

1 Q. Please provide a table summarizing Hydro's proposed Network Additions Policy including the
2 rights these customers will be granted in exchange for payment of network upgrades, how long
3 the customers retain these rights and the transmission rate these customers will pay. In the
4 table, identify the differences between Hydro's proposed policy and the policies proposed by
5 the consultants for the Board and the Labrador Interconnected Group.

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8 A. Customers who are required to pay a capital contribution for network upgrades pursuant to the
9 Network Additions Policy will not receive any rights in exchange. The contributions paid
10 pursuant to the Network Additions Policy will allow new customers to be connected while
11 limiting future rate increases to customers on the Labrador Interconnected System that could
12 result from investment in new transmission assets necessary to serve new load requests. The
13 payment will allow the customer to be connected and receive service; however, it will not
14 reserve any capacity or energy to those customers.

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16 Customers will pay the published rate regardless of any contribution payment. A customer that
17 paid a contribution and is billed as a General Service customer will have its billing demand
18 determined based on its annual peak demand consistent with other General Service customers.
19 An Industrial Customer that paid a contribution will have its billing demand established based on
20 its firm demand requirements communicated to Hydro on an annual basis, consistent with other
21 Industrial customers. The proposed Network Addition Policy has a review process included to
22 address when a customer that paid a contribution requires additional capacity beyond what was
23 reflected in the Upstream Capacity Charge. An increase in capacity requirements by a customer
24 could prompt the requirement for an additional Upstream Capacity Charge to apply. The rate
25 applied to the customer would reflect the increased demand requirements of the customer.

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27 Please refer to CA-NLH-014, Attachment 1 for a comparison of specific Network Additions Policy
28 recommendations made by Hydro, Brattle Consulting, and the Labrador Interconnected Group.

Comparison of Key NAP Recommendations

Guiding Principle	Hydro	Brattle	LIG
<p>Determination and Recovery of Upgrade Costs</p>	<ul style="list-style-type: none"> Acceleration of transmission plan or expansion costs based on potential future investments. Beneficiary pays. Proposed to implement a contribution requirement to all customers requesting large load additions; the contributions will support recovery of upstream network addition costs. Proposed to continue the current approach of requiring a full capital cost contribution from customers to offset the initial capital investment in specifically assigned assets. Hydro believes that the customer should also pay the cost of sustaining capital and the operating and maintenance costs for the specifically assigned asset. 	<ul style="list-style-type: none"> “But for” analysis comparing the current system to the system with the new or additional load or generator. Cost causation. The “But for” approach does not charge a contribution to all customers above a load threshold; only charges the customer that prompts the transmission upgrade. The current NAP, as it pertains to directly assigned facilities, is generally consistent with cost causation principles, as the customer causing the facilities that are dedicated to it is responsible for the full costs. 	<ul style="list-style-type: none"> “But for” analysis with an emphasis that customer contribution be paid in full before any transmission upgrade works are initiated, and that no commitments on Hydro’s part be binding until that time. Recommend that the provisions of Hydro’s NAP regarding expansion cost and acceleration cost be adopted provisionally. Adopt the NAP provisionally, but only to data centre and industrial loads, no other rural loads.
<p>Inclusion of Interruptible Rate Option</p>	<ul style="list-style-type: none"> No interruptible rate option included in the policy. Hydro plans to review whether it is appropriate to include an interruptible rate option in its rate schedule. 	<ul style="list-style-type: none"> Yes. Modify the NAP to reflect more completely the goal of cost causation and that new and requesting load over a size threshold be given a choice to either pay for the necessary network upgrades (Option A) or choose an interruptible rate (Option B). The choice of Option B requires assessing the appropriate level of curtailability/interruptibility to ensure that existing customers do not experience any reduction in the current reliability level. 	<ul style="list-style-type: none"> Not specifically addressed however reference is made to the use of DSM to manage this type of load and reference is also made to the possibility of reducing load over peak due to the nature of this load.

<p>Policy Differentiation Based on Size</p>	<ul style="list-style-type: none"> • Yes, customers are divided into three categories: <ul style="list-style-type: none"> - 200 kW and under – no contribution required. - 200-1500 kW – Expansion Cost per kW x Customer’s Peak Demand (Upstream Capacity Charge) less the basic capacity investment credit. - 1500 kW and up – will require a preliminary assessment to determine if filling the request will accelerate the Transmission Expansion Plan. If not, the same calculation as the 200 -1500 kW customer. If there is a potential for acceleration, a System Impact Study will be conducted. The customer will bear the cost of the Study. If acceleration is necessary, Hydro will determine the difference between the cost of acceleration of the Transmission Expansion Plan and the value of the acceleration of the Transmission Expansion Plan to existing customers (based on forecast reduction in Expected Unserved Energy resulting from capital advancement.) 	<ul style="list-style-type: none"> • Yes, no specific size recommendation. • Size threshold should balance the practical considerations, including administrative burden, with the principle of avoiding undue discrimination. • For customers under 200 kW, from a cost causation perspective, Brattle does not believe Hydro’s NAP fares well conceptually as all network upgrade costs that are caused by customers falling into this category are socialized. From a practical perspective, however, the treatment of customers in this category may be justified based upon the fact that the cost impact of these customers’ connections requests likely tends to be generally lower than for large customers in the other categories. • Brattle feels that for customers between 200kW and 1,500 kW, and those above 1500 kW, Hydro’s proposed NAP is an improvement and better reflects cost causation principles than the current approach that socializes all network upgrades. Some costs that previously were socialized will be the responsibility of the requesting customer, the cost causer, and this provides improved price signals for that customer’s decision making. Nevertheless, it is not consistent with the “but for” approach for determining network upgrade charges. 	<ul style="list-style-type: none"> • Hydro should continue to work to explore possible modifications to the advancement approach, or the possible application of an approach similar to that posed by Brattle, whereby a new customer must take full cost responsibility for the network addition required to provide service. This would apply only to data centre and industrial loads, no other rural loads. • Hydro should revise the NAP to make clear that Customer Contributions for load requests of less than 1500 kW must be paid in full prior to any upgrade work being commenced, and to make clear that no commitments from Hydro to provide service will be binding until payment of the Customer Contribution is made.
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<p>Upstream Capacity Charge and Expansion Cost per kW</p>	<ul style="list-style-type: none"> Upstream Capacity Cost means the Expansion Cost per kW multiplied by the applicant's Peak Demand increase as a result of their new/additional service request. Expansion Cost per kW means an estimate of the cost of potential transmission upgrades, as provided in the Transmission Expansion Plan, divided by the additional capacity provided by those transmission upgrades. Hydro will update the Expansion Cost per kW within three months of filing a new Transmission Expansion Plan with the Board (to be updated annually). Any funds contributed through the Upstream Capacity Charge will be used to reduce customer impacts that would occur as new transmission investments are required to serve load growth. Hydro believes the proposed approach is consistent with the beneficiary pays approach and will contribute to rate stability on the LIS. 	<ul style="list-style-type: none"> Concerned with the Upstream Capacity Charge and Expansion Cost per kW: <ul style="list-style-type: none"> The contribution requirement (the Upstream Capacity Charge) is based upon the expansion cost per kW, which is an estimate of the costs of a potential transmission upgrade. Moreover, how the expansion cost per kW is determined is almost by definition not near-term investments as they look to serve loads levels beyond what is expected for 2043. Thus, the policy is not tied to the actual network upgrade costs that a customer causes to be incurred by its request. All customers in this category must pay the Upstream Capacity Charge irrespective of whether the customer was, in fact, the cost causer of the request and irrespective of when Hydro will spend the money or how much it will spend. Concerns that the Upstream Capacity Charge is not tied to the actual costs that Hydro incurs to upgrade the network charge to accommodate the request of the cost-causing customer. It serves as a form of "banking," essentially lending Hydro the money until it makes the upgrades. That, and what Brattle describes as a potential mismatch in timing between the customer's request for service and the actual incurrence of the network addition costs are noted as problematic. Brattle indicated they found the approach uncommon in their review of regulatory jurisdictions, "... not in line with our view of cost causation principles and complicating the problem needlessly". 	<ul style="list-style-type: none"> LIG recommended a modification to the calculation of the Expansion Cost per kW (specifically, inclusion of Alternative 17 from the Transmission Expansion Plan to increase the cost per kW).
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<p>Refunds Provided for Additional Customer Connections</p>	<ul style="list-style-type: none"> • Yes, if additional capacity is made available beyond what is required by the customer. The original customer may be eligible for a refund if additional customers connect within ten years 	<ul style="list-style-type: none"> • Yes, no specific time horizon recommendation. 	<ul style="list-style-type: none"> • Not specifically addressed.
<p>Credit for Anticipated Revenues</p>	<ul style="list-style-type: none"> • Yes for industrial customers. Proposed that Labrador Industrial Customers be provided a revenue-based investment credit (Demand Revenue Credit) in addition to the Basic Capacity Investment Credit, when determining required Upstream Capacity Charge. (The credit is reduced by 3% for each year that the estimated life of the Industrial Customer's operation is less than 25 years). The purpose of the Demand Revenue Credit is to reflect that Hydro anticipates additional future demand revenues from the Industrial Customer that will be sustained for the long term. • Non-industrial customers would not receive a revenue-based credit due to the level of uncertainty associated with the duration of service for non-Labrador Industrial Customers. 	<ul style="list-style-type: none"> • Yes, with security provided to ensure no harm to existing customers if the new customer exits the system before producing the credit for revenues. • Brattle believes that providing credits only to industrial customers treats them uniquely and may not be consistent with preventing undue discriminatory preferences not founded on cost considerations. • Brattle believes that a customer needing a network upgrade should be given credit for anticipated revenues. The customer required to provide some form of financial security equal to anticipated revenues to protect existing customers from harm if the customer exits the system before producing sufficient revenue to recover the cost of the network upgrade – Brattle indicated other jurisdictions range from 5 to 25 years. 	<ul style="list-style-type: none"> • Recommended that the provisions of the proposed NAP concerning the Demand Revenue Credit be approved which Hydro explicitly states is only available to Industrial Customers. How other customers in like circumstances should be treated is not addressed.
<p>Inclusion of Reliability Benefits</p>	<ul style="list-style-type: none"> • Yes, to offset the acceleration of transmission plan costs. When included, benefits are calculated based on fuel savings related to projected increased reliability. • Proposed that, for customer requests that require the acceleration of the LIS Transmission Expansion Plan, Hydro will base its contribution requirement on the difference between the cost of the acceleration of the LIS Transmission Expansion Plan and the value of the benefits to existing 	<ul style="list-style-type: none"> • No, cost causation should be the guiding principle. Hydro's approach to calculating reliability benefits is non-standard. • Value of lost load ("VOLL") is a standard measure of customer benefits due to increased reliability and estimate the monetary value that customers would pay to avoid an outage in the face of impending outage events. • While Hydro states that the fuel costs serve as a 	<ul style="list-style-type: none"> • Recommend that Hydro's proposed method for integrating Reliability Benefits in the Upstream Capacity Charge not be retained but is open to accounting for reliability benefits in some other way. • Further recommend that the Board order Hydro to continue work, in collaboration with stakeholders, in order to identify a better way to take Reliability Benefits into account.

<p>Separate Cryptocurrency Class</p>	<p>customers as a result of accelerating the Transmission Expansion Plan. This allows for reliability benefits that would be provided by the new investment to be included to offset the costs attributable to the new customer.</p>	<p>“proxy” for reliability to customers, Brattle states that it does not provide a discussion of why fuel costs are an appropriate proxy or how fuel costs compare to other potential measures of customer reliability, such as VOLL, that may reflect the balance of customer costs and benefits included in the transmission expansion plan.</p>	
	<ul style="list-style-type: none"> No. Hydro did not have a specific proposal for cryptocurrency customers. 	<ul style="list-style-type: none"> Brattle reviewed a number of strategies for cryptocurrency: AB – interruptibility; Quebec – interruptible rate class; NY – new rate class (marginal cost approach); Washington - unique rate class; however, did not recommend anything in particular at this time, possibly appropriate pending experience with new NAP. 	<ul style="list-style-type: none"> The LIG recommended that the Board should undertake, on its own initiative, an examination of whether it can and should create a distinct rate class for cryptocurrency mining in Labrador, and, if so, what constraints should be imposed on services offered to that rate class. The Board should, on a provisional basis, order the use of the definition in the Régie decision of cryptocurrency customer, as set out earlier in these submissions and as discussed in the Raphaels Report Addendum. Hydro should also be ordered to pursue a curtailment program with this class of customer and to incorporate a curtailment program into its load forecasting as well as in a TEP to be submitted to the Board for approval.

- 1 The response to NLH-PUB-012 explains that while Hydro’s proposed Network Additions Policy focuses on advancement costs of immediate and future investments, The Brattle Group’s
- 2 recommendations identify three types of costs: 1) immediate costs needed to meet the customer’s service request not included in an existing approved transmission plan; 2) costs related to
- 3 the advancement of future investments to immediate investments; and 3) costs related to the advancement of future investments to be “highly certain” investments. The Brattle Group,
- 4 indicates that the difference between its recommendations and Hydro’s proposed policy is that Hydro would also include advancement costs which The Brattle Group would categorize as
- 5 having a low degree of certainty. The table below, from NLH-PUB-012, describes the Brattle Group’s analysis.

Investment Cost Type	Party	Recommended for Inclusion of Advancement or Total Cost	
		High Degree of Certainty	Low Degree of Certainty
Total Cost of Immediate Investment (not identified in prior plan)	Brattle	Yes	n/a (must be high certainty if immediate)
	Hydro	Yes	n/a (must be high certainty if immediate)
Advanced to Immediate Investment	Brattle	Yes	n/a (must be high certainty if immediate)
	Hydro	Yes	n/a (must be high certainty if immediate)
Advanced but Future Investment	Brattle	Yes	No
	Hydro	Yes	Yes

Note: Yes in the table indicates that the cost would be included in a network upgrade cost analysis while a No indicates that it would not.