

- 1 **Q. CA-NP-070 (Reference Application, Customer Service Continuity Plan, page 1) It**
 2 **is stated “An independent assessment of alternatives has confirmed that implementing**
 3 **a modern Customer Information System is the only viable alternative to ensure**
 4 **continuity in Newfoundland Power’s customer service delivery. A modern Customer**
 5 **Information System would support the Company’s existing business processes, provide**
 6 **opportunities to improve the customer experience, and align the Company with current**
 7 **industry practice.”**
 8
- 9 a) Please explain why under no circumstances can the existing customer service
 10 system (CSS) “ensure continuity in Newfoundland Power’s customer service
 11 delivery” over the next three years.
 12
- 13 b) Please identify issues and problems over the past three years brought on by
 14 deficiencies of the existing CSS.
 15
- 16 c) Please quantify the risk of failure and the consequences of failure if the CSS is
 17 not replaced for the next three years.
 18
- 19 d) Does the existing CSS “support the Company’s existing business processes”?
 20
- 21 e) Please provide a copy of any analysis EY has taken to examine any and all
 22 potential providers of a CSS system and the associated provider costs.
 23
- 24 f) Is this expenditure appropriate given the difficulties facing the economy
 25 currently resulting from the COVID-19 pandemic, during which time businesses
 26 have been closed for months and schools and educational institutions have not
 27 operated.
 28
- 29 g) Given the COVID-19 pandemic and the devastating effect that COVID is having
 30 on the provincial economy, how is it possible that NP could justify such an
 31 expenditure in these circumstances?
 32
- 33 A. a) Newfoundland Power’s existing Customer Service System (“CSS”) is expected to
 34 provide continuity in the Company’s customer service delivery over the next 3 years.
 35 Implementation of a replacement system is proposed for 2023 following a 3-year
 36 project to procure, design, test, and deploy the new system.
 37
 38 See part (c) below for more information on why this project cannot be deferred.
 39
- 40 b) See parts (c) and (d) of this response for information on the deficiencies and issues
 41 that have necessitated replacement of the existing CSS.
 42
- 43 c) Newfoundland Power’s CSS was implemented in 1993 with an expected service life
 44 of 20 years. The Company plans to replace the system by 2023 following 30 years of

1 operation. Risk assessments of CSS were completed in 1996, 2003, 2013 and 2018.
2 These risk assessments contributed to an extension of the system’s service life.¹

3
4 The 2018 risk assessment was conducted by Ernst and Young LLP (“EY”) following
5 a competitive tendering process. EY assessed both the technical and functional risks
6 facing CSS. Risks were assessed across 5 dimensions based on industry data and
7 guidance: (i) vendor market share; (ii) vendor health; (iii) business-enabling; (iv)
8 support; and (v) security and reliability.²

9
10 EY assessed the risks facing CSS in 2018 and how those risks would change if the
11 system was not replaced. Table 1 summarizes EY’s assessment of risks.

Table 1:
2018 Technical Risk Assessment

	2018	2023-2028
Vendor Market Share	Moderate – High	High
Vendor Health	Moderate – High	High
Business Enabling	Moderate – High	High
Support	Moderate	High
Reliability and Security	Low – Moderate	Moderate - High

12 The risks facing the existing system were above acceptable levels for a critical
13 business application such as CSS in 2018. This necessitated a multi-year assessment
14 and planning process to explore options for mitigating these risks.³

15
16 As shown in Table 1, all risks facing CSS are expected to increase beyond 2023.
17 Certain increases in risk have already materialized. As examples:

18
19 (i) The existing Hewlett Packard Enterprises (“HPE”) Integrity servers
20 underpinning CSS are now obsolete. These servers are the foundational
21 hardware upon which CSS operates. HPE provided notification in June 2020
22 that Integrity servers are no longer manufactured and the existing supply is not
23 expected to last beyond this year. This hardware obsolescence also affects the
24 software underpinning CSS. For example, the existing CSS server operating
25 system relies exclusively on the Integrity servers to function.

¹ See the *2021 Capital Budget Application, Volume 1, Customer Service Continuity Plan*, page 6.

² For a description of these risk dimensions, see the *2021 Capital Budget Application, Volume 1, Customer Service Continuity Plan*, pages 6 to 8.

³ For a copy of Newfoundland Power’s assessment and planning framework, including the 2018 Technical Risk Assessment, see response to PUB-NP-008 filed as part of Newfoundland Power’s *2019/2020 General Rate Application*.

- 1 (ii) HPE moved away from providing the server operating system for
 2 Newfoundland Power's CSS in 2019. This software is now provided by a
 3 comparatively smaller vendor, VMS Software. This change in vendors
 4 increases risks related to future product investment and technology
 5 obsolescence. It also resulted in a 57% increase in third-party support costs
 6 between 2019 and 2020.⁴
 7
- 8 (iii) Third-party support costs for the programming languages underpinning CSS
 9 have continued to increase. On average, these costs have increased by 10%
 10 annually over the period 2015 to 2020 – a rate well above inflation.⁵ This
 11 significant increase in support costs is an indicator of the declining customer
 12 base for that technology. This, in turn, is an indicator of technology
 13 obsolescence.
 14
- 15 (iv) Internal support risks have continued to increase. CSS is supported by a small
 16 group of 12 highly specialized employees.⁶ One employee is eligible for
 17 retirement in 2020. A single retirement would represent an 8% decline in
 18 support resources in one year. Four additional employees will be eligible to
 19 retire within 4 years of replacing CSS in 2023. Recruitment efforts are
 20 constrained due to the highly customized nature of CSS and the lack of
 21 available skills in the labour market.⁷
 22

23 These increases in risks validate the findings of EY's 2018 Technical Risk
 24 Assessment and the need to replace CSS by 2023.
 25

26 Deferring replacement of the CSS would expose customers to a high level of risk.
 27 Critical failure of CSS would fundamentally limit Newfoundland Power's ability to
 28 provide responsive and efficient customer service. Considerable manual effort would
 29 be required to maintain minimal service levels. This would include, for example, the
 30 manual processing of thousands of customer bills each month.

⁴ Third-party vendor support costs for the OpenVMS operating system increased from approximately \$11,500 in 2019 to \$18,067 on the support renewal in 2020 ($(\$18,067 - \$11,500) / \$11,500 = 0.57$, or 57%).

⁵ See response to Request for Information CA-NP-075 for additional information on third-party support costs for the hardware and software underpinning CSS.

⁶ See page 8 of Attachment A to response to Request for Information PUB-NP-008 filed as part of Newfoundland Power's 2019/2020 General Rate Application.

⁷ For more information, see response to Request for Information CA-NP-074.

1 Additionally, deferring replacement of the existing CSS would increase costs to
2 customers. A capital project would be required to replace Newfoundland Power's
3 server infrastructure in 2020 with technology that is already obsolete.⁸ While this
4 project would manage short-term security and reliability threats to customers, it
5 would not mitigate the risks currently facing the system. Replacement of CSS would
6 still be required.

7
8 Based on these increasing risks and costs, deferring replacement of Newfoundland
9 Power's CSS beyond 2023 would be inconsistent with the delivery of reliable service
10 to customers at least-cost.

- 11
12 d) No, the existing CSS does not support all existing business processes. Newfoundland
13 Power's business processes have been designed, in part, based on the functional
14 limitations of its CSS.

15
16 For example, the billing of Net Metering customers and certain General Service
17 customers cannot be completed using the existing CSS. This has resulted in the need
18 for business processes to manually bill these customers.

19
20 As another example, business processes have been designed to provide certain self-
21 service capabilities via the customer website. Customers can request to move their
22 services to a new location via the customer website. However, limitations with the
23 existing CSS require each request to be processed manually by a Customer Service
24 Representative.

25
26 Additionally, the business processes to deliver the one-time customer bill credit were
27 also determined, in part, based on limitations with the existing CSS (see part (f)
28 below).

29
30 These examples are not exhaustive, but are indicative of the functional limitations of
31 Newfoundland Power's existing CSS. These limitations are expected to increase into
32 the future as the existing CSS can no longer be cost-effectively customized to deliver
33 new functionality.⁹

34
35 The assessment of EY determined each of these limitations would be addressed with
36 a modern Customer Information System.

⁸ Newfoundland Power's existing Integrity servers have been extended beyond their expected useful service lives. Market guidance indicates servers should be replaced every 5 years. By 2021, the servers underpinning CSS will have been in operation for 7 years. Consistent with past practice, a capital project would be required in 2021 to replace the Integrity servers. This project would be necessary to manage short-term reliability and security risks associated with aging server infrastructure. Allowing reliability and security risks to increase would expose Newfoundland Power's customers to cybersecurity threats, among other risks. In order to replace the Integrity infrastructure, the servers would require procurement prior to the end of 2020. However, this technology would continue to be obsolete and would not mitigate any technical or functional risks currently facing Newfoundland Power's system. The estimated cost of this project is approximately \$1.6 million.

⁹ See the *2021 Capital Budget Application, Volume 1, Customer Service Continuity Plan, Attachment A*, page 11.

1 e) An analysis of potential providers of a Customer Information System was not
2 included in the scope of work for EY.

3
4 EY completed a market analysis. This analysis shows the majority of utilities in
5 North America are implementing modern Customer Information Systems from one of
6 two providers: SAP and Oracle.¹⁰

7
8 Newfoundland Power intends to complete a competitive tendering process to select a
9 provider for its Customer Information System. This competitive tendering process
10 will be completed with the assistance of a third-party Procurement Advisor.¹¹ The
11 Procurement Advisor will assist Newfoundland Power in determining potential
12 providers of a Customer Information System.

13
14 f) Yes, this expenditure is appropriate. The COVID-19 pandemic has not decreased the
15 risks facing Newfoundland Power's customer service delivery due to obsolescence of
16 its CSS.

17
18 In fact, the COVID-19 pandemic has further confirmed the functional limitations of
19 Newfoundland Power's existing technology.

20
21 For example, the approach to delivering the government-directed one-time customer
22 bill credit was determined, in part, based on the limitations of its CSS.¹² Specifically,
23 technical complexities associated with customizing the system required the use of a
24 fixed service date to determine customer eligibility. This necessitated a manual
25 assessment of approximately 1,000 customers to ensure all eligible customers
26 received their one-time bill credit.¹³

27
28 By comparison, these limitations do not generally exist with modern Customer
29 Information Systems. Modern systems have the functionality to apply customer bill
30 credits in an efficient and effective manner.

31
32 g) The CSS Replacement project is justified on the basis that it is the only viable option
33 to ensure customers can continue to receive least-cost and reliable service from
34 Newfoundland Power.

¹⁰ See the 2021 Capital Budget Application, Volume 1, Customer Service Continuity Plan, Attachment A, Appendix A, page 5.

¹¹ The third-party Procurement Advisor will also be selected through a competitive tendering process. For more information, see response to Request for Information CA-NP-087.

¹² The Provincial Government directed the one-time bill credit for customers in Order in Council OC2020-081, dated May 12, 2020. The bill credit was designed as a means of providing financial assistance to electricity customers during the COVID-19 pandemic.

¹³ See response to Request for Information PUB-NP-002 filed in relation to the One-Time Customer Bill Credit.