity generation, and combined with building heating, will open up local micro-grids to a variety of renewable energy generation options that cannot be supported if the grid is focused on primarily supporting electrical heating needs in winter. LNG will also reduce environmental issues associated with fuel spills from transport and storage.

b) The intent of EBO 188 is to facilitate the expansion of natural gas service while holding other customers harmless from the cost of new connections. The alternative of a Universal Service Fund approach to awarding gas expansion/connections fit with the intent of EBO 188. However, a Universal Service Fund may result in new natural gas distribution entities that focus on the specific market realities and needs of rural, remote and First Nation customers. Rural, remote and First Nation focused distributors would have higher initial capital costs and higher operating costs, and would not fit with the portfolio approach for gas expansion/connections currently outlined in EBO 188. In other jurisdictions, globally, Universal Service Funds can enable uniquely situated and responsive distribution entities to serve the specific needs of unserved customers, or enable incumbent firms to adapt their customer service approach to unique geographies and circumstances. The OEB should therefore move forward with the intent of EBO 188, but create a Universal Service Fund approach that focuses on the Province's goal of ensuring that Ontario consumers in communities that currently do not have access to natural gas are able to share in affordable supplies of natural gas.

c) Costs that should be included in the economic assessment for providing natural gas service to communities should include costs that reflect the realities of serving rural, remote and First Nations communities, including flexibility for non-pipeline natural gas delivery. Non-pipeline natural gas capital costs would include:

- Vehicles and transportation equipment to transport natural gas beyond pipelines - truck, rail, marine shipping methods and associated CNG/LNG containers
- LNG and/or CNG storage facilities at community distribution points and waypoints for LNG and/or CNG storage to service clusters of communities
- LNG vapourizers at community distribution points
- Other capital items necessary to transport and distribute LNG/CNG to rural, remote and First Nation communities

d) Communities eligible for Universal Service Fund must align with the Province's goal of ensuring that Ontario consumers in communities that currently do not have access to natural gas are able to share in affordable supplies of natural gas. Anwaatin submits the following considerations:

- Communities where households are paying more than 2 times the average (or more) of similar households for heating should be prioritized for service - and this would include most unserved First Nations in Ontario.
- Communities that can take advantage of natural gas service to reduce electricity loads for heating and therefore bring more renewable generation into the local transmission grid, should also be prioritized for service - and, again, this would include most unserved First Nations in

Ontario. This would also add positive environmental and climate change action considerations to prioritizing communities for service.

- Finally, communities that can support both local natural gas distribution for home heating *and* natural gas replacement for diesel powered electricity generation should be prioritized for service - and this would include most unserved remote First Nations in Ontario.

e) Rate structures for rural, remote and First Nations may need to reflect the more expensive operational costs of providing service. Globally, Universal Service Fund experiences show that rural, remote and Indigenous customers are willing and able to pay higher rates for services in relation to urban customers because the cost of alternatives are high. If the cost of heating a home in northern Ontario is currently 10 times the cost of heating a southern Ontario home, the northern customer will be willing and able to pay a comparatively higher rate for natural gas service. However, some Universal Service Funds contribute to both capital costs and higher operational costs in order to help level or offset the costs to customers, regardless of location. Anwaatin submits that operational costs can be offset from a Universal Service Fund to keep costs to customers at no more than 2 times the cost of equivalent southern Ontario service.

7) Summary

In summary, Anwaatin and the First Nations supporting this application thank the Ontario Energy Board for the opportunity to present this information. A Universal Service Fund is an appropriate, and proven, alternative approach to recover costs of expanding natural gas service to communities that are not currently served. A Universal Service Fund can reduce energy poverty for First Nations, and other communities, and create significant financial benefits for families faced with unacceptably high heating bills. Tied to technical neutrality, a Universal Service Fund will support a variety of new technical approaches suitable for economically expanding natural gas service to rural and remote communities and First Nations, supporting the Government of Ontario's desire to expand natural gas distribution systems to communities that do not have access to natural gas as soon as possible.

Sincerely,

Per Larry Sault

Larry Sault, CEO

Email: larry@anwaatin.com