**Q. Newfoundland Power is seeking approval to replace its Customer Service System commencing in 2021 with project deployment scheduled for the third quarter of 2023. In Ernst & Young's opinion what are the risks and costs, if any, associated with a one-year delay, a two-year delay and a five-year delay in project commencement and how do the risks change over that time period?**

A. EY has provided an assessment of risks in its 2018 Technical Risk Assessment report which were re-iterated in the 2020 Planning and Assessment report. These risks include: Vendor Market Share, Vendor Health, Newfoundland Power's Support, Reliability and Security, and Business Enabling.

It is difficult to accurately predict the realization of risks and related costs over any deferral period, whether it be one-, two-, or five-years due to the considerable number of scenarios that could occur. Each would bring with it a different set of factors that would influence the replacement project cost.

In addition, each commencement delay scenario suggested in this RFI requires the addition of the 3-year procurement and implementation timeframe to capture the full period of CSS risk exposure. This would make it 4, 5 and 8 years respectively for each respective deferral scenario before the CSS could be decommissioned with a new CIS solution in place.

As we noted in our response to PUB-NP-022, observed data indicates increasing risk for the majority of risk categories since we published our report in June 2018, and all five will likely increase over the next five to ten years.

In EY's opinion, the noted risks and costs of deferring the project increase each year. If the project were delayed for one year, we believe that both risks associated with vendor and Newfoundland Power's ability to adequately support the project would likely continue to increase. These would likely increase further if the project were delayed two years. With respect to vendor risks, the trend of declining number of utilities operating CSS foundational technologies is continuing, along with the corresponding decline in vendor market share, support and investment. Concurrently, Newfoundland Power's CSS support capacity is forecasted to decline from 12 to 10 individuals in 2021, to nine by 2024 and eight by 2025. With a deferral of one- or -two years, these forecasted support capacity reductions in 2024 and 2025 would be encountered during the CIS replacement project, increasing the risk to ongoing CSS support and to the CIS replacement project. Reference PUB-NP-022 for additional information and discussion related to risk trending.

If the project were delayed five years, EY believes all five risks would increase, with those associated with the vendors of the underlying CSS technologies and Newfoundland Power's support capability becoming more difficult to mitigate due to an increased likelihood of materializing. Reference PUB-NP-022 for additional information and discussion related to risk trending. The responses provided for each of the five risks over a 5 to 10-year outlook in PUB-NP-022 are valid for the discussion of risk related to a

five-year delay. As noted above, it is very difficult to predict costs over any deferral period. Based on our experience and the data observed (as referenced below), the following are potential costs of deferral:

1. Costs related to additional enhancements of CSS during interim period, whether planned and unplanned – Newfoundland Power indicated that a significant enhancement is made to CSS each 2.5 years and that enhancing the system has become generally too costly and complex to implement.[1] Required enhancements could be costly depending upon their nature.

2. Infrastructure upgrades – Newfoundland Power estimates a cost of $1.6 million to upgrade CSS to the last line of integrity servers.[2]

3. System interruption costs, should they occur – System issues and related fix/recovery efforts, e.g., labor (internal and external), equipment and parts for replacement, additional customer service costs, etc.

4. Additional planning and assessment activities – While certain components of the existing Planning and Assessment exercise could be leveraged, other portions would have to be re-evaluated and re-planned. The amount of required re-work would increase as the length of the deferral period increases. For example, it would be reasonable to estimate that 50% of the Planning and Assessment costs would need to be incurred again if the project was deferred 5 years. 50% of $1.2 million = $600 thousand.[3] For instance, while the template and methodology could be re-used, much of the assessment would require significant updates including: review and document as-is and to-be processes, update requirements, and re-evaluate the interfaces to edge-systems.

5. Inefficiencies of replacement project execution – Inefficiencies could be incurred due to the forecasted decrease in Newfoundland Power's CSS support capacity. Staffing for CIS projects tends to be roughly equal between the system integrator (SI) and the utility for CIS projects. When the utility cannot provide the requested roles or skills, that gap is typically filled by outside contractors or the SI. However, those contractors or personnel the SI provides are rarely as knowledgeable about the internal systems, data, and processes as the utilities' own personnel, so it's not an efficient like-for-like exchange. Not only does the contractor or SI typically cost more, but they also know less, which adds additional risk and cost to the project.

[1] Source: PUB-NP-014.
[2] Source: PUB-NP-014.
[3] Source: PUB-NP-014.

6. Unknown costs – Should an initiation of a replacement program be event-driven (i.e., critical issues/ failure), the cost of a hastily mobilized replacement program would likely be substantially more than a properly planned replacement program. Support staff would be tasked with dealing with legacy system issues, managing ongoing service quality, and concurrently expediting the commencement of a replacement without all planning measures having been conducted. If a scenario such as this were to occur, there would be a substantial increase in risk and cost.