



February 27, 2017

Our File: 101560-001

**VIA COMMISSION E-FILING**

British Columbia Utilities Commission  
6<sup>th</sup> Floor – 900 How Street  
Vancouver, BC V6Z 2N3

**Attention: Ms. Erica Hamilton, Commission Secretary**

Dear Ms. Hamilton,

**Re: BC Hydro 2017-F2019 Revenue Requirements Application  
Project No. 3698869  
Zone II Ratepayers Group Evidence**

We write on behalf of the Zone II Ratepayers Group. Further to the Commission's Order G-20-17 (Exhibit A-22), please find enclosed the evidence of Chief Donald Van Somer (Kwadacha Nation) and Stieg Hoeg (Tsay Keh Dene Nation), for filing in this matter.

Yours truly,

MILLER TITERLE + COMPANY LLP

A handwritten signature in cursive script, appearing to read 'Jana M. McLean'.

Jana McLean

jana@millertiterle.com

Encl.

**British Columbia Hydro and Power Authority**

**F2017 – F2019 Revenue Requirements Application**

**Project No. 3698869**

**Zone II Ratepayers Group:**

**Evidence of Chief Donald Van Somer, Kwadacha Nation**

**and**

**Evidence of Stieg Hoeg, Tsay Keh Dene Nation**

**February 27, 2017**

## **1. Background and History: Kwadacha/Fort Ware, Tsay Keh Dene**

The Zone II Ratepayers Group (Zone IIRPG) consists of Kwadacha Nation and Tsay Keh Dene Nation, who are both located in BC Hydro's Zone II non-integrated area. These remote off-grid communities take electricity service from BC Hydro under Zone II rates. The communities have a shared, unique history and common electricity supply and service issues.

These Nations are participating, for the first time, in a British Columbia Utilities Commission (Commission) proceeding regarding BC Hydro for several reasons, being:

- serious issues in the communities, which affect the financial and physical health of residents, impact economic development and the provision of services;
- high electricity costs and increases in electricity rates;
- reliability concerns and the impact of loss of service;
- need to ensure that these concerns are addressed and that there is a consistent, reliable relationship with BC Hydro;
- we have recommendations to put forward for consideration by BC Hydro and the Commission.

## **2. Evidence of Kwadacha - Fort Ware**

I am Donald (Donny) Van Somer, Chief of the Kwadacha Nation located in Fort Ware, BC. I have lived my entire life in Fort Ware. I am an elected Chief, a position I have held for 11 years. In this role, I lead Council, supervise the band administration and focus on the needs of the community and members. I was a unit crew leader with the Ministry of Forestry for 5 years and worked in general maintenance at Aatse Davie school. I have also operated band businesses; Akie Gataga Forest Limited and been a Director of Tsay Keh Dene Forestry.

Kwadacha Nation is a non-integrated remote community located in Fort Ware, BC with approximately 400 people of which 380 are Kwadacha Nation members. There are about 90 homes in Fort Ware. Employment in Fort Ware consists of Band and Health Administration, Education, Public Works and forestry, mining and oil & gas industries. Fort Ware has an un-manned RCMP detachment that was constructed with federal and provincial funds in 2011. There is no fire hall. About 10 – 12 percent of community members rely on Income Assistance of about \$540 per month. Fort Ware experiences harsh winter weather with temperatures commonly being colder than -20 degrees Celsius. Photographs of the community are provided in Appendix C. Additional information on Kwadacha is available at: <http://www.kwadacha.com/>.

Kwadacha Nation is in the process of finalizing Strategic and Comprehensive Community Plans and has started on a draft Energy Management Plan.

Kwadacha Nation was relocated to the more remote Fort Ware (which is about 600 km north of Prince George) when BC Hydro's W.A.C. Bennett Dam was built in the 1960s. The history of

flooding and relocations is still painful for many of the elders and residents. The closest town to Fort Ware is Mackenzie, which is about 400 km away. Fort Ware is accessible by small plane or since 1992 by logging road, which is an 8 to 10 hour drive depending upon weather and road conditions. The gravel airstrip is in need of \$950,000 in upgrades to secure Transport Canada certification and eligibility for scheduled service.

As a result of the flooding caused by the W.A.C. Bennett Dam, BC Hydro and Kwadacha Nation eventually entered into the 2008 Settlement Agreement.

In 2013, the people of Kwadacha Nation became BC Hydro customers under the Remote Community Electrification (RCE) program. The distribution system was contributed to BC Hydro and the generation system was upgraded by BC Hydro with funding provided by Indigenous and Northern Affairs Canada (INAC). INAC continues to fund a significant portion of the annual operating costs for our community.

In some homes, wood is the predominant heat source, but electricity is required as a back-up heat source, and also to operate the circulation fans, to heat crawl spaces and for food storage. Many homes in the community are sub-standard and in need of major renovation and/or upgrades. The extremely cold winter climate, the community's remoteness, and the RIB rate all contribute to high electricity bills. Low incomes in the community combined with higher demand make electricity affordability a key issue. Demand Side Management (DSM) programs which include home upgrades, are very important to our community. Kwadacha Nation has been focused on renovations and energy efficiency upgrades for a number of years.

In 2010 and 2013, Kwadacha Nation implemented a successful two-phase energy efficiency upgrade pilot project. BC Hydro contributed to the funding of this project. Phase 1 was an energy assessment of all homes in Kwadacha Nation along with the installation of basic energy efficiency measures. Phase 2 selected 11 pilot homes and installed deep energy retrofits for these homes, with a total energy savings of approximately 137,015 KWh per year (a 32.1% savings from previous consumption). This pilot was successful; however, more energy efficiency upgrade measures are needed in Fort Ware to address electricity affordability particularly in the remaining homes identified in Phase 1 of the pilot. In 2016, another 12 homes were upgraded and the work was funded by the community, INAC and BC Hydro with INAC providing most of the funding.

Kwadacha Nation has satellite internet service in the community, which the residents pay for themselves. There is no bank or Service BC office in Fort Ware. Bill payments can be made via the community general store through Canada Post's money order system.

The recent initiatives by BC Hydro, in the areas of communications, DSM, supply and reliability, are encouraging but need to be expanded and sustained (see ZonellIRPG IR 2.36.7, 2.36.11, 2.36.13, 2.36.15, 2.37.1, 2.37.2, 2.38.2, 2.38.8). Short-term testing of new approaches and pilot projects, which do not result in any long-term change, do not address the fundamental issues of

affordability, access and reliability in our community. We need changes that will effect permanent improvements in our community (see Zone IIRPG IR 2.36.14, 2.36.16).

Kwadacha Nation is in the process of commissioning a biomass project that will supply electricity to BC Hydro and heat to greenhouses and the school. While we are pleased that the project has proceeded, some IR responses provided by BC Hydro on costs and standby for diesel generation have now raised unexpected concerns about the status of our negotiations with BC Hydro, and its required contract terms.

Electricity demand has and will continue to grow. A number of homes have been built, the former band administration building now operates as a recreation centre, there is the new biomass facility (Appendix E), new greenhouses (Appendix F) and a restaurant. The biomass facility is restricted in generating capacity to 135 kW and a significant interconnection study charge was levied by BC Hydro even though the biomass facility is connected at a diesel generator. Energy prices in line with avoided costs and BC Hydro's Standing Offer Project (SOP) pricing is required for these initiatives to be economic.

### **3. Evidence of Tsay Keh Dene**

I am Stieg Hoeg, the Director of Capital and Housing for the Tsay Keh Dene Nation. I have been in this position for 3 years. Previously, I was in private industry for 5 years and an airport manager for 30 years. As Director of Capital and Housing, I am responsible for: education and health; maintenance of commercial and public facilities including schools, utilities including water, sewer, electrical and propane, and roads; fleet, construction crews, and renovation crews. My department has 30 employees in the summer and has its own construction crews. I manage capital projects for the community.

#### **3.1 Background**

Tsay Keh Dene is a non-integrated, remote community located on the shores of the Williston Reservoir, 74 km south of Fort Ware, BC and 430 km north of Prince George. From Prince George, the drive is usually about 10 hours by logging road. From McKenzie, the drive is about 5 hours depending on weather. The gravel strip airport in our community is in need of a \$1.5 million code upgrade and no commercial carrier is able to use the runway. As a result, only charter flights are available.

The history of flooding and relocations caused by the construction of the W.A.C. Bennett Dam is still painful for many of the elders and other members of our Nation. Homes and band facilities are not built overlooking the Williston Reservoir because of the painful memories it evokes. Due to the history and the lasting impacts of this hydro development, the Tsay Keh Dene Nation pays the electricity bills on behalf of the band members. The residents continue to suffer from silica dust contamination from the Williston Reservoir in the summer with related health effects. The community has been advised not to burn wood due to its contribution to already poor air quality.

Tsay Keh Dene Nation is comprised of 480 on and off-reserve members. Many of the members live in Tsay Keh Dene, BC, which has a population of approximately 290 people. The community of Tsay Keh Dene consists of over 100 residential homes in addition to community services and businesses such as the band office, general store, RCMP, firehall, school and learning centre.

Tsay Keh Dene members are involved in seasonal employment in the resource extraction industries, primarily forestry via two band-operated businesses: Chu Cho Enterprises Ltd. and Ingenika Logging. A few members also continue to maintain traplines.<sup>1</sup> Attached as Appendix D are aerial photographs and a community plan.

Tsay Keh Dene has no retail services except the band store.

The residential homes in our community consist mainly of single family homes with some duplexes and trailers. Five single family homes and duplexes are under construction. The community was rebuilt in this location in the late 1980s/early 1990s. The newer homes are prefabricated and built with poor quality construction. In some instances, the homes are coming apart with shifting and crumbling foundations and gaps in the walls/crawl spaces. The older homes are not experiencing these same issues because they were better constructed. Because of the poor construction and related deterioration, the newer homes experience significant heat loss. Refrigerators in residential homes may be 25 years old. Photographs of typical homes are included herein as Appendix D with comments to explain the photos. A video of Tsay Keh Dene and its people is available at: [http://www.cpha.ca/uploads/progs/soc-detrmnts/frontline/tsay\\_keh\\_dene.mp4](http://www.cpha.ca/uploads/progs/soc-detrmnts/frontline/tsay_keh_dene.mp4)

All the housing in Tsay Keh Dene is owned and operated by the band and none of the residents pay rent or electricity. Electricity is used in many of our homes, in whole or in part, particularly in the newer homes for lighting, hot water, space heating (electric furnaces) and household appliances. About half of the homes also have propane hot water and furnaces (propane and wood heat are used for space heating in the older homes in addition to electric heat). The older wood stoves, some condemned, have been switched to high-efficiency wood stoves.

High density housing is unacceptable in the community for several reasons, including our cultural values and social practices, which have relied on individuals living in small separate groups.

Eventually all the propane appliances and furnaces will be replaced with electric furnaces and appliances for health and safety reasons. Electric appliances and furnaces are easier to manage, are less costly and easier to repair and do not require long delays for replacement parts, like their propane equivalents. In addition, the cost of propane for our members means

---

<sup>1</sup> Site C Clean Energy Project, Volume 5 Appendix A27 Part 1, Community Summary: Tsay Keh Dene First Nation, Final Report prepared for BC Hydro by Fasken Marineau, January 2013, [https://www.ceaa-acee.gc.ca/050/documents\\_staticpost/63919/85328/Vol5\\_Appendix-Tsay\\_Key\\_Dene.pdf](https://www.ceaa-acee.gc.ca/050/documents_staticpost/63919/85328/Vol5_Appendix-Tsay_Key_Dene.pdf).

there is a reluctance to use it for space heating, which in turn has caused health issues and infrastructure damage. Tenants have vacated homes and shut-off the propane, causing severe freezing damage in the homes. Electric space heating with programmable temperature controls would prevent these issues, provided the electricity supply is reliable.

Tsay Keh Dene has a history of displacement and suppression, due to the massive flooding of traditional territory and burial sites to make way for the W.A.C. Bennett Dam. In or about 1968, when the dam was completed, Kwadacha and Tsay Keh Dene Nations were one band: the Finlay River Band. Fort Grahame, which was flooded, was home to people from this band.

Pursuant to Settlement Agreements made between Tsay Keh Dene Nation, Canada, the Province of British Columbia and BC Hydro dated Sept. 22, 1989, March 17, 1994 and August 31, 2009, Canada is now implementing the creation of new reserves.<sup>2</sup>

In 2013, the residents of Tsay Keh Dene became BC Hydro customers under the RCE program whereby BC Hydro generates electricity via a diesel generating power station. The distribution and generation system was upgraded and funding was provided by INAC. INAC continues to fund a significant portion of the annual operating costs, currently \$610,000 annually.

### **3.2 Electricity Supply, Reliability, Service and Energy Efficiency / DSM**

#### **3.2.1 Electricity Supply & Reliability**

Tsay Keh Dene's primary electricity concern is electricity supply adequacy and reliability, followed by energy efficiency and home upgrades.

The community's electricity demand is exceeding BC Hydro's projections, with blackouts and flickering lights occurring on a weekly basis.<sup>3</sup> Recently, a generator breakdown resulted in lack of capacity, rolling blackouts and the longer term loss of communications.

The community needs additional electricity supply to provide reliability, to provide much needed housing for a growing community, to grow the economy and to provide services. BC Hydro has recently recognized Tsay Keh Dene's electricity supply needs (see ZonellRPG IR 2.39.6, 2.39.7) and is working with the community on future planning. Cooperation is needed from BC Hydro to develop renewable energy projects at fair prices, offset diesel needs and achieve broader community objectives (see ZonellRPG IR 2.35.3, 2.36.9, 2.39.4).

---

<sup>2</sup> The flooding of the Tsay Keh Dene Nation's land and the subsequent agreements with the province for compensation has been reported: "Tsay Keh Dene seeks lands to replace reserves flooded by Williston Reservoir", January 29, 2016, <http://www.alaskahighwaynews.ca/regional-news/tsay-keh-dene-seeks-lands-to-replace-reserves-flooded-by-williston-reservoir-1.2161775>

<sup>3</sup> Chief Dennis Izony provided an opinion piece on the impact of flooding in the Vancouver Sun: "B.C. Hydro and Duty of Care", September 29, 2016, <http://vancouversun.com/opinion/opinion-bc-hydro-and-duty-of-care>

Electricity costs which are paid by the Nation directly reduce the funds available for home upgrades. The Nation directs any savings in electricity costs into housing upgrades and energy efficiency improvements.

In response to the RCE program, Tsay Keh Dene Nation had proposed a biomass cogeneration system, which would use otherwise-wasted timber from the Williston Reservoir and forests killed by pine beetles. These two sources of waste timber would produce enough fuel for climate-friendly energy independence for approximately seven generations. The operation of the cogeneration plant would create over a dozen sustainable jobs while providing Tsay Keh Dene with inexpensive, renewable heat and power. The heat would have made it economical to have a greenhouse, creating more jobs and providing locally grown food for an affordable balanced diet.

The cogeneration proposal won a \$1-million award from B.C.'s Innovative Clean Energy competition, but BC Hydro would not enter into a power purchase agreement with Tsay Keh Dene Nation on the basis of its energy demand forecast. BC Hydro's projection only allowed for demand from essential electric loads and population growth and rejected Tsay Keh Dene Nation's vision for promoting local industry supported by low-cost heat and power.

Electricity supply issues could be addressed by reducing electricity consumption while also increasing generation supply. Our recommendation to reduce electricity consumption include multi-year energy efficiency programs that incorporate housing upgrades. Tsay Keh Dene's proposed biomass facility could provide additional electricity (and displace diesel), via BC Hydro power acquisition options such as the Standing Offer Program (SOP) offerings. BC Hydro's current SOP energy pricing, as of April 2016, for new generation projects is shown below:<sup>4</sup>

**Figure 1 – Base Price**

<b>Region of POI</b>	<b>Base Price (2016\$/MWh)</b>
Vancouver Island	110.01
Lower Mainland	111.56
Kelly/Nicola	104.39
Central Interior	106.80
Peace Region	102.06
North Coast	103.47
South Interior	106.50
East Kootenay	109.94

Our goal of reducing diesel generation is consistent with BC's Climate Leadership Plan (2016), which states: "[t]o advance efficient electrification, we are taking action by working with BC Hydro to expand the mandate of its DSM programs to include investments that increase

---

<sup>4</sup> BC Hydro Standing Offer Program Rules Version 3.2 April 2016, page 10.



efficiency and reduce GHG emissions.”<sup>5</sup> Tsay Keh Dene would welcome BC Hydro taking the initiative to support the development of alternative resources such as solar and biomass in our community to reduce diesel fired generation. This goal has the added benefit of reducing the costs of diesel-fired generation, extending the life of generators, increasing generation capacity, providing economic development in the community and reducing GHG emissions.

BC Hydro has provided further information about electricity supply and demand in our community in response to ZonellIRPG IR 2.39.7:

This winter the community load has peaked at 668 kW. Presently the station has an installed capacity of 1095 kW and a firm capacity of 640 kW (installed capacity minus capacity of the largest generator). We are therefore able to support this load but with no N-1 redundancy. Redundancy will return as spring approaches. The new modular station was built with features to allow expansion. We plan to upgrade the station to regain redundancy in a staged approach starting with upsizing the medium and small generator (which are nearing end of life) by fall 2017.

Recently, in Tsay Keh Dene a generator broke down due to a belt problem during the week of January 9, 2017 resulted in rotating electricity shutdowns in the community. Due to the remote location of our community it took several days for the BC Hydro team to arrive at Tsay Keh Dene to repair the generator. Despite access to qualified local contractors, BC Hydro did not allow anyone else to make the necessary repairs. The generator outage also caused outages in the satellite internet and telephone systems that took several weeks to repair. In addition, 7 houses froze up and computers were lost.

BC Hydro has now committed to replace the generators but the recent loss of generators demonstrates the need for adequate capacity, rapid emergency service and back-up capability especially as load increases in Tsay Keh Dene.

### **3.2.2 BC Hydro Service**

BC Hydro's service for Tsay Keh Dene is not meeting community needs. For example, in Tsay Keh Dene's experience a new residential service hookup takes well beyond 30 days to complete and adversely affects construction in the community causing delays in much needed housing and adding to contractor costs. When emergency electrical repairs are needed, such as with the generator breakdown in January 2017, BC Hydro requires its own employees to service BC Hydro equipment; a BC Hydro employee based in Dease Lake, subject to weather and work schedule, flies into Tsay Keh Dene. The solution is for BC Hydro to allow the use of local contractors for remote communities, with training as necessary.

---

<sup>5</sup> Climate Leadership Plan August 2016.

### **3.2.3 Payment and Account Access**

Tsay Keh Dene has satellite internet service in the community provided by the Nation. Each residence has a daily allotment of data. Residents can pay for additional data service or a higher speed connection. Generally service speed is best during the day and slower during the evening. There is no bank in Tsay Keh Dene; however, the general store has an ATM machine. Bill payments can be made via the store or online if residents have a bank account. Banks, such as RBC, have come into the community to set-up bank accounts for online banking.

BC Hydro has recognized that remote communities do not have ready access to technology and internet and therefore will be installing an iPad in the community band office so people can view their energy consumption and make account changes using BC Hydro's My Account. In the future, a more flexible approach to meeting the needs of the community may be made available. Reliable broadband as envisioned by the CRTC (Appendix H) will benefit residents, schools and service providers such as BC Hydro. Remote Northern communities can be served by high speed satellite communications but Tsay Keh Dene Nation and Kwadacha Nation cannot undertake this initiative on their own.

Even though the Nation pays the band members' electricity bills, separate accounts are required so that band members can view their own individual consumption. The creation of separate accounts has led to BC Hydro demanding security from new occupants, which is neither appropriate nor required.

### **3.2.4 Energy Efficiency / DSM**

Tsay Keh Dene is committed to reducing electricity consumption in the community. However, Tsay Keh Dene needs assistance from BC Hydro to manage the energy conservation process since BC Hydro and contractors have the expertise. BC Hydro funded an energy steward and Tsay Keh Dene is very appreciative but the steward does not have adequate resources to implement and manage DSM programs.

In spring 2017, Tsay Keh Dene will be initiating its first-ever energy efficiency program to replace existing light bulbs with LEDs, investigate heat loss in homes, install insulation, and fix windows, doors and cracks in walls, etc. As well, we will be beginning an education program to get people more involved and educated about energy savings. Due to the remoteness of the community, planning resources are required along with a multi-year funding commitment from BC Hydro. Tsay Keh Dene appreciates BC Hydro has indicated in IR responses that it will fund a 5-year DSM plan but this initiative is at present self funded.

### **3.3 Summary & Recommendations**

The initiatives by BC Hydro for **communications, DSM, supply and reliability** are encouraging but need to be expanded and sustained. BC Hydro has made significant progress in the last 6 months which is much appreciated but better communication, cooperation, planning and funding

over an extended period is needed. The existing BC Hydro DSM funding proposals are prescriptive, restrictive and have high thresholds that create funding risk and loss despite successful energy savings outcomes and are only funded on a year-to-year basis. We want to partner with BC Hydro on new **DSM initiatives** which include BC Hydro training and using qualified local contractors to service Tsay Keh Dene. The DSM program limitations, limited pilots and multiple programs are confusing. There needs to be a planned, integrated and sustained longer term approach to developing and implementing DSM programs.

Communities require capacity funding for baseline energy assessments and DSM planning. The communities and contractors cannot afford to bear the costs. Any energy savings are reinvested in the communities and longer term investment decisions also attract and leverage funding from INAC. Long term DSM funding commitments are required for planning purposes and to ensure DSM and home upgrades are prioritised.

We recommend that BC Hydro provide planning, proposal funding and multi-year DSM funding commitments and that BC Hydro report annually to the Commission and communities on progress on the initiatives set out by BC Hydro in the IR responses (Appendix H) to ensure such efforts continue, and are reviewed from time-to-time.

A key to success in maintaining recent progress is a **single point of contact with BC Hydro** and the communities. BC Hydro has too many points of contact with the communities on electricity matters and communication is often repeated, breaks down and is a point of friction with the communities. We recommend that a single point of point of contact such as a key account manager (KAM) be implemented, for Kwadacha, Tsay Keh Dene and possibly other, similar remote communities. While there is a BC Hydro Aboriginal Relations contact who we understand is the primary BC Hydro contact, this has not so far adequately met the needs of the communities in terms of regular contact with the band representative responsible for electricity matters and follow up on issues.

A new **residential service hookup** takes well beyond 30 days to complete and adversely affects construction in the community causing delays in much needed housing and adding to contractor costs. When **emergency electrical repairs** are needed, BC Hydro requires its own employees to service BC Hydro equipment. We recommend BC Hydro allow the use of local and regional contractors (Tsay Keh Dene, Fort Ware, Prince George, McKenzie) for remote communities, with training from BC Hydro as necessary.

The lack of an **electricity supply plan**, supply shortages and not moving ahead with green energy initiatives at fair prices has adversely impacted the communities with respect to housing, jobs and food supply options. BC Hydro began actively addressing these problems recently, but we recommend that BC Hydro be more proactive and involve the communities in planning. The biomass facility for Tsay Keh Dene has not been advanced as part of the energy supply solution even though it would be an opportune time to do so. We recommend that BC Hydro take community energy demand forecasts and energy supply options into account now and in the future so as to avoid the negative impacts of not doing so.

The recommendations if implemented, will benefit both BC Hydro and the communities through better relationships, improved service, economic development and lower costs.

**Appendixes:**

Appendix A: Map of Northern BC

Appendix B: BC Hydro NIA Map

Appendix C: Kwadacha Fort Ware Photos (Aerial, Various)

Appendix D: Tsay Keh Dene Photos (Aerial, Plan, Housing)

Appendix E: Kwadacha First Nation seeks to build biomass plant

Appendix F: Kwadacha Greenhouses Initiative - Kaska Dena Council

Appendix G: *CRTC Broadband News Release* <http://news.gc.ca/web/article-en.do?nid=1172599>

Appendix H: Excerpts from BC Hydro IR Responses

## Appendix A Map of Northern BC



## Appendix B: BC NIA Map



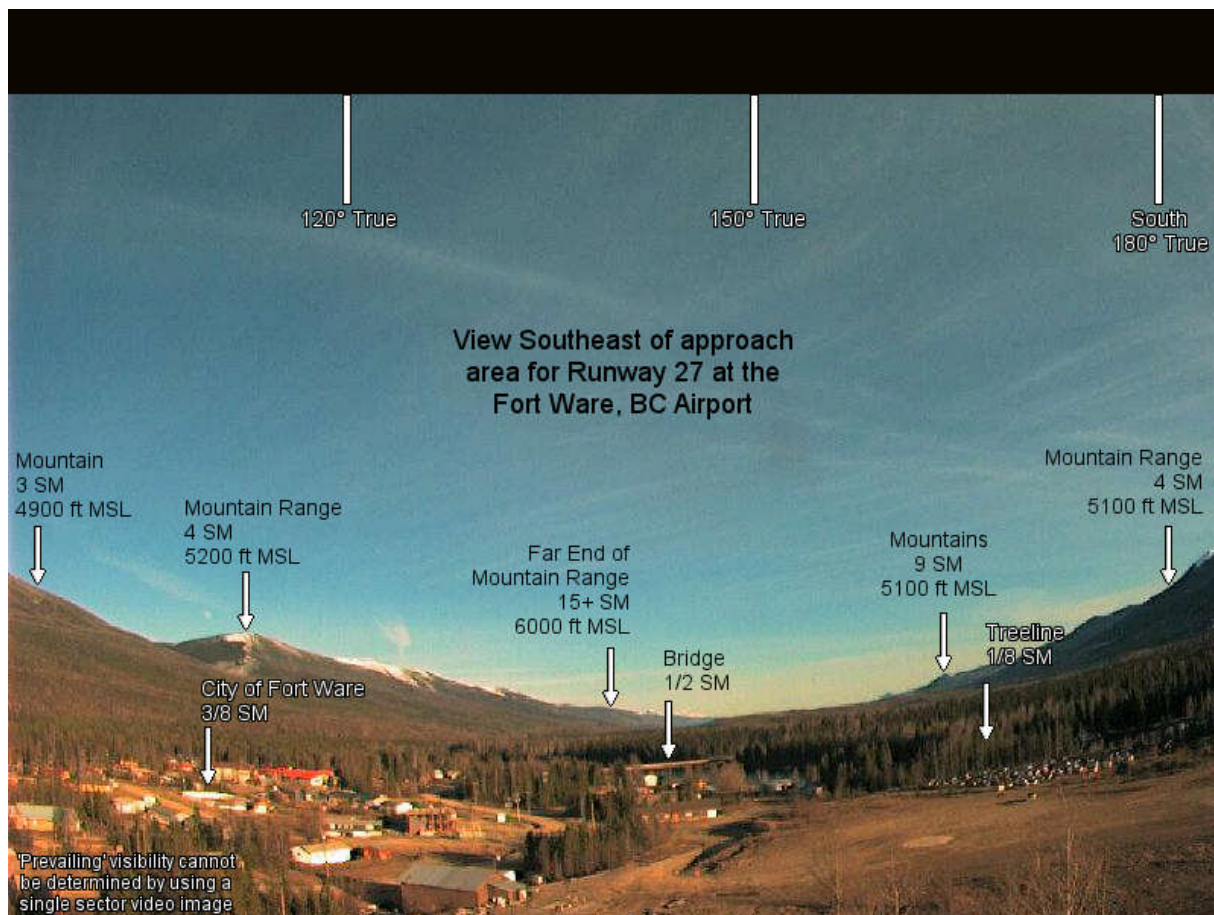


**Appendix C**  
**Kwadacha Fort Ware Photos (Aerial, Various)**













**Appendix D**  
**Tsay Keh Dene Photos (Aerial, Plan, Housing)**

**Aerial photograph of Tsay Keh Dene**



## Plan of Tsay Keh Dene





**Home with crawl space, shifting crumbling foundation and poor insulation with high heat loss**



**Home (1992) with poor insulation, thermal barrier breaches and high heat loss**



**Mobile home**



**Older home with high heat loss**





**Newer home**



# Alaska Highway News

## Kwadacha First Nation seeks to build biomass plant

[Jonny Wakefield](#) / Alaska Highway News

February 26, 2016 07:52 AM



A biomass facility in the Amazon. Kwadacha First Nation, a community of just over 300 on the north side of Williston Lake, is seeking to build a small biomass facility that would burn wood waste from a sawmill on the reserve, and produce around 145 kilowatts of electricity. Photo By Land Rover Our Planet via flickr

Waste wood could soon replace diesel power at the remote Kwadacha First Nation, which is seeking financial help to build a small biomass plant.

The off-the-grid community of just over 300 wants to build a small biomass facility that would produce around 145 kilowatts of electricity.

"What we're looking at is co-generation, green energy, to burn wood waste to offset the electricity (from diesel) and heat some buildings and a greenhouse we're building," Chief Donny Van Somer said. "We're trying to get off fossil fuels as much as possible."

The facility would burn wood waste from a small sawmill on the reserve, as well as other forest products gathered locally. It would not be the first co-generation system in the Peace. West Fraser Mills in Chetwynd operates a larger facility, using wood waste from its mill in the town.

The nation has reached a 20-year energy purchase agreement with BC Hydro, which currently operates the settlement's diesel generators.



While biomass would not completely offset diesel power, it would likely lead to considerable cost savings, Van Somer said.

"It would offset, and also create a couple jobs," he said.

On Thursday, the Peace River Regional District supported Kwadacha's \$250,000 grant application to the Northern Development Initiative Trust.

The facility is estimated to cost roughly \$4 million, with the nation contributing just over \$410,000 to the project. Other funding sources are also being sought.

"This project is expected to be a source of pride for the community as it will provide job creation, economic development, reduce greenhouse gases and improve local air quality," regional district staff wrote in a report.

Kwadacha is one of two remote First Nations on the north end of Williston Lake. The settlement was previously known as Fort Ware.

Van Somer said there were many people in Kwadacha excited for biomass.

"As isolated as we are, the more self sufficient we can be, the better," he said.

*reporter@dcdn.ca*

© Copyright 2017 Alaska Highway News

# Kwadacha Greenhouses Initiative

Kwadacha Nation is constructing three hydroponic greenhouses that will operate throughout the year, and will produce 30 tons of organic vegetables annually. The greenhouses are engineered using German technology, and will be heated by a biomass plant.

The slogan that Kwadacha Nation has adopted is “a salad per person per day”, and the greenhouses will certainly do that by producing a variety of greens, cucumbers, peppers, and tomatoes for their community. The anticipated production from the greenhouses will be more than enough for Kwadacha members. In fact, the plan is to sell surplus organic produce, thereby creating not only healthy food for the community, but also creating an economic development opportunity.

The plan is for the first vegetables to be planted by early September.



## KN Chief and Council

**CHIEF:** Donny Van Somer

**DEPUTY CHIEF:** Angela Hocken

**COUNCILLORS:** Darryl McCook, Duane Seymour,  
Mary Jean Poole

**LAND AND RESOURCE OFFICER:** Shawna Case

## Contact KN

PO Box 86, Fort Ware, BC V0J 3B0

250-471-2302 /tel

250-563-4161 /tel Kwadacha Administration

250-471-2071 /fax

<http://www.kwadacha.com>

## Fort Ware (Kwadacha)



## Executive & Staff



**George Miller**

Chair



**Lacey Johnny**

Vice-Chair, Finance & Admin



**Danny Case**

Vice-Chair, Lands & Resources



**Michelle Miller**

Treaty Coordinator



**Betty Shepherd**

Bookkeeper / Administrative Assistant



Government  
of Canada

Gouvernement  
du Canada

[Home](#) → [News](#) → [News Releases](#)

→ CRTC establishes fund to attain new high-speed Internet targets

## News Release



Canadian Radio-television and  
Telecommunications Commission

Conseil de la radiodiffusion et des  
télécommunications canadiennes

[Share this page](#)

# CRTC establishes fund to attain new high-speed Internet targets

*Wants Canadians to have access to an unlimited data plan option and speeds of at least 50 Mbps download and 10 Mbps upload*

December 21, 2016 – Ottawa-Gatineau – Canadian Radio-television and Telecommunications Commission (CRTC)

The Canadian Radio-television and Telecommunications Commission (CRTC) today declared that broadband access Internet service is now considered a basic telecommunications service for all Canadians. The CRTC is also setting ambitious new speed targets and creating a new fund that will invest up to \$750 million over and above existing government programs.

## Broadband and mobile services

Further to its legislative mandate, the CRTC has set the following targets for the basic telecommunications services that Canadians need to participate in the digital economy:

- speeds of 50 megabits per second (Mbps) download/10 Mbps upload for fixed broadband Internet access services.
- an unlimited data option for fixed broadband access services.
- the latest mobile wireless technology available not only in homes and businesses, but also along major Canadian roads.

## **New funding for broadband projects**

The CRTC is establishing a fund to support projects in areas that do not meet these targets. Applicants will be able to submit funding proposals in order to build or upgrade infrastructure for fixed and mobile broadband Internet access services. The fund will:

- make available up to \$750 million over the first five years;
- be complementary to existing and future private investment and public funding;
- focus on underserved areas; and
- be managed at arm's length by a third party.

## **Accessibility and tools for consumers**

The CRTC wants Canadians to have access to the tools and services they need to empower themselves regarding fixed Internet access services. No later than six months from today, service providers should ensure that contracts are written in clear and plain language, and should make available online tools so consumers can easily manage their data usage.

Also, all wireless service providers will have to offer and publicize, no later than six months from today, mobile service packages that meet the needs of Canadians with disabilities.

## **The path forward for Canada's digital economy**

During its consultations with Canadians, the CRTC also identified further gaps regarding the adoption of broadband Internet services in Canada that are outside its core mandate. Today, the CRTC is submitting a report to the Innovation Agenda, as encouraged by the Minister of Innovation, Science and Economic Development Canada, on the availability and adoption of broadband Internet services in Canada. This report includes information on access gaps resulting from infrastructure, affordability and digital literacy issues, as well as barriers to connectivity in Indigenous communities.

The decision issued today complements the Government of Canada's Innovation Agenda. Looking ahead, the CRTC will contribute in ways appropriate to its mandate. However, all stakeholders have a role to play to ensure that broadband Internet service is universally available and barriers to adoption are removed.

## Quick Facts

- Broadband Internet access services are necessary to the quality of life for Canadians and empowers them as citizens, creators and consumers.
- While most are well-served, many Canadians, particularly those in rural and remote communities, do not have access to broadband Internet access services that are comparable to those offered to the vast majority of Canadians in terms of speed, capacity, quality and price.
- Broadband Internet services would allow more Canadian entrepreneurs to easily access crucial information relating to international markets and create more business opportunities across Canada.
- In 2015, 82% of Canadians had access to speeds of 50 Mbps download/10 Mbps upload for fixed broadband services.
- The CRTC is shifting its regulatory focus from wireline voice to broadband services.
- Currently there is a subsidy for residential local voice services in rural and remote areas that amounted to approximately \$100 million in 2016.
- The current local voice subsidy will now be transitioned to the new funding mechanism announced today (for projects that meet the new targets).
- Further to a broad consultation, more than 50,000 Canadians provided their views on the telecommunications services they need to participate in the digital economy.

## Quote

“Access to broadband Internet service is vital and a basic telecommunication service all Canadians are entitled to receive. Canadians who participated during our process told us that no matter where they live or work in our vast country — whether in a small town in northern Yukon, a rural area of eastern Quebec or in downtown Calgary — everyone needs access to high-quality fixed Internet and mobile services. We are doing our part to bring broadband services to rural and remote communities.

The availability of broadband Internet, however, is an issue that can’t be solved by the CRTC alone. All players in the Canadian communications landscape will need to do their part to ensure Canadians have access to the services they need to participate in the digital economy.

All levels of government must address gaps in digital literacy. Affordability concerns are best addressed by the emergence of a dynamic market place where service providers compete on price for telecommunication services, in conjunction with social responsibility programs of telecommunications carriers and different levels of government.

High quality and reliable digital connectivity is essential for the quality of life of Canadians and Canada’s economic prosperity.”


- Jean-Pierre Blais, Chairman and CEO, CRTC

## Additional links

- [Backgrounder 1 – Summary of key decision points](#)
- [Backgrounder 2 – Further details regarding new funding mechanism](#)
- [Telecom Regulatory Policy CRTC 2016-496 – Modern telecommunications services – The path forward for Canada’s digital economy](#)
- [Basic telecommunications services](#)

- 30 -

## Contacts

Media Relations  
(819) 997-9403 

## **Appendix H**

### **Excerpts from BC Hydro IR Responses**

#### **ZonellIRPG IR 2.35.3**

Generally, BC Hydro's avoided costs in a Non-Integrated Area community are limited to our fuel costs because BC Hydro's diesel generation facilities must be in place for reliability purposes. BC Hydro may consider other avoided costs for a particular Electricity Purchase Agreement proposal. For example, if BC Hydro is able to decommission our existing diesel generating facility in a particular community then BC Hydro would consider those cost savings in the evaluation of such Electricity Purchase Agreements.

#### **ZonellIRPG IR 2.36.7**

Our demand-side management programs are typically available to customers in all regions of our service territory, including remote communities and First Nations. For example, the Low Income Program, which has been delivered in over 80 First Nation communities, has expenditures of \$7.8 million planned for the test period. Since the programs are designed and managed as province wide initiatives, we do not forecast our demand-side management expenditures by the requested groups. Actual expenditures will depend on the take-up of our programs in the particular communities. Please refer to BC Hydro's response to Zone II IR 1.19.1.

In addition, we anticipate expenditures of approximately \$2.1 million over the test period to trial different demand-side management approaches and activities with remote communities and First Nations. These approaches and activities are outlined in BC Hydro's response to Zone II IR 1.20.5, and include the Energy Champions pilot discussed in BC Hydro's response to NIARG IR 2.26.1. Through these approaches and activities, BC Hydro is seeking to improve the uptake of our demand-side management programs by addressing barriers to entry. BC Hydro expects that as a result of these approaches and activities, expenditures in remote and First Nations communities will increase compared to past years.

#### **ZonellIRPG IR 2.36.9**

##### Current Supply Costs in the Non-Integrated Areas

The cost of energy for the Non-Integrated Areas is provided in the Application, Appendix A, page 28 and ranges from \$209.6/MWh to \$258.9/MWh during the test period. This includes the cost of BC Hydro diesel generation and IPP generation in Non-Integrated Areas and reflects the cost of all forecast energy.

#### **ZonellIRPG IR 2.36.11**

BC Hydro has finalized demand-side management funding for activities with Kwadacha First Nation (Fort Ware) and Tsay Keh Dene Nation. The activities in their communities in fiscal 2017 and fiscal 2018, include:

- Hiring an Energy Champion to work for the Band;
- Providing training and mentorship to the Energy Champion;
- Delivering conservation education activities to community members;
- Providing regular reports to the Bands to support them in assisting community members in managing home energy use and costs;
- Implementing home energy upgrades through a customized approach to



the delivery of the Energy Conservation Assistance Program;

- Providing funding to support additional energy saving measures beyond those provided through existing programs; and
- Developing multi-year plans to guide future building energy upgrades and conservation opportunities.

BC Hydro intends to work with Kwadacha First Nation and Tsay Keh Dene Nation to determine conservation activities and implementation support required beyond fiscal 2018.

#### **Zone II IRPG IR 2.36.13**

BC Hydro intends to complete its current pilot activities with remote communities and First Nations and learn what we can from the pilot activities in order to make improvements to existing programs and to develop new offers that support conservation and energy management activities with remote communities and First Nations more broadly.

The point of BC Hydro's current pilot activities is to better understand steps that can be taken to make our demand-side management offers more accessible for remote communities and First Nations. BC Hydro would benefit from gaining additional perspective of remote communities and First Nations, therefore we are interested in establishing an ongoing process that could include Non-Integrated Area and Zone II interveners to incorporate ongoing feedback to improve the design, delivery and participation in our demand-side management programs.

#### **Zone II IRPG IR 2.36.14**

A number of program enhancements are being explored to improve the Energy Conservation Assistance Program. Current initiatives include:

- Enhancing the feedback/reporting provided to First Nations and housing providers participating in Energy Conservation Assistance Program;
- Exploring the potential for expanding options for weatherization upgrades potentially through a customized delivery process for some First Nations projects;
- Investigating options for coordination with other funding agencies to address issues related to health and safety;
- Streamlining processes and improving reporting on weatherization projects through development of digital data collection tool and associated reporting and tracking tools; and
- Investigating new ways to target potentially eligible customers through analytics.

BC Hydro will continue to look for improvements throughout the test period.

#### **Zone II IRPG IR 2.36.15**

The second and the third process improvements described in BC Hydro's response to Zone II IR 2.36.14 are related to enabling more homes to receive weatherization upgrades. Further information on these process improvements is provided below:

- We are looking at alternative delivery models to the current full service approach offered by the program to enable energy efficiency measures to be installed when other work is being done. For example, where a contractor is already engaged in performing health and safety related upgrades in a

residence on behalf of a First Nation, BC Hydro could consider funding the same contractor to perform weatherization upgrades as well. A customized delivery model may provide more flexibility for First Nations to access the program; and

- We are also in discussions with organizations that fund health and safety related home upgrades. As discussed in BC Hydro's response to Zone II IR 2.36.16, pre-existing health and safety issues can be a reason for weatherization work not to proceed. By working with groups providing funding for health and safety related upgrades, we are hoping to fund or coordinate energy efficiency upgrades at the same time.

#### **ZoneIIIRPG IR 2.36.16**

The Energy Conservation Assistance Program makes decisions regarding the eligibility of customers to receive insulation upgrades based on the conditions in the home at the time of the assessment. The program does fund some enabling measures to allow insulation upgrades to proceed. These include installing and ducting ventilation systems to ensure adequate air flow and installation of carbon monoxide monitors. The scope of the program does not address all potential issues, such as moisture, lack of access to attic, or the presence of vermiculite. Where factors such as these are present, weatherization work as part of the Energy Conservation Assistance Program cannot be undertaken as it could worsen an existing condition or could create a health and safety concern.

#### **ZoneIIIRPG IR 2.37.1**

In BC Hydro's response to Zone II IR 1.16.2, BC Hydro indicated that we do not forecast broader demand-side management programs at the level suggested (i.e., Non-Integrated Areas and First Nations communities).

We acknowledge that First Nations and Non-Integrated Area communities face unique barriers to implementing demand-side management activities and have allocated budget to work with these communities to test different approaches that address these barriers. We are forecasting expenditures of \$2.1 million over the test period to support this work. We arrived at the forecast expenditure by estimating the level of activity we are likely to achieve in these communities, considering any input received from the communities, and factoring in that the pilot activities would be new to them, and would therefore take time to plan, implement and evaluate. These activities, which are detailed in BC Hydro's response to Zone II IR 1.20.5, may be implemented by different resources depending on the nature of the work (e.g., Band staff, community members, BC Hydro staff, contractors, non-profit organizations, etc.). Our intent is that this work will be jointly developed and implemented by BC Hydro and the communities themselves, with support from others as needed or requested by the communities. Activities and actual expenditures will be tracked for each community over the test period.

#### **ZoneIIIRPG IR 2.37.2**

BC Hydro's demand-side management programs are province-wide offerings; all eligible customers, including First Nations, can participate. Historically, BC Hydro has responded to program requests that may have been initiated by BC Hydro's Aboriginal Relations, Community Outreach, Customer Service, a partnering

agency, or the community itself. In particular, we have delivered the Low Income Program to many interested First Nations communities and have worked over time to improve access to this program.

Today, BC Hydro has dedicated staff within the Conservation and Energy Management team to advance demand-side management activities with First Nations. These individuals are developing relationships with First Nations communities that have expressed interest in demand-side management to BC Hydro. They are also working closely with BC Hydro's Aboriginal Relations staff, other BC Hydro supported resources (i.e., Program Delivery Agent for the Energy Conservation Assistance Program, First Nations Energy and Mining Council's Community Energy Program Specialist, Coastal First Nations Community Energy Facilitator, and Energy Champions), as well as partner agencies to identify additional communities, conservation opportunities, and barriers to demand-side management. Our intent is to continue these activities over the test period and learn from them in order to make improvements to existing programs and to develop new offers that support demand-side management activities with First Nations communities.

#### **Zone II IRPG IR 2.38.2**

BC Hydro recognizes the potential for adverse demand-side management results and distrust. Through ongoing engagement and relationship building, we seek to build trust within communities in our demand-side management programs. Please refer to BC Hydro's response to Zone II IRs 2.31.1 and 2.36.13.

In addition, BC Hydro uses pilots to move forward more quickly with testing concepts at a small scale to gain valuable information that can inform a further roll-out to a larger group of customers. The opportunity to learn through a pilot helps ensure that larger scale initiatives can be successful and leads to positive demand-side management results and greater trust within communities.

#### **Zone II IRPG IR 2.38.8**

In addition to the above, BC Hydro worked with Kwadacha Nation (Fort Ware) to advance the following activities over the period from 2013 to 2016. We would not characterize these activities as pilots. These activities, listed below, were developed based on the First Nation's interests and supported through capacity funding from BC Hydro Aboriginal Relations and with in-kind support from BC Hydro Customer Service. This annual capacity funding was not required to be spent on conservation and energy efficiency, but the decision to do so was based on the First Nation's interest. The annual capacity funding used for these items would be in addition to the amounts listed in BC Hydro's response to Zone II IR 1.19.3.

- Energy upgrades in eleven homes, including: installation of wireless programmable thermostats, air sealing, energy star window and door installations, wiring to connect wood stove furnaces, as well as education/behaviour change interventions (2013);
- Mentorship to build community capacity through a local Energy Champion and in-home energy coaching (2013);
- Analysis of energy savings from the eleven homes that underwent upgrades (2014);
- Community engagement to share upgrade results and motivate additional

behaviour change, including: the development of educational materials, a leadership workshop on housing policy options, support for a Community Green Team, a community open house, and a presentation at the Energy Outwest conference to share results more broadly (2014);

- Continued mentorship and support for Kwadacha Nation's Energy Champion (2014 to 2015);
- Building an Energy Efficiency Data Collection and Management System for tracking, assessing, inventorying and managing energy efficiency characteristics of homes in the community (2014);
- Completing home energy audits and analyzing baseline data (2014);
- Policy and program development to integrate the use of this data in operations, maintenance and decision-making, as well as building capacity to support a more coordinated approach to home maintenance and upgrades for better energy efficiency outcomes (2014); and
- Support from BC Hydro Customer Service to assist customers in Fort Ware in understanding bills and managing energy costs and payments (2015- 2016).

We have received some positive feedback from the First Nation about our support for these activities, as well as some feedback for BC Hydro to provide consistent, multi-year support to continue this work. In response, we are working with Kwadacha Nation to develop a multi-year plan for demand side management in the community. This and other activities with Kwadacha Nation (and Tsay Keh Dene) are outlined in BC Hydro's response to Zone II IR 2.36.11.

#### **Zone II IRPG IR 2.39.4**

BC Hydro has not discussed these specific opportunities with the Non-Integrated Areas communities for reasons as stated in the reference information above, specifically:

"No. Five of our diesel generating stations are either on standby or run occasionally to supplement run of river hydro installations. Waste heat and CO<sub>2</sub> from these diesel stations are therefore too low and intermittent to be effectively utilized.

Nine of our diesel generating stations are the primary power supplier to these communities. However, waste heat and CO<sub>2</sub> recovery have not been pursued at these stations, for the following reasons:

- The stations are typically located outside of the communities and the community buildings are typically too spread out to justify the cost of district heating systems;
- Greenhouses in these communities are located too far from our stations to effectively justify heat and CO<sub>2</sub> recovery; and
- Many communities are actively pursuing renewable energy projects that once realized will lead to our stations to go on standby, run intermittently or run at reduced output."

Future community-based renewable energy projects can be potential sources of waste heat and CO<sub>2</sub> if the conditions are appropriate. An example is the bioenergy plant being installed in the community of Kwadacha that will sell electricity to BC Hydro as well as supply heat to the nearby school and greenhouses.

### **ZonellIRPG IR 2.39.6**

Area specific load growth information to be included in the load forecast has historically been obtained from local BC Hydro design and operating personnel that interact with and receive connection requests from local customers and/or developers.

In late 2016, in line with our company-wide priorities to “make it easy for our customers to do business with us” and “continue to improve the way we operate”, employees from BC Hydro’s Non-Integrated Areas Department met with two Non-Integrated Areas communities, Tsay Keh Dene and Kwadacha. Discussions included their community growth plans and energy infrastructure requirements. Information obtained in these discussions will be considered and incorporated into the upcoming load forecast.

### **ZonellIRPG IR 2.39.7**

BC Hydro has not included this load growth in Tsay Keh Dene as BC Hydro has only recently become aware of the replacement of propane appliances and new residential developments in Tsay Keh Dene. This information was not available at the time of the completion of the May 2016 Load Forecast. As such BC Hydro will review this information for its future annual forecast updates.

BC Hydro is in the process of consulting with Tsay Keh Dene to determine:

1. The extent of the current and future load growth;
2. How this growth can be minimized through comprehensive energy efficiency and conservation efforts; and
3. How the shortfall can be addressed by upgrading the diesel generating station and the distribution system while considering potential future renewable energy installations by the community.

This winter the community load has peaked at 668 kW. Presently the station has an installed capacity of 1095 kW and a firm capacity of 640 kW (installed capacity minus capacity of the largest generator). We are therefore able to support this load but with no N-1 redundancy. Redundancy will return as spring approaches. The new modular station was built with features to allow expansion. We plan to upgrade the station to regain redundancy in a staged approach starting with upsizing the medium and small generator (which are nearing end of life) by fall 2017.

Distribution system upgrades will also be required to service a planned residential development. The new residential development area is adjacent to an area currently serviced by a single phase line. This line requires upgrading to a three phase line in order to service the planned addition of 50 new residences to ensure:

1. Sufficient line load capacity; and
2. Load is shared equally between the three phases (required for generating unit operation).

Tsay Keh Dene representatives are currently submitting a customer connection request for the planned residential development, which will initiate the distribution system upgrade process.