Q. **(Reference Application, Customer Service Continuity Plan, page 7) It is stated "*The assessment further determined that CSS has moderate support risk. CSS has been supported using internal expertise since 1998. Support capacity is expected to diminish over time due to employee retirements. The skills necessary to replace this expertise are not commonplace in the labour market and are no longer offered as part of postsecondary programs.*"**

    a) **Would it be possible for employees ready for retirement to pass their knowledge on to younger employees through training or other programs?**

    b) **What type of postsecondary programs are available for the proposed new CSS?**

    c) **What postsecondary programs do current employees have that are relevant to supporting the current CSS?**

A.   a) In Newfoundland Power's experience, it has not been possible for employees ready for retirement to successfully pass their knowledge and expertise relative to the Company's Customer Service System ("CSS") on to younger employees.[1]

      The CSS has been supported using internal resources since vendor support ended over 20 years ago. All upgrades and enhancements since that time have been completed using internal resources. This required Newfoundland Power to recruit a small number of highly specialized employees with skills in the areas of software design and computer programming.

      Newfoundland Power does not have the capabilities to design and deliver technical training in the areas of software design and computer programming. These programs are typically provided by post-secondary institutions. However, in the case of CSS, the relevant training is no longer taught as part of post-secondary programs.[2] The development of additional internal expertise to continue supporting CSS is therefore not a viable option to mitigate the risks facing the system.

  b) Newfoundland Power's approach to supporting and maintaining its customer service technology will fundamentally change upon replacement of its CSS.

      Modern Customer Information Systems are built by the vendor using modern programming languages (e.g. C++, Python, Groovy) and include vendor-driven upgrade strategies. As a result, Newfoundland Power would no longer be required to maintain highly specialized skills in decades-old software design and programming

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[1] For example, over the last decade, Newfoundland Power has experienced challenges recruiting and retaining employees with the necessary technical skills to support the PowerHouse, Axiant and COBOL programming languages underpinning CSS. These challenges are attributable to both the general lack of skills in the labour market and limited career development opportunities for these obsolete technologies.

[2] See response to Request for Information PUB-NP-008 filed as part of Newfoundland Power's *2019/2020 General Rate Application,* Attachment A, Appendix A, page 14.

1   techniques. Rather, the Company's support requirements would shift to, as examples,
2   ensuring system performance and security, overseeing vendor-driven upgrades,
3   maintaining integrations with other Company applications (e.g. GIS), and
4   investigating and managing technical issues with the software vendor. Employees
5   with standard training in computer science or information technology programs
6   would have the skills necessary to complete this work. Vendor-provided training
7   would also be available to employees.

8

9   c)   The employees supporting the current CSS have generally completed either a
10   Bachelor of Science (Computer Science) at Memorial University or a Computer
11   Studies Diploma at College of the North Atlantic. The specific technical
12   competencies offered by these programs have changed materially over the last two
13   decades. As examples, the programming languages required to support CSS were
14   once covered as part of these programs, but are no longer offered.

15

16   Historically, employees supporting the current CSS have also availed of vendor-
17   provided training. For example, a previous vendor of the PowerHouse and Axiant
18   programming languages, Cognos, once provided training in these programming
19   languages. Newfoundland Power employees availed of this training at that time.
20   However, this vendor no longer exists and the training is no longer available.[3]

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[3]   Newfoundland Power's current vendor, Unicom, confirmed in 2020 that it no longer employs training personnel
      for the PowerHouse and Axiant programming languages.