Newfoundland & Labrador

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF THE

2020 CAPITAL BUDGET APPLICATION

FILED BY

NEWFOUNDLAND AND LABRADOR HYDRO

DECISION AND ORDER OF THE BOARD

ORDER NO. P.U. 6(2020)

BEFORE:

Dwanda Newman, LL.B. Vice-Chair

John O'Brien, FCPA, FCA, CISA Commissioner

NEWFOUNDLAND AND LABRADOR BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

AN ORDER OF THE BOARD

NO. P.U. 6(2020)

IN THE MATTER OF the *Electrical Power Control Act, 1994,* SNL 1994, Chapter E-5.1 (the *"EPCA"*) and the *Public Utilities Act,* RSNL 1990, Chapter P-47 (the *"Act"*), as amended, and regulations thereunder; and

IN THE MATTER OF an application by

Newfoundland and Labrador Hydro for an Order, pursuant to sections 41 and 78 of the *Act*:

- (a) approving its 2020 capital purchases and construction projects in excess of \$50,000;
- (b) approving its 2020 Capital Budget of \$108,487,300;
- (c) approving its estimated contributions in aid of construction for 2020; and
- (d) fixing and determining Hydro's average rate base for 2015 and 2016 in the amounts of \$1,747,308,000 and \$1,885,849,000, respectively.

BEFORE:

Dwanda Newman, LL.B. Vice-Chair

John O'Brien, FCPA, FCA, CISA Commissioner

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1 I BACKGROUND

1. The Application

Newfoundland and Labrador Hydro ("Hydro") filed its 2020 Capital Budget Application (the
"Application") with the Board of Commissioners of Public Utilities (the "Board") on August 1,
2019. In the Application Hydro requested that the Board make an order:

- (a) approving its 2020 capital purchases and construction projects in excess of \$50,000;
- (b) approving its 2020 Capital Budget of \$108,487,300;
- (c) approving its estimated contributions in aid of construction for 2020; and
 - (d) fixing and determining its average rate base for 2015 and 2016 in the amounts of \$1,747,308,000 and \$1,885,849,000, respectively.
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On October 11, 2019, Hydro advised that as the result of a fire on October 7, 2019, the *Diesel Plant Fire Protection (2020-2021) - Charlottetown* project, with proposed expenditures of
\$176,500 in 2020 and \$1,691,400 in 2021, was no longer required and the proposed 2020 Capital
Budget would therefore be reduced from \$108,487,300 to \$108,310,800.

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Notice of the Application and an invitation to participate, was published on August 17, 2019.
Details of the Application and supporting documentation were posted on the Board's website.

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On September 3 and 4, 2019 respectively, intervenor submissions were received from Newfoundland Power Inc. ("Newfoundland Power") and a group of Island Industrial customers: Corner Brook Pulp and Paper Limited, NARL Refining LP and Vale Newfoundland and Labrador Limited (the "Industrial Customer Group"). On September 4, 2019 an intervenor submission was received from the Consumer Advocate, Dennis Browne, Q.C. (the "Consumer Advocate"), which included a request that the Board convene a Technical Conference.

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On September 11, 2019, Requests for Information ("RFIs") were issued by the Consumer
Advocate, the Industrial Customer Group, Newfoundland Power, and the Board. On October 11,
2019 Hydro responded to all RFIs.

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Grant Thornton LLP ("Grant Thornton"), the Board's financial consultant, was retained to review
the calculations of the 2015 and 2016 average rate base. Grant Thornton filed a report on October
7, 2019 and copies were provided to Hydro, the Consumer Advocate, Newfoundland Power and
the Industrial Customer Group.

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A Technical Conference was held on November 20, 2019. On November 25, 2019 RFIs were
issued by Newfoundland Power, and on November 28, 2019, RFIs were issued by the Consumer
Advocate and the Industrial Customer Group. On December 5, 2019 Hydro responded to these
RFIs.

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44 On December 12, 2019 both the Consumer Advocate and Newfoundland Power filed a written

45 submission, and on December 13, 2019 the Consumer Advocate filed a revised written submission.

1 The Industrial Customer Group advised that they would not file a written submission. Hydro filed 2 its reply on December 16, 2019.

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2. **Board Authority**

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6 Section 41 of the Act requires a public utility to submit an annual capital budget of proposed 7 improvements or additions to its property for approval of the Board no later than December 15th 8 in each year for the next calendar year. In addition, the utility is also required to include an estimate 9 of contributions toward the cost of improvements or additions to its property which the utility 10 intends to demand from its customers.

11

12 Subsection 41(3) of the Act prohibits a utility from proceeding with the construction, purchase or 13 lease of improvements or additions to its property without the prior approval of the Board where 14 (a) the cost of the construction or purchase is in excess of \$50,000, or (b) the cost of the lease is in 15 excess of \$5,000 in a year of the lease.

16

17 Section 78 of the Act gives the Board the authority to fix and determine the rate base for the service provided or supplied to the public by the utility and also gives the Board the power to revise the 18 19 rate base. Section 78 also provides the Board with guidance on the elements that may be included in the rate base.

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22 Π **PROPOSED 2020 CAPITAL BUDGET**

- 23 24 In accordance with the legislation, regulations and Board guidelines Hydro provided detailed 25 information to support the overall capital budget for 2020 as well as the proposed individual project 26 expenditures, including a project description, justification, costing methodology and future 27 commitments, if applicable. In compliance with previous Board Orders, the Application also 28 included specific information required to be filed, including a report on 2019 capital expenditures, 29 a schedule of capital expenditures for the period 2015-2024, and a five-year capital plan for the
- 30 period 2020-2024.

1 **1. Overview**

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3 The revised proposed 2020 Capital Budget is as follows:

2020 Proposed Capital Budget (\$000s)				
2020 Single Year Projects				
Generation	\$4,759.0			
Transmission and Rural Operations	24,505.0			
General Properties	2,541.9			
Allowance for Unforeseen Events	1,000.0			
Projects under \$50,000	94.5			
Multi-year (2020 Expenditures) ¹				
Multi-year projects commencing in 2020 ²	15,425.0			
Multi-year projects commencing in 2019 ³	43,724.0			
Multi-year projects commencing prior to 2019	16,261.4			
Total 2020 Capital Budget	\$108,310.8			

4 2. Evidence

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6 The Application sets out information supporting the overall capital budget for 2020 as well as the 7 proposed purchase and construction of improvements or additions to Hydro's property. The 8 supporting information for each of the projects is comprehensive and consistent with the level of 9 information filed in recent capital budget applications and is in accordance with the Board's 10 Capital Budget Guidelines.

11

The Application explained that approximately 75% of the proposed expenditures relate to transmission and rural operations, 19% relates to generation, and 5% is for general properties. Multi-year projects account for \$75 million of the budget and \$60 million relates to multi-year projects which commenced in 2019 or prior years. The total new capital expenditures for 2020 is \$48.3 million.

16 17

In its 2020 Capital Projects Overview Hydro highlighted its aging asset base, noting that the majority of its installed assets, including the hydroelectric installation at Bay d'Espoir, the Holyrood Thermal Generating Station ("Holyrood TGS"), the Stephenville and Hardwoods gas turbines, and much of its transmission and distribution systems are at least 40 to 50 years old.

Hydro stated that it recognizes the need to balance system investment to maintain reliability with

- the management of costs to minimize upward pressure on customer rates, and in an effort to reduce
- 24 costs while maintaining reliable service, it realigned projects based on the condition of assets,

¹ This includes 15 multi-year projects proposed to start in 2020 filed for approval in the Application, eleven multiyear projects previously approved by the Board and commencing in 2019, and four multi-year projects previously approved by the Board and commencing prior to 2019.

² Does not include \$176,500 for the withdrawn Diesel Plant Fire Protection Charlottetown project (due to the October 7, 2019 fire at the diesel plant).

³ Does not include \$3,460,000 for the planned 2019–2022 Additions For Load – Increase Capacity Labrador West project.

enabling adjustment to the timeframes associated with project execution. Hydro further stated that the projects proposed for 2020 address the need to sustain the existing asset base, while maintaining reliability and adhering to Hydro's principles of safety and environmental responsibility.

5

According to the 2020-2024 Capital Plan, Hydro plans to invest \$536.0 million in plant and equipment over the next five years. Annual capital expenditures are forecast to average approximately \$107.0 million, with a low of \$101.9 million in 2024 and a high of \$111.9 million in 2020. The overall capital expenditure reflects the requirement for projects related to replacement and upgrade of deteriorating facilities, ensuring compliance with legislation, and also to ensure a balance between capital investment and customer expectations for cost management and reliability.

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3. Holyrood Capital Spending

16 In the updated Holyrood TGS Overview report Hydro stated that the Holyrood TGS is a critical 17 part of the Island Interconnected system and is necessary to reliably meet both winter peak demand 18 and annual energy requirements. The Holyrood TGS supplies customer load that cannot currently 19 be met by Hydro's hydroelectric generating facilities, purchases from non-utility generators and 20 customer owned generation, and in the existing configuration also provides voltage support to the 21 major load centre on the Avalon Peninsula.

22

23 In 2019 Hydro was able to reduce required production from Holyrood through use of both the 24 Labrador Island Link ("LIL") and the Maritime Link. Hydro expects to continue importing energy 25 from off-island supply to reduce production at the Holyrood TGS when technically and 26 economically feasible. Hydro will continue to use the Holyrood TGS to provide reliable service to 27 customers and as satisfactory operating experience is obtained over the LIL the Holyrood TGS 28 units will be placed in standby mode. In standby mode, the Holyrood TGS will still maintain full 29 generation capability until Hydro is satisfied with the reliability of the Muskrat Falls Project assets. 30 The specific phases of operation were set out as follows:

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• Phase 1: Normal Production Phase (2016 through early 2020): All three units are available for prime power generation with Unit 3 also available for synchronous condenser operation, as required;⁴

- Phase 2: Standby Production Phase (Early 2020 through to the end of the winter 2021): All three units are available for prime power generation with Unit 3 also available for synchronous condenser operation, as required. Units will be placed in Standby Mode as reliable Muskrat Falls assets are proven, Unit 3 will be operated in synchronous condenser mode, as required; and
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• Phase 3: Post Interconnection Phase (Post-winter 2021): All Muskrat Falls Units have been placed in-service and both the plant and the LIL have operating experience. The Holyrood TGS Units 1 and 2 have been placed in Standby Mode, until decommissioning is

⁴ On February 14, 2020 Hydro advised the Board of the extension of the Holyrood Thermal Generating Station as a generating facility to March 31, 2022.

appropriate. The Holyrood TGS Unit 3 continues to operate as a synchronous condenser. There will be no power production from the Holyrood TGS after remaining excess fuel has been consumed.

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5 Hydro explained that the maintenance strategy employed at the Holyrood TGS is a function of the 6 operational phase. Scheduled overhauls of plant equipment have continued during Phase 1 to 7 ensure plant reliability. The upgrade of equipment at or near the end of its useful service life and 8 replacement of obsolete equipment that could no longer be maintained was also continued with 9 consideration given to the short service life. Phase 2 starts the evolution of the plant maintenance 10 strategy. While significant changes will not be made at this point as unit reliability will continue to be important during the standby period, equipment maintenance intervals may change. As some 11 12 intervals are based on annual operating hours, extension beyond more typical timeframes during 13 the standby period may be achieved in some instances, allowing Hydro to reduce cost while 14 maintaining reliability. In Phase 3, assets with operational synchronous condenser requirements 15 will continue to be optimally maintained with investment reflecting that continued requirement.

16

The 2020 capital plan for the Holyrood TGS identified capital expenditures of approximately \$3.6 million. Hydro stated that the proposed projects were reviewed in light of the future plant requirements and are considered essential to fulfil Hydro's mandate to serve its customers and meet safety and environmental requirements. The planned level of expenditures for the Holyrood TGS over the 2020 to 2024 period ranges from a high of \$11.1 million in 2021 to a low of \$3.4 million in 2024, with an annual average expenditure of \$6.1 million.

23

Given the significance of the Holyrood facility on the Island Interconnected system the Board will
continue to require Hydro to file an updated Holyrood TGS Overview report with future capital
budgets, at least until the Holyrood TGS enters the Phase 3 operational stage.

28 **4.** Submissions

Newfoundland Power submitted that the only proposed expenditure in the Application that is not
justified is the *Purchase New Mobile Substation Bishop's Falls* project.

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33 The Consumer Advocate submitted that Island Interconnected customer rates are under severe 34 pressure and that projects that do not relate to near-term safety and pose a threat to the environment 35 or to major equipment damage should be deferred. The Consumer Advocate noted that Hydro's 36 *Reliability and Resource Adequacy Study* has not yet been fully reviewed by the Board so its 37 impact on capital budgets is unknown. The Consumer Advocate also stated that load will be 38 impacted significantly by the results of the rate mitigation initiative. The Consumer Advocate 39 stated that portions of the proposed capital work could be deferred by a couple of years, or at least 40 spread out over a longer timeframe to reduce the near-term impact on rate base and consumer rates, and submitted that the Board require the utilities to prioritize projects over a two-or three-year 41 period. The Consumer Advocate stated that for a utility to suggest that projects cannot be 42 43 prioritized or deferred defies reason.

44

The Consumer Advocate noted that Hydro has prioritized projects across all categories of projects and has deferred projects in response to the severe rate pressures that customers are now facing. 1 The Consumer Advocate highlighted that Hydro has indicated it has increased scrutiny of its 5-2 year capital spending plan which has resulted in a decrease of 34%, or about \$250 million, from

3 the 5-year capital plan submitted two years ago, an undertaking for which the Consumer Advocate

- 4 stated Hydro should be given credit.⁵
- 5

6 Generally, the Consumer Advocate stated that he is satisfied that Hydro has developed a capital 7 budget plan that maintains reliable service at a time when customer rates are under severe pressure, 8 though he maintains that cost cutting opportunities are present. The Consumer Advocate stated 9 support for a comprehensive review of the capitalization practices of both Newfoundland Power 10 and Hydro. The Consumer Advocate also submitted that a review of the wood pole management 11 practices of the utilities should be undertaken to determine best practices and if there can be 12 economies gained.

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14 The Consumer Advocate stated that parts of the Application were incomplete and that the 15 guidelines have not always been followed. The Consumer Advocate submitted that where there is 16 no history of annual maintenance expenses, the Application is lacking relevant information, and 17 where there is no evidence/information on the history of reliability and outages related to projects, 18 relevant information is missing. The Consumer Advocate stated that with a declining and aging 19 population and with the introduction of costs associated with Muskrat Falls, affordability is an 20 issue. The Consumer Advocate noted that the Board's consultant, the Liberty Consulting Group, 21 concluded in the rate mitigation review that moderate reductions in capital budget expenditures 22 will produce reductions equal to or greater than savings resulting from combinations between the 23 utilities. The Consumer Advocate submitted that it is not good enough for a utility to state that 24 intervenors have not presented contrary evidence, and that for intervenors to do so would be 25 prohibitively time consuming and expensive. The Consumer Advocate stated that a utility can 26 justify nearly any expenditure on the basis that is it responsible for providing reliable power at 27 least-cost, and that this is a subjective, if not self-serving mandate. The Consumer Advocate 28 submitted that the difficult economic times in which ratepayers find themselves, owing to the 29 Muskrat Falls Project, have not been considered.

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5. Capital Projects Over \$50,000

Pursuant to section 41(3) of the *Act* the Application seeks approval of the proposed individual projects with expenditures in excess of \$50,000. The issues which were raised with respect to a number of specific projected are discussed below.

- 36
- i) Purchase New Mobile Substation Bishop's Falls
- 38

This project involves the acquisition of a mobile substation at an estimated cost of \$3,436,500. Hydro utilizes mobile substations to facilitate planned capital and maintenance work and as emergency spares. Hydro reviewed the availability of the five mobile substations owned by Hydro and Newfoundland Power and identified a risk of outage to Hydro customers during times when an emergency spare is not available.

s an emergency spare is not avair

⁵ PUB-NLH-001.

1 Newfoundland Power stated that Hydro owns one mobile substation and Newfoundland Power 2 owns four, and that the two companies cooperate in optimizing the use of the units to facilitate 3 capital and maintenance work and to provide prompt response using the units as emergency spares. 4 Newfoundland Power noted that in recent years, Hydro has not experienced a single situation 5 where a mobile substation was required in an emergency and one was not available. Newfoundland 6 Power submitted that there is insufficient evidence to justify the proposed purchase of an additional 7 mobile substation. 8

9 The Consumer Advocate stated that he is not convinced that a new mobile substation is needed at 10 this time, specifically as customer rates are under severe pressure.

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12 Hydro stated that it completed a review of the availability of the mobile substations over the past 13 five years and that the review identified a risk of extended outages to Hydro customers during 14 situations where an emergency spare transformer is required. Hydro added that despite the 15 cooperation agreement between Newfoundland Power and Hydro, which has been very effective 16 in managing these assets, there have been periods over the past five years when all five units were in use and were unavailable for immediate use as an emergency spare.⁶ Hydro stated that it is also 17 important to note that for some of its terminal stations and transformers only three of 18 19 Newfoundland Power's four mobile substations are suitable as emergency spares, which increases 20 the risk of unavailability. Hydro stated that the proposed new mobile substation would be suitable 21 for all terminal stations and transformers, increasing the pool of emergency spares for those 22 locations to five. Hydro submitted that there has not been an extended customer outage because 23 there has not been a situation requiring a mobile substation during any of the 1,776 station-days of 24 mobile substation unavailability between 2014 and 2018. Hydro submitted that the risk of extended 25 customer outages supports the proposed expenditure.

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27 The Board notes that the utilities have been successful in optimizing the use of the mobile 28 substations so that there has not been a situation where a mobile substation was not available when 29 required. Hydro provided information to show that there were periods when there was not a spare 30 unit available, however, Hydro did not address whether a different approach to capital and 31 maintenance scheduling in the future could ensure availability of at least one unit. The Board notes 32 that based on the information provided there was always at least one mobile substation available during the winter season over the study period. In the circumstances the Board finds that Hydro 33 34 has not demonstrated that the purchase of a mobile substation is consistent with the provision of 35 least-cost reliable service. This project will not be approved in 2020 but Hydro can make 36 application in the future if Hydro can provide additional information which justifies this project.

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38 ii) Distribution System Upgrades

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40 This project involves work to be performed on four feeders; Bear Cove L6, St. Anthony L3, Fleurde-Lys L1 and Fleur-de-Lys L2, at an estimated cost of \$3,257,100. A report certified by a 41 42 professional engineer provided analysis of the operating experience of the feeders, the outage statistics and the maintenance history. The Bear Cove L6 feeder analysis shows that conductor 43 44 failure and equipment failures have contributed to outages in recent years. The St. Anthony L3 45 feeder reliability in 2018 was poor due to a number of issues and the pole line inspection has

⁶ Hydro calculated unavailability as equalling 4.1% over the past 5 years.

revealed several deteriorated line components including 51 poles and 4 transformers. The Fleurde-Lys L1 and L2 feeders have been impacted by several broken primary conductor incidents and other defective hardware incidents from 2014 to 2018. Analysis was provided of two alternatives considered; a new distribution line or replacement of deteriorated line components. The recommended alternative was to replace deteriorated line components.⁷

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7 The Consumer Advocate stated that he is not convinced that the feeders proposed to be replaced 8 in the *Distribution System Upgrades* project, which includes the replacement of four of Hydro's 9 worst performing feeders in 2020, require replacement at this time. The Consumer Advocate 10 submitted that ratepayers have already paid for the robust maintenance of these systems and 11 advocates for maintenance over replacement.

12

13 Hydro submitted that the *Distribution System Upgrades* project is proposed to ensure the provision 14 of reliable service. Hydro stated that the specific feeders are identified through reliability 15 performance analysis. Hydro agrees with the principle of maintenance submitted by the Consumer 16 Advocate to avoid the necessity of large scale replacement, but noted that it has not proposed 17 replacement of the full feeders. Hydro has proposed replacement of only the components and portions of the feeders necessary to improve reliable operation, as determined through in-depth 18 19 engineering analysis. Hydro stated that it considered constructing an entirely new distribution line 20 and retiring the existing line as one of the alternatives for improving reliability on each feeder, but 21 as there are existing line components that are still operable, it concluded that the construction of 22 an entirely new line would lose the benefit of the existing functional equipment. Hydro submitted 23 that the project is justified and should be approved.

24

25 The Board is satisfied that the evidence in relation to the *Distribution System Upgrades* project 26 demonstrates it is consistent with the provision of least-cost reliable service. The engineering 27 report documents that deteriorated components and equipment failure have affected these feeders. 28 The Consumer Advocate raised concerns relating to the replacement of these feeders however 29 Hydro has stated that it is not replacing the full feeder but rather only the portions that are in need 30 of repair and necessary to improve reliability. The Board finds that this is a reasonable approach. 31 The Board is satisfied that the expenditures associated with the feeder upgrades have been justified 32 and the project should be approved.

- 33
- 34 iii) Upgrade Line Depots
- 35

This project involves the refurbishment of the Fogo Island and Burgeo Line Depots. The estimated total project cost is \$648,300.⁸ A detailed condition assessment of the Fogo Island and Burgeo Line depots was filed which set out in detail the components of each building that are in need of repair including roofing, windows, siding, electrical or other structural issues. Hydro provided evidence of the deteriorated areas of the buildings including photos of the items needing repair. The project was justified on the basis of the refurbishment of deteriorated infrastructure to maintain operational capability of the buildings, extending the lifespan of these facilities.

⁷ Hydro's 2020 Capital Budget Application, Distribution System Upgrades (2020-2021) Tab 10.

⁸ Hydro 2020 Capital Budget Application, Upgrade Line Depots, Tab 18.

The Consumer Advocate stated that if safety is the underlying consideration he takes no exception
 to any of the proposed expenditures.

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4 Hydro submitted that the *Upgrade Line Depots* project is justified and should be approved. Hydro 5 stated that the infrastructure is deteriorated and that while intervention is necessary to maintain the 6 depots in acceptable condition, Hydro proposes only to replace the specific components that are 7 degraded to a point that replacement is the only option. Hydro submitted that the expenditures will 8 maintain the operational capability and extend the lifespan of the facilities.

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The Board is satisfied that the evidence filed in relation to the *Upgrade Line Depots* project demonstrates it is consistent with the provision of least-cost reliable service. The engineering report shows that the proposed upgrades to the Fogo Island and Burgeo Line Depots are necessary to ensure continued reliable and safe operation of the depots. The evidence shows that these properties are in need of repair and that the components to be replaced or refurbished are deteriorated. The Board is satisfied that the expenditures in relation to the line depots have been justified and the project should be approved.

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18 iv) Replace Light and Heavy Duty Vehicles

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20 This project involves the replacement of 39 pieces of light and heavy duty equipment in 2020 that 21 meet Hydro's replacement criteria based on age, mileage and condition assessment. The estimated 22 total cost is \$3,209,000. Hydro evaluates all vehicles considered for replacement according to a 23 number of criteria, including overall condition and maintenance history. Evaluation of heavy fleet 24 vehicles is initiated at 6-9 years or 200,000 km, and for light duty vehicles at 5-7 years or 150,000 25 km. Hydro has developed guidelines based upon the Canadian Utility Fleet Council and the 26 replacement criteria considers the operating regime for each vehicle and the average replacement 27 criteria used by three other Canadian utilities. Hydro provided in its evidence its replacement

- 28 criteria and the replacement criteria used by other utilities.
- 29

The Consumer Advocate recommended that the Board order a common set of criteria for vehicle replacements to be used by Hydro and Newfoundland Power. The Consumer Advocate submitted that the utilities would find ways to extend the life of vehicles if they were under a performancebased regulatory regime, and stated that the vehicles have been maintained by ratepayers and that there is no evidence that they should be retired. The Consumer Advocate submitted that

- 35 independent verification is required for new purchases.
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Hydro stated that it has an established process with replacement criteria for each asset. Hydrostated that:

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- 40 41

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Using established replacement criteria that consider the operating regime of each asset, Hydro replaces vehicles within the fleet to ensure availability as and when required.⁹

The Board is satisfied that the evidence in relation to the *Replace Light and Heavy Duty Vehicles* project demonstrates that it is consistent with the provision of least-cost reliable service. The proposed project is based on Hydro's vehicle replacement criteria which are consistent with

⁹ Hydro 2020 Capital Budget, page 15.

1 Canadian utility practice, the previous findings of the Board and historical level of spending. The 2 Board finds that Hydro has a well-established policy and there is no information on the record that 3 the policy is not providing for least-cost and reliable operations. The Board does not find merit in 4 ordering a common set of criteria for the utilities' vehicle replacements at this time. The Board is 5 satisfied that the expenditures in relation to vehicle replacement have been justified and the project 6 should be approved.

6. Other Issues Raised

Issues were raised during the review of Hydro's 2020 Capital Budget Application with respect to
 capitalization practices, wood pole managment and the capital budget review process.

- 13 i) Capitalization Practices
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As with previous capital budgets Hydro's 2020 Capital Budget includes both indirect and direct capitalized internal costs associated with new capital assets. These costs include labour, overheads and other general expenses capitalized.

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19 The Consumer Advocate in his submission supported Hydro's proposal in Newfoundland Power's 20 2020 Capital Budget for the Board to review the capitalization practices of both Newfoundland 21 Power and Hydro. General Expenses Capitalized ("GEC") were reviewed last by the Board in

Power and Hydro. General Expenses Capitalized (GEC) were reviewed last by the Board in
 1999. Since that time both utilities have adopted new accounting standards, International Financial
 Power inc. Standards (IERS) for Hydro and US Concercity. Account of Accounting Standards (US)

Reporting Standards (IFRS) for Hydro and US Generally Accepted Accounting Standards (US
 GAAP) for Newfoundland Power. Both Hydro and the Consumer Advocate acknowledge that a

review of practices for capitalization in this jurisdiction is warranted. The Board agrees that it would be timely to review the capitalization practices to ensure consistency with sound utility

would be timely to review the capitalization practices to ensure consistency with sound utility practice and the provision of least-cost service to customers. The Board will establish a process

- 28 for this review.
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- 30 ii) Wood Pole Management
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The Consumer Advocate provided comments on wood pole management and agreed with Hydro that a test and treatment program is sound utility practice. The Consumer Advocate submitted that a review of the wood pole management practices of the two utilities should be undertaken.

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36 Hydro's program is a condition based program that uses inspection data to determine the 37 refurbishment or replacement of deteriorated line components in the subsequent year. Hydro's 38 program was approved by the Board in Order No. P.U. 53(2004). The program is aimed at early 39 detection and treatment of deteriorating wood poles and line components.

40

41 The engineering report which was filed in this Application indicated that to provide the 42 quantitative benefits on the improvement of transmission line reliability sufficient long-term data

43 from two full inspection cycles would be required and the second cycle is scheduled for completion

44 by 2023. The Board believes that a review of wood pole management would be premature at this

45 time.

- 1 2
- iii) Capital Budget Guidelines and Process

3 The Consumer Advocate raised a number of concerns about the Capital Budget guidelines and the 4 process for reviewing and approving capital budget applications, including reliance upon staff to 5 review the capital budget applications and RFIs, which are not sworn or subject to scrutiny by 6 counsel during a hearing. The Consumer Advocate submitted that the utilities should be required 7 to convene a technical conference to explain each and every expenditure, and that the technical 8 conference should be held as early as possible to allow intervenors the time to retain experts to 9 review expenditures and offer expert opinion. According to the Consumer Advocate the capital 10 budget procedure is inadequate and a stringent process must be put in place prior to awarding utilities ratepayer money. The Consumer Advocate provided comments on the overall Application 11 12 and stated that parts of the Application were not complete and lacked information. The Consumer 13 Advocate stated that procedures to review capital budget applications must change to recognize 14 cost efficiencies between the two utilities in the Muskrat Falls era.

15

16 Hydro stated that it will consider the recommended avenues for review and analysis made by the 17 Consumer Advocate on the projects to which he did not take exception in preparing future Capital Budget Applications. In relation to the Consumer Advocate's submission that the Application was 18 19 not complete, Hydro stated that it used its experience, knowledge and judgement when determining 20 what information was appropriate and necessary based on the purpose and scope of the proposed 21 project. Hydro also notes that some of the "incomplete" information raised by Consumer Advocate 22 was not required by Capital Budget Guidelines. Hydro submitted that it has provided all required 23 and appropriate data to justify the proposed projects.

24

The Board believes that appropriate oversight of capital expenditures is an important aspect of the regulation of public utilities given the potential impact of capital spending decisions on rates and the provision of reliable service. To ensure the appropriate balance between the provision of leastcost and reliable service it is critical that determinations with respect to capital spending are made in consideration of all of the facts after a full examination of all of the circumstances.

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31 The Act requires that a utility must apply to the Board for approval of both its annual capital budget 32 as well as projects over \$50,000. The Board's Capital Budget Guidelines set out the requirements 33 with respect to these applications. These guidelines were developed and implemented in 2005 with 34 the assistance and agreement of the utilities, the Industrial customers and the Consumer Advocate. 35 The information which is required includes, the age of the equipment and useful life, maintenance 36 history and condition analysis, environmental and safety issues, alternatives considered and a cost 37 benefit analysis. During the review of the application additional information can be requested and, 38 while the responses are not required to be sworn, the information may be reviewed in a technical 39 conference or hearing. Normally the capital budget applications are addressed through a paper 40 hearing, however, where warranted in the circumstances a technical conference or a public hearing 41 may be held.

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43 The Board is satisfied that the Capital Budget Guidelines have provided the opportunity to fully

- 44 examine the capital budget applications and that the necessary and appropriate information has
- 45 been provided by the utilities in accordance with the guidelines. To ensure continued appropriate
- 46 oversight of the utilities' capital spending in the future a review of the capital budget approval

1 process is underway. This review is being conducted with the participation of the utilities, the 2 Consumer Advocate and the Industrial Customer Group and with the assistance of the Board's 3 consultant. This review is ongoing and it is expected that some changes will be implemented for 4 the capital budget applications to be filed in 2020. Long-term changes will be addressed as the 5 review progresses through 2020.

6

7 In this case a technical conference was held followed by the opportunity to issue further requests 8 for information. Board staff was fully involved throughout the capital budget process and all of 9 the evidence and information on the record is fully reviewed and considered by the Board in its 10 evaluation of the application proposals. The Board notes that Hydro's 2020 Capital Budget consists of two volumes of information supporting the Application. Each project is detailed with a 11 12 project description, project budget details, project schedule, historical information and analysis, 13 operating experience, evaluation of alternates where applicable, rationale and justification for the 14 project and other relevant information required by the Board's guidelines. Further, the 2020 Capital Budget contains 20 supporting reports including 19 certified by a professional engineer 15 16 detailing various project and engineering information supporting the project. The Board is satisfied that the process in this case provided a full, fair and transparent review of Hydro's 2020 Capital 17

18 Budget Application.19

20 **7.** Conclusion

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The Board has reviewed Hydro's 2020 Capital Budget Application and the proposed capital projects, the reports filed in support and the additional information filed by Hydro in response to RFIs. After consideration of the evidence and the submissions filed the Board finds the remaining projects to be adequately justified and that they are prudent, reasonable and necessary for Newfoundland and Labrador Hydro to continue to provide safe and reliable service. These projects are approved as part of Hydro's 2020 Capital Budget.

1 2

III 2015/2016 AVERAGE RATE BASE

The following table shows the calculation of the average rate base as of December 31 for 2015 and 2016:

Newfoundland and Labrador Hydro Computation of Average Rate Base for the Years Ended December 31, 2015 and 2016 (\$000s)

(\$0003)	2015	2016
Total Capital Assets	1,671,550	1,788,401
Deduct Items Excluded from Rate Base		
Work in Process	(29,171)	(89,698)
Asset Retirement Obligations (net of amortization)	(14,381)	465
Net Capital Assets (A)	1,627,998	1,699,168
Net Capital Assets, Previous Year (B)	1,468,388	1,627,998
Unadjusted Average Capital Assets (C) ¹⁰	1,548,193	1,663,583
Deduct		
Average Net Capital Assets Excluded from Rate Base	(10,730)	(16,676)
Average Capital Assets	1,537,463	1,646,907
Cash Working Capital Allowance - Return 8	6,995	5,304
Fuel Inventory - Return 10	44,052	35,473
Supplies Inventory - Return 10	29,279	32,146
Average Deferred Charges - Return 11 ¹¹	129,456	166,019
Average Rate Base at Year-End - Return 12	1,747,245	1,885,849

5 Grant Thornton reviewed Hydro's average rate base for 2015 and did note a \$63,000 formula error

6 in Hydro's average rate base and Hydro provided Grant Thornton with a Revised Average Rate

7 Base calculation as shown above. Grant Thornton concluded the average rate base for 2015 and

8 2016 included in the Application is in accordance with established practice and Board Orders. The

9 Board finds that the components of Hydro's average rate base for 2015 in the amount of

10 \$1,747,245,000 and for 2016 in the amount of \$1,886,849,000 should be approved.

¹⁰ C = (A+B)/2.

¹¹ Updated to reflect the Board of Commissioners of Public Utilities approval of the Amended 2013 Prudence Compliance Application in Board Order No. P.U. 49(2016) and the 2017 General Rate Application in Board Order No. P.U. 16(2019) resulting in an increase in average deferred charges of \$98.3 million in 2019 and \$61.1 million in 2018. The increase relating to the Amended 2013 Prudence Compliance Application in Board Order No. P.U. 49(2016) is primarily due to the final approval of the 2014–2016 Cost Deferrals. The increase relating to the 2017 General Rate Application in Board Order No. P.U. 16(2019) is due to the approval of the 2015–2017 Supply Deferrals.

IV **ORDER**

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3 **IT IS THEREFORE ORDERED THAT:**

- Hydro's proposed construction and purchase of improvement or additions to its 1. property in excess of \$50,000 to be completed in 2020, as set out in Schedule A to this Order, are approved.
- 9 2. Hydro's proposed multi-year proposed construction and purchase of improvement or 10 additions to its property in excess of \$50,000 to begin in 2020, as set out in Schedule B to this Order, are approved. 11
- 13 Hydro's proposed contribution in aid of construction for 2020 are approved. 3.
- 15 Hydro's 2020 Capital Budget for improvements or additions to its property in an 4. 16 amount of \$107,576,100, as set out in Schedule C to this order, is approved.
- 18 5. Hydro's average rate base for the year ending December 31, 2015 is hereby fixed and 19 determined to be \$1,747,245,000.
- 21 Hydro's average rate base for the year ending December 31, 2016 is hereby fixed and 6. 22 determined to be \$1,885,849,000.
- 24 7. Unless otherwise directed by the Board Hydro shall file, with the 2021 Capital Budget 25 Application, an updated overview in relation to the proposed capital expenditures for 26 the Holyrood Thermal Generating Station.
- 28 Unless otherwise directed by the Board Hydro shall file an annual report to the Board 8. 29 on its 2020 capital expenditures by March 1, 2020.
- 31 9. Unless otherwise directed by the Board Hydro shall provide, in conjunction with the 32 2021 Capital Budget Application, a status report on the 2020 capital budget expenditures showing for each project: 33
- 34 the approved budget for 2020; **i**)
 - the expenditures prior to 2020; ii)
 - the 2020 expenditures to the date of application; iii)
 - the remaining projected expenditures for 2020; iv)
- 38 the variance between the projected total expenditures and the approved budget; v) 39 and
- 40 vi) an explanation of the variance.
- 41
- 42 10. Hydro shall pay all costs and expenses of the Board incurred in connection with the **Application.** 43

DATED at St. John's, Newfoundland and Labrador, this 21st day of February, 2020.

Đwanda Newman, LL.B. Vice-Chair

John O'Brien, FCPA, FCA, CISA Cømmissioner

Cheryl Blundon Board Secretary

Schedule A Order No. P.U. 6(2020) Single-Year Projects over \$50,000 Issued: February 21, 2020

NEWFOUNDLAND AND LABRADOR HYDRO 2020 CAPITAL BUDGET SINGLE YEAR PROJECTS OVER \$50,000 (\$000)

PROJECT DESCRIPTION

GENERATION

2020

HYDRAULIC PLANT Hydraulic In-Service Failures TOTAL HYDRAULIC PLANT	1,250.0
THERMAL PLANT	
Thermal In-Service Failures	2,000.0
Upgrade Uninterruptible Power Supply 3 & 4 - Holyrood	348.7
TOTAL THERMAL PLANT	2,348.7
GAS TURBINES	
Generator Assessment - Happy Valley Gas Turbine	1,097.6
TOTAL GAS TURBINES	1,097.6
TOOLS AND EQUIPMENT	
Purchase Tools and Equipment less than \$50,000	62.7
TOTAL TOOLS AND EQUIPMENT	62.7
TOTAL GENERATION	4,759.0

Schedule A Order No. P.U. 6(2020) Page 2 of 3

TRANSMISSION & RURAL OPERATIONS TERMINAL STATIONS Replace Transformer T7 - Holyrood Terminal Station 2.678.1 Terminal Station In-Service Failures 1,500.0 Purchase SF6 Multi Analyzer - Various 207.1 TOTAL TERMINAL STATIONS 4,385.2 TRANSMISSION 2,792.7 Wood Pole Line Management Program - Various 2,792.7 TOTAL TRANSMISSION DISTRIBUTION Provide Service Extensions - Various 4,284.0 3,195.0 Upgrade Distribution Systems - Various Additions for Load - Distribution System - Makkovik and Hopedale 846.1 TOTAL DISTRIBUTION 8,325.1 GENERATION Diesel Genset Replacements - Mary's Harbour 3,900.7 Overhaul Diesel Units - Various 2,310.9 467.2 Upgrade Fuel Storage Tanks - Charlottetown 363.8 Replace Automation Equipment - Rigolet Replace Sewage Lift System - Rigolet 127.9 TOTAL GENERATION 7,170.5 PROPERTIES Upgrade Line Depots - Various 648.3 TOTAL PROPERTIES 648.3 METERING Purchase Meters and Metering Equipment - Various 244.2 244.2 TOTAL METERING TOOLS AND EQUIPMENT Replace Light Duty Mobile Equipment - Various 499.6 Purchase Tools & Equipment Less than \$50,000 - Central 242.1 Purchase Tools & Equipment Less than \$50,000 - Labrador 102.4 Purchase Tools & Equipment Less than \$50,000 - Northern 94.9 TOTAL TOOLS AND EQUIPMENT 939.0

TOTAL TRANSMISSION AND RURAL OPERATIONS

PROJECT DESCRIPTION

2020

24,505.0

Schedule A Order No. P.U. 6(2020) Page 3 of 3

PROJECT DESCRIPTION

2020

GENERAL PROPERTIES		
INFORMATION SYSTEMS		
SOFTWARE APPLICATIONS		
Refresh Security Software - Hydro Place	110.2	
Upgrade Software Applications - Hydro Place	65.4	
TOTAL SOFTWARE APPLICATIONS		175.6
COMPUTER OPERATIONS		
Replace Personal Computers - Hydro Place	673.3	
Replace Peripheral Infrastructure - Hydro Place	222.1	
Upgrade Core IT Infrastructure - Hydro Place	193.7	
TOTAL COMPUTER OPERATIONS		1,089.1
TOTAL INFORMATION SYSTEMS		1,264.7
TELECONTROL		
NETWORK SERVICES		
Replace Radomes - Various	384.5	
Replace Battery Banks and Chargers - Various	195.9	
Replace Network Communications Equipment - Various	186.8	
Replace Remote Terminal Units - Various	157.1	
Purchase Tools and Equipment Less than \$50,000 Telecontrol	93.4	
TOTAL NETWORK SERVICES		1,017.7
TOTAL TELECONTROL		1,017.7
ADMINISTRATION_		
Remove Safety Hazards - Various	198.6	
Purchase Office Equipment Less than \$50,000	60.9	
TOTAL ADMINISTRATION		259.5
TOTAL GENERAL PROPERTIES		2,541.9
TOTAL SINGLE YEAR PROJECTS OVER \$50,000		31,805.9

Schedule B Order No. P.U. 6(2020) Multi-Year Projects over \$50,000 Issued: February 21, 2020

NEWFOUNDLAND AND LABRADOR HYDRO 2020 CAPITAL BUDGET PROJECTS OVER \$50,000 MULTI-YEAR PROJECTS (\$000)

Multi-year Projects Commencing in 2020

PROJECT DESCRIPTION	2020	2021	2022	2023	2024	Total
Hydraulic Generation Refurbishment and Modernization (2020-2021)	6,580.2	10,250.0	-	-	-	16,830.2
Terminal Station Refurbishment and Modernization (2020–2021)	3,712.0	5,698.5	-	-	-	9,410.5
Rewind Unit 3 Stator - Holyrood	1,281.4	5,664.2	-	-	-	6,945.6
Perform Combustor Inspection - Holyrood Gas Turbine	546.1	4,927.4	-	-	-	5,473.5
Distribution System Upgrades (2020–2021) - Various	102.7	3,154.4	-	-	-	3,257.1
Replace Light and Heavy Duty Vehicles (2020-2021) - Various	1,625.5	1,583.5	-	-	-	3,209.0
Replace Fire Supression System - Happy Valley Gas Turbine	264.6	2,377.9	-	-	-	2,642.5
Replace Powerhouse Roofing System - L'Anse Au Loup and St. Anthony	125.3	1,195.8	-	-	-	1,321.1
Diesel Plant Ventilation Upgrade - Nain	162.7	690.4	-	-	-	853.1
Replace Elevator Motors and Control Equipment - Hydro Place	89.1	647.6	-	-	-	736.7
Install Partial Discharge Monitoring - Holyrood Gas Turbine	37.8	575.0	-	-	-	612.8
Upgrade Fire Suppression System - Bishop's Falls	91.6	292.6	-	-	-	384.2
Install Recloser Remote Control (2020-2021) - Hampden and Upper Salmon	71.3	185.3	-	-	-	256.6
Total Multi-Year Projects over \$50,000 commencing in 2020	14,690.3	37,242.6	0.0	0.0	0.0	51,932.9

NEWFOUNDLAND AND LABRADOR HYDRO 2020 CAPITAL BUDGET PROJECTS OVER \$50,000 MULTI-YEAR PROJECTS (\$000)

Multi-year Projects Commencing in 2019

	Expended to						
PROJECT DESCRIPTION	2019	2020	2012	2022	2023	2024	Total
Additions for Load - Increase Capacity Labrador West *	26,475.3	-	-	-	-	-	26,475.3
Terminal Station Refurbishment and Modernization (2019-2020)	10,891.1	19,061.8	-	-	-	-	29,952.9
Muskrat Falls To Happy Valley Interconnection	12,586.4	7,392.1	-	-	-	-	19,978.5
Hydraulic Generation Refurbishment and Modernization (2019-2020)	10,313.6	5,486.5	-	-	-	-	15,800.1
Distribution System Upgrades (2019-2020) - Various	390.8	5,490.1	-	-	-	-	5,880.9
Diesel Genset Replacements (2019-2020) - Cartwright	525.6	3,421.8	-	-	-	-	3,947.4
Additions for Load - Isolated Generation Systems (2019-2020) - Makkovik	1,523.6	658.9	-	-	-	-	2,182.5
Replace Vehicles and Aerial Devices (2019-2020) - Various	1,248.1	594.9	-	-	-	-	1,843.0
Upgrade Telecontrol Facilities (2019-2020) - Gull Pond Hill and Bay d'Espoir Hill	96.3	577.6	-	-	-	-	673.9
Upgrade Terminal Station for Mobile Substation (2019-2020) - St. Anthony	89.3	402.7	-	-	-	-	492.0
Upgrade Compressed Air System - Holyrood Gas Turbine	70.7	317.7	-	-	-	-	388.4
Install Recloser Remote Control (2019-2020) - Rocky Harbour	66.1	319.9	-	-	-	-	386.0
Total Multi-Year Projects over \$50,000 commencing in 2019	64,276.9	43,724.0	0.0	0.0	0.0	0.0	108,000.9
Multi-year Projects Commencing before 2019							
PROJECT DESCRIPTION							
Upgrade Circuit Breakers (2016-2020) - Various	39,783.7	11,116.8	-	-	-	-	50,900.5
Diesel Genset Replacements (2018-2020) - Makkovik	5,307.4	3,592.8	-	-	-	-	8,900.2
Replace Exciter Controls Units 1 to 6 - Bay d'Espoir	1,917.4	1,429.6	-	-	-	-	3,347.0
Install Energy Efficiency Lighting in Diesel Plants - Various	223.0	122.2	-	-	-	-	345.2
			0.0	0.0	0.0	0.0	

* Hydro stated in coverletter to application it was developing a 2019 supplemental application for this project therefore no 2020 expenditure requested.

Schedule C Order No. P.U. 6(2020) 2020 Capital Budget Issued: February 21, 2020

NEWFOUNDLAND AND LABRADOR HYDRO 2020 CAPITAL BUDGET

Approved 2020 Capital Budget	\$ 107,576,100
Allowance for Unforeseen Items	 1,000,000
Projects under \$50,000 ¹	94,500
Multi-Year Project over \$50,000 commencing prior to 2020 (previously approved)	59,985,400
Multi-Year Projects over \$50,000 commencing in 2020	14,690,300
Projects Over \$50,000 to be completed in 2020	\$ 31,805,900

¹ Approval of projects under \$50,000 is not required but these expenditures are part of the total 2020 Capital Budget

Newfoundland & Labrador BOARD OF COMMISSIONERS OF PUBLIC UTILITIES 120 TORBAY ROAD, ST. JOHN'S, NL

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