Government of
Northwest Territories

April 16, 2025

Gordon Van Tighem
Chair
Northwest Territories Public Utilities Board
203 Woodland Drive
PO BOX 4211
Hay River, NT, X0E 1G1

Dear Mr. Van Tighem:

2025 Electricity Policy Direction the NWT Public Utilities Board

The Government of the Northwest Territories (GNWT) aims to guide the development of affordable, secure, and sustainable energy for transportation, building heating, and electricity within the Northwest Territories (NWT). The global environment for electricity systems is undergoing significant changes, with a shift towards renewable and alternative energy sources, electrification of various sectors, self-generation, distributed generation, grid modernization, and increasing pressure to reduce carbon emissions. The NWT is also experiencing these trends and pressures, but with the additional challenges posed by its cold climate, remote locations, and expensive operating environment.

The NWT faces the challenge of managing the energy transition while considering energy affordability, reliability, and greenhouse gas emission reduction. To inform the new policy direction, the GNWT has conducted and released four interrelated studies, all available on the GNWT website. These studies include:

1. Electric Vehicle Infrastructure Needs Assessment and Forecast (Study 1),
2. Net-metering and Community Self-Generation Policy Review (Study 2),
3. Assessment of Incremental Utility Revenues for the Northwest Territories (Study 3), and
4. Microgrid Stability with Intermittent Renewables – Renewable Energy Penetration Analysis (Study 4).

The findings of these studies indicate the need for policy direction of the Public Utilities Board (PUB) to promote the growth of renewable power generation in the territories, while mitigating its adverse impact on utilities and ratepayers. Under Subsection 14(1) of the Public Utilities Act, the Executive Council of the GNWT has the authority to issue directives to the PUB. Similarly, under Subsection 13.1(1), the Minister may request the Board to provide advice on specific matters.

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This direction aims to balance the rate impacts of self-generation with potential revenues from surplus hydro and renewable energy sales, and the additional costs of upgrading the electricity system to meet growing demand for low-carbon power in the territory.

The PUB is instructed to minimize the cost of implementing these directives and looks for efficiencies by utilizing processes already in place, such as future general rate applications. The PUB is further directed to delay the implementation of the directives in this direction letter until the current general rate applications are concluded. The general principle is that the cost of regulation should be proportionate to, and reflect, the scale of the issue being addressed.

The attached document outline the 11 policy changes being directed.

Vince McKay

Minister Responsible for the Public Utilities Board

Attachment

Contents

1. Integrated Power Systems Planning

The transition to lower carbon energy, and the concomitant electrification of end uses, will have a significant impact on electricity systems. In the NWT, there are three regulated public electricity utilities that have overlapping roles in terms of generation, transmission, distribution and supply of electricity to customers. The energy transition will have implications in all aspects of electricity utility capital planning and operations on these overlapping roles. It is time to consider completing integrated power systems planning (IPSP) in the NWT to support and further structure the ongoing energy transition. Longer-term integrated planning would help modernize our infrastructure to reliably meet the growing demand for low-carbon electricity in a cost-effective manner, taking into account the impacts of climate change on energy supply and demand. An IPSP process could also provide useful context for the capital plans filed by the utilities pursuant to section 64 of the *Public Utilities Act.*

The integrated power systems planning should include, but not be limited to:

a. Public, ratepayers and other stakeholder input.
b. Input from public governments, including the GNWT, community and Indigenous governments.
c. Demand side management, load growth, electrification of end uses, generation mix scenarios to future milestones such as to 2030 and 2050, and discussion on the contribution of various scenarios towards territorial energy and climate policy objectives (e.g. climate targets, energy reliability and affordability).
d. Long-term capital planning scenarios to help inform utility multi-year capital plans and forecast foreseeable electricity sales and rate impacts.
e. Identification of threats, opportunities, challenges, weaknesses and barriers, including supply and demand impacts relating to climate change and climate change policy.
f. Development of plans to mitigate the threats, risks, and vulnerabilities identified above.
g. Recognition that uncertainties should be addressed through sensitivity analysis looking at the variability of assumptions.

To achieve this, the PUB is directed to:

a. Define and identify through a PUB process what constitutes integrated power systems planning (IPSP); the terms of reference for the development of the IPSP; the process that should be undertaken by utilities to develop the IPSP; and determine how often the IPSP should be revised.
b. Set limits to the cost and resources allocated to these efforts to ensure this is not unnecessarily burdensome to rate payers.
c. Instruct public electric utilities to cooperate to develop IPSP for the NWT with defined individual responsibilities.
d. Ensure the results and written IPSP, including the long-term capital planning scenarios, will be made public and periodically updated using a similar approach used to develop it.

2. Community Intermittent Renewable Generation Caps

To maintain system reliability and stability in the absence of other system services, such as grid scale battery energy storage systems, intermittent sources of electricity are currently allowed to generate up to 20% of the average annual load demand of a community. This intermittent renewable generation cap was approved by the PUB in Decision 1-2014. Several communities have reached this cap. In the same decision, the PUB accepted that the capacity limits in the thermal generation communities may be increased on a community-by-community basis, having regard to the performance and safety of the system. Subsequent to this decision, the GNWT commissioned a technical study (Study 4) to assess the potential for intermittent self-generation while maintaining grid stability, which the study found to be on the order of 45%. This included the total renewable power produced by self-generators, net metering clients, and independent power producers. This study modelled grid dynamics but did not account for the overloading limitations or potential changes to dispatch rules or strategies of a typical diesel generator set.

Taking into account the diverse circumstances of communities and the dynamics of real-world electricity systems, as well as the limitation of diesel generators, the GNWT, proposes to raise the cap on renewable generation to 30%. Increasing the share of renewable generation in the electricity mix will help reduce greenhouse gas emissions. However, this may lead to additional costs for utilities in ensuring a safe and reliable power supply. The subsequent impacts on rates would be mitigated by adjustments to compensation rates, system access charges and fixed charges, further specified in directives 4, 5 and 7.

Therefore, the PUB is directed to:

a. Increase the intermittent renewable generation cap of each thermal community to 30% of the average annual load demand.
b. At utilities' discretion, allow the intermittent renewable generation cap to exceed the 30% limit, if the results of a system integration study, or similar, considered the addition of suitable systems services, such as battery energy storage systems (BESS), to maintain system efficiency and reliability.
c. Establish rules to distribute the reasonable costs of studies or system services stemming from this directive to the ratepayers. These rules should follow the usual principles of rate-making.
d. Ensure or reinforce that utilities have the authority to disallow and/or disconnect self-generators that do not comply with government Direction; PUB orders, decisions and rules; or utility terms of service in relation to self-generation and the community caps.
e. Allow the public electric utilities to recover the reasonable costs incurred to maintain system reliability on systems with integrated renewable generation.

3. Renewable Generation Programs: Non-utility Power Producers must be either Independent Power Producers or Participants of the Net Metering Program.

In the NWT there is a gap where non-utility entities can independently produce their own electricity behind the meter and not fall under specific rules or programs, such as net metering or as an independent power producer (IPP) with a signed IPP agreement with utilities.

These partially unregulated self-generators are impacting electricity rates and grid stability. To better control system rate and stability impacts, and to ensure everyone is treated fairly with consistent rules, all self-generators should be part of a PUB approved Renewable Generation Program such as an expanded net metering program or an independent power producer program.

The PUB is directed to:

a. Mandate that the full installed capacity of all non-utility power producers connected to the grid must be part of a Renewable Generation Program, either the Net Metering program or the Independent Power Producer program as defined in Directives 5 and 6.

4. Calculation of compensation for the Renewable Generation Programs

Non-utility power producers that install intermittent renewable generation in thermal generation communities are reducing fuel use and greenhouse gas (GHG) emissions, whereas in communities that are mostly supplied by hydropower there are no significant fuel or GHG reductions. In thermal generation communities, non-utility power producers also tend to cause efficiency reductions resulting in less diesel being displaced than previously thought.

The current tariff structure, such as for the Net Metering Program, does not account for these issues. Accordingly, non-utility intermittent power producers are likely being overcompensated for the power they provide to the system.

In order to better control rate impacts caused by self-generators, and to ensure everyone is treated fairly, consideration should be given to how to calculate the value of different self-generation services to the electricity system. Calculations should appropriately reflect the actual value of self-generation to the system, while at the same time continue to provide an incentive for self-generators.

A review of the calculation of renewable generation compensation is required to advance further policy directions in this letter.

The PUB is directed to:

a. Establish a methodology to calculate the compensation values for non-utility power producers (either Net Metering Program or Independent Power Producers participants) further defined in directive 5 and 6.
   I. The compensation for Net-Metering Program participants should be uniform within each rate zone and be based on the estimated actual average reduction in thermal generation costs by the self-generator in each zone. The approach should consider the results of the GNWT recently commissioned study "Microgrid Stability with Intermittent Renewables – Renewable Energy Penetration Analysis" (Study 4) which found that for fossil fuel-based communities one unit of renewable generation displaces less than one unit of fossil fuel generation due to inefficiencies in the system caused by the nature of distributed intermittent renewable supply. The compensation value can consider other adjustments.
   II. The compensation values for Independent Power Producers participants should be similarly based on the estimated actual reduction in thermal generation costs caused by the non-utility generator. However, for the IPP participants, the compensation values can

consider, but is not limited to, the specific community location, including cost of fuel, and does not need to reflect an average for the rate zone.

III. For more clarity, implementing these directives can result in various compensation values for energy delivered to the grid by non-utility generators, therefore they can be different than the approved energy sale rates in each zone.

5. Updates to the current Net Metering Program

With the anticipated electrification of end-uses in the NWT, additional renewable generation will be eventually required across the NWT electricity system. Because of this, net metering will continue to be an option in the NWT. The main purpose of this policy directive is to continue supporting wide access to renewable self-generation in the NWT, coupled with Directive 4, which will minimize its impact to the electricity rates.

The PUB is directed to:

a. Consider if a system access charge for self-generators, including net metering customers, should be charged to compensate for the use of system services that are not recovered through energy charges (kWh).
b. Maintain the current 15 kW intermittent renewable generation capacity limit for residential net metering program participants.
c. Establish a new intermittent renewable generation capacity limit for general service and government customers to participate in the Net Metering Program. The new limit could be equal to a percentage of the historical average annual load demand of the participant, as calculated for the purpose of billed demand charges, up to a certain maximum capacity. The maximum capacity should be determined to allow room for a greater number of total participants in renewable generation programs.
d. Ensure all self-generators connected to the grid with a capacity greater than the limit defined in Directive 5(b) and Directive 5(c) are subscribed to the IPP policy defined in Directive 6 and taking into account community capacity limits.
e. Create rules to grandfather non-utility generators, with respect to Directives 4 and 5, for an appropriate period of time to ensure they are not penalized for having made an investment decision based on previous rules.

6. Independent Power Producers

The NWT *2030 Energy Strategy* the GNWT introduced the Renewable Electricity Participation Model for Diesel Communities. In this model the GNWT introduced a category of power producers that would allow Indigenous and community-

owned self-generation to sell renewables directly into the system as independent power producers, up to the community's intermittent renewable generation cap. Since this time, the context has changed, and Indigenous and community proponents are gaining more access to funding to build larger renewable energy projects. Currently, independent power producers are, out of necessity, negotiating power purchase agreements with insufficient public transparency and with too few rules and guidelines to ensure consistent treatment. Consideration must be given to placing more structure around independent power producers to both meet the needs of Indigenous and community partners, and ensure the affordability, reliability and security of the electricity system.

The PUB is directed to:

a. Ensure that all regulated electricity utilities allow for independent power producers (IPPs) within their communities.
b. Require all new power purchase agreements (PPAs) to be filed with the PUB.
c. Allow for IPPs to exceed the community caps if supported by appropriate grid stability solutions such as battery storage systems.
d. Ensure that utilities have the right to deny IPPs for technical reasons or are not in compliance with GNWT directives, and denial can be appealed to the PUB.
e. Set the terms under which IPPs will be allowed and make those terms publicly available and transparent.
f. Prioritize NWT based Indigenous governments, Indigenous organizations, NWT communities, and their subsidiaries in participating IPPs within the NWT regulated electricity system.
g. Develop a mechanism to ensure that all regulated utilities clearly outline the PUB approved rules, requirements and procedures to become an IPP in a publicly available fashion, including on their websites accessible to the general public.
h. Standardize the PPA process, terms and template agreement. The standard PPA terms could include, but are not limited to, the following:
    I. Insurance requirements
    II. Connection requirements
    III. Payment and invoicing terms
    IV. Rules around curtailment and disconnection from the system
    V. Duration of the agreement
    VI. Process for revising and renewing PPAs before/after expiration.
i. Set an appropriate compensation value for the IPPs by community. This value should be based on real savings caused by the renewable generation as noted in Directive 4.
j. Ensure that PPAs renewals for existing projects are grandfathered for an

appropriate period to ensure they are not penalized for having made an investment decision based on previous rules.

k. Ensure that the cost of new system services required to integrate the IPP beyond the community caps, such as grid scale BESS, including the cost of purchase, installation, commissioning, and testing be borne by the IPP and not fall on ratepayers.
l. Ensure that the ownership, operation and control of required system services, such as grid scale BESS, should be – at the utility's discretion - undertaken by the regulated utility to ensure system integrity and reliability.
m. The PUB must allow the public electric utilities to recover reasonable costs incurred to integrate IPPs to their systems.

7. Fixed Charges for Residential and General Service Customers

The NWT has a relatively high fixed cost electricity system, which varies by zone and utility. A portion of the fixed costs are recovered through fixed charges and the rest from energy sales. Policy directive 7 from the GNWT's 2017 Electricity Policy Direction to the PUB instructed that NTPC's fixed customer and demand charges should remain the same until further direction is given and that they should be comparable across zones and utilities. The recovery of the fixed costs from these charges is far below the fixed costs in any zone or by any utility. Consideration should be given to keeping the respective fixed customer charges and demand charges for residential and general service customers similar across the NWT. It is also an important consideration to maintain a price signal in the variable kWh charges to promote energy conservation and efficiency and minimize the inefficient use of electricity. Increases in fixed charges will help address the impact of self-generation on electricity rates.

The PUB is directed to:

a. Utilities should adjust fixed charges to improve alignment with how costs are incurred.
b. Utilities should adjust demand charges to improve alignment with how costs are incurred.
c. If the changes in 7(a) and 7(b) lead to significant increases in the fixed charges, consider gradually increasing the monthly fixed and demand charges over a longer period.
d. Allow utilities to adjust the fixed charges when needed as part of usual PUB processes.
e. As such, the prohibition through previous policy direction #7 from GNWT February 2017 Electricity Policy Direction on changing customer charges and demand charges is no longer in place.

f. For 7(a) and 7(b), consideration should be given to continue to align fixed and demand charges across rate zones and an overall goal should be for these charges to remain materially similar between different rate zones.

8. Government Rates

On April 10, 2015, the GNWT issued the Electricity Rate Policy Guidelines policy direction to defer the harmonization of the government customer rates within the rates zones, maintaining community-based rates until Phase 2 of NTPC's 2016 GRA. Directive 6 of the February 2017 Electricity Policy Direction further instructed the PUB to defer addressing community-based government rates in NTPC thermal communities until the next GRA noting that many community government utility bills are paid through funding to communities from the GNWT, and combining thermal community government rates would require funding adjustments to communities. Consideration should now be given to transitioning to a single government energy rate for each rate class in each zone in an effort to simplify the regulatory process and ensure each community is treated equally.

The PUB is directed to:

a. Levelize government rates by rate class in each zone and eliminate community-specific government rates in thermal communities. Separate government residential and government general service rates should still be maintained.
b. Provide for a reasonable transition period but clearly provide a firm deadline for the change.

For more clarity:

i. Directive 5 from the February 2017 Electricity Rate Policy Direction relating the 3% cap on rate rebalancing for government customers is suspended until this Directive is achieved, and
ii. Directive 6 in the February 2017 Electricity Rate Policy Direction deferring addressing Community Based Government Rates in NTPC communities under the next General Rate Application is no longer in effect.

9. Electric Vehicle Charging

Jurisdictions in Canada have been treating energy sales to charge electric vehicles in different ways. In many places, including the NWT, EV fast chargers in particular do not yet have a good business case for private investment. This means that there is a clear role for governments and utilities to take an early lead to accelerate the transition to electric transportation. The GNWT anticipates that the adoption of electric vehicles will ultimately represent an important revenue stream for utilities in the medium to long term if demand can be established now. This will require more flexibility in the regulatory treatment of charging stations to allow the cost of EV charges to be included as part of utility revenue requirements.
The PUB is directed to:

a. Allow and establish guidance for utilities to include the costs and revenue of installing, owning and operating charging stations in their regulated rate base. (Also see 10(c))
b. Allow and establish guidance for utilities to develop EV charging rates for customers using utilities' chargers.
c. Allow utilities to record net costs in a deferral related to in-service chargers starting from April 1, 2023, to be recoverable in future applications to the PUB.
d. Ensure that future EV charging infrastructure additions are justified by the utility to the PUB.

10. Load Growth and Heating Rates in Hydro Zones

The GNWT has an interest in utilities using current hydropower surpluses, in both the North and South Slave systems to increase sales and utility revenues. As load growth would have a mitigating effect on the growing electricity rates in the NWT and reduce GHG emissions, consideration should be given to providing direction to utilities to develop and implement plans to increase the use of those surpluses. Alongside of this plan to use existing hydropower surpluses, the GNWT anticipates an overall increase in electrification of end uses in response to local and national climate policy. This combined resultant load growth has implications on the current the future electricity system in terms of structure, rates, capital and operating costs, which should be addressed in the Integrated Power System Plan under Directive 1 of this policy direction.

The PUB is directed to:

a. Develop standardized cost-benefit tests such as from a total resource, utility, participant, societal or other perspective to implement this Directive.
b. Direct utilities file a plan, with timelines, to define the available hydroelectric surpluses and make full use of hydroelectric surpluses in the NWT, this plan may be part of the integrated power systems planning directed in Directive 1.
    I. This plan may include, but is not limited to, electric heating rates, block power rates, time of use rates, promoting electric heating technologies for domestic hot water or space heating, electric vehicle charging, on-bill financing of customer retrofits aligning with this directive, and the creation of an economic development rate.
c. Allow utilities to provide on-bill financing for upgrades to distribution grids normally borne by clients seeking to increase their electrical consumption through fuel switching and electrification of end-uses.
    I. Rules pertaining to on-bill financing should be filed and approved by the PUB.
d. Establish rules under which utilities can capitalize certain grid upgrades linked to electrification and load growth and avoid placing undue financial burden on individual clients seeking to purchase additional power from the Utilities while, minimizing the impact on other customers. An example of this might include transformer upgrades for residential EV charging where it is clear that other users could eventually benefit from the transformer upgrade.
e. In addition to direction 9, establish rules to include the capital costs associated with the installation of electric vehicle fast charging stations in the rate base, which are linked to use of surpluses hydro in both the North and South Slave grids.
f. Direct utilities to consider and design uninterruptible electricity rates for electric vehicles charging stations and billing mechanism in both the North and South Slave grids. The rate design should consider the recommendations from the GNWT's utility revenue growth study (Study 3).
g. Direct utilities to develop, make available, and actively promote electric heating rates in both the North and South Slave grids.
    I. Electric heating rates should exist for both residential and general service customers.
    II. Electric heating rates for residential customers may take the form of a lower kWh charge for customers using more than a certain amount of power in winter.
    III. The Board may establish the terms and conditions under which electric heating rates are available.
h. Ensure greater rate stability to electric heating customers.
    I. Electric heating rates designed in the North and South Slave should

provide greater multi-year predictability for ratepayers than the current formula based on the variable cost of heating fuel in Yellowknife. One way to design this rate with more stability could be base it of the marginal cost generation in the zone.

II. The rate should also be designed and reviewed to incent adoption. Lack of uptake should be considered as an indication that the rate is too high and that it should be lowered until adoption increases. The rate should not be lower than the marginal cost of generation.

III. A separate electric heating rate rider should also be considered to compensate for any additional fuel costs needed to support the electricity demand when there is no surplus hydro.

IV. In developing electric heating rates, the PUB should consider the merits of having heating rates reflect the cost of generation during peak power consumption periods (e.g. a non-interruptible blended rate that considers periods when power is generated from higher-cost diesel generators during winter peak loads or outages).

i. Return to the GNWT with recommendations if additional regulatory authority or policy direction is required under the *Public Utilities Act*.

11. Territorial Fuel and Water Rider

The purpose of this direction is to increase clarity on the application of the low water rider.

The PUB is directed to:

a. Implement a special rate zone-specific low water rate stabilization fund(s) that allows a fund balance to be accumulated though a rate rider as a longer-term measure to buffer the impact of the occasional low water and rapid fluctuations in fuel prices within the NWT. The intent of this fund would be to mitigate the need for government financial intervention to cover additional unpredictable thermal generation costs due to low water. This should be done in line with the GNWT's 2016 North Slave Resiliency Study, or subsequent updated low water studies, as well as considering utility and intervenor evidence.
b. This may require that the current territorial rate stabilization fund be separated into separate thermal and hydro zones stabilization funds. This is consistent with the GNWT's 2010 Electricity Rate Policy Guidelines to the PUB in Section (6) that directed the PUB to consider "establishing territorial fuel and low water riders on a per utility basis."
c. Set limits to the fund balance and make rules around how and when the low water fund should be used.
d. Instruct utilities to hold the accumulated low water fund in a separate

special purpose account and the account balance should be publicly reported yearly.

e. The fund may be productively invested.
f. The fund may only be used for other purposes with the written approval of the Minister.
g. Direct NTPC to consider if system upgrades and additional low carbon generation capacity could be used to mitigate low water events in the Integrated Power System Planning directed in Directive 1.

12. This Direction Prevails

To the extents of any conflict between this Direction and Directives and previous Directions and Directives, this Direction and Directive prevails.