

6.2 Asset Management Technology Replacement

Q. Page 9. In describing Alternative 2, it is stated that the new technology will support the Company's current asset management practices with the addition of enhancements that are native to modern solutions. Please describe these enhancements and indicate when and if Newfoundland Power is likely to utilize them.

A. Over the past two years, Newfoundland Power has been reviewing its asset management practices. The Company engaged Asset Management Consultants Limited ("AMCL") to provide guidance on the asset management journey while also recommending software capabilities for the technology replacement. Newfoundland Power has aligned its asset management review with the project planning for the Asset Management Technology Replacement, ensuring that asset management practices can continue to mature without being constrained by software limitations into the future.

The asset management technology industry landscape offers a number of different software solutions that are typically delineated by varying decision-making timescales. AMCL's guidance and expertise helped to clearly identify the primary decision-making timeframes and associated functionalities for a modern equivalent replacement to meet Newfoundland Power's asset management requirements.

The Company incorporated information from a number of sources to ensure both existing and future functionalities were included in the asset management technology roadmap. The ongoing asset management review, combined with AMCL's expertise in asset management and technology, along with Newfoundland Power's experience from similar projects, and a series of engagements with industry asset management organizations and other utilities resulted in the release of a Request for Information ("RFI").^{1,2} Six vendors were selected for software demonstrations, with each vendor showcasing how its software could meet the Company's existing and future requirements. This process has confirmed that Newfoundland Power's requirements can be met by a modern equivalent technology.

Existing Asset Management Technology Overview

Newfoundland Power's existing technology is the central repository for substation, generation, transmission, and distribution asset information. It is used to manage preventative and corrective work, including inspections, scheduled maintenance and testing. The asset management technology is used by employees to identify, plan, schedule, and track executed work. Information stored within the technology is used to create asset reporting to inform data driven decisions for operations and capital expenditures. Implementing a modern asset management technology will enable the Company to provide continuity in its existing business processes and asset management

¹ Asset Management Technology enhancements will be considered in the Asset Management Implementation Plan to be completed by the end of 2024.

² Discussions were conducted with CEATI, Newfoundland and Labrador Hydro, Nova Scotia Power, New Brunswick Power, Ottawa Hydro, FortisAlberta and Tucson Electric Power.

1 practices while taking advantage of native technological enhancements and planning for
2 future functionality.

3 **Enhancements Enabled by Modern Equivalent Technology**

4 Modern equivalent asset management technologies will allow opportunities aligned with
5 good asset management practices and offer functionalities or enhancements that would
6 not have been present in legacy technologies implemented over 20 years ago.³ This
7 includes, but are not limited to: (i) enhanced data analytics; (ii) digitalization; and
8 (iii) the integration and connectivity of GIS systems.
9

10 i. Enhanced Data Analytics

11 Data analytics optimizes processes and supports decision-making by handling
12 large data sets. As more data is added, it can include historical evaluations of
13 asset data and performance. Enhanced data visualization offers user-friendly
14 reporting that consolidates metrics into customizable views. This functionality
15 eliminates the need for data exports and labour-intensive analysis required
16 by the existing technology.
17

18 ii. Digitization

19 Digitizing data means that data is accessible, extractable, and can be
20 manipulated. Currently, most information in Newfoundland Power's asset
21 management technology exists as PDFs or image files. This makes it
22 challenging to extract meaningful insights for decision-making. Digitization
23 will enhance data quality by reducing reliance on paper forms and manual
24 data entry, transitioning to electronic and automated methods. Additionally,
25 digitalization will improve data accessibility across the Company.
26

27 iii. GIS Integration and Connectivity

28 GIS helps in capturing, storing, analyzing and displaying data related to an
29 asset's geo-spatial position. Newfoundland Power currently utilizes this
30 system extensively but, due to the age of the existing asset management
31 technology, there are limitations in the ability to integrate both technologies.
32 Additional asset management integration with Newfoundland Power's GIS
33 would further facilitate digital data collection, improve data integrity and
34 consolidate multiple data repositories.
35

36
37 Examples such as these business functionalities and enhancements are required and will
38 be implemented upon the project's completion.
39

40 **Additional Functionality**

41 In addition to the native enhancements offered by modern asset management
42 technologies, further functionalities are available through modules or add-ons. These
43 can be implemented as the organization matures its asset management practices.
44 Newfoundland Power will submit any such projects identified to be in the best interest of
45 customers for Board approval through normal regulatory proceedings including annual

³ See Newfoundland Power's *2025 Capital Budget Application*, report *6.2 Asset Management Technology Replacement*, Appendix A.

1 capital budget applications and general rate applications. These functionalities could
2 include, but are not limited to: (i) asset health indices; (ii) life cycle modeling; and (iii)
3 asset performance management.
4

5 i. Asset Health Indices

6 Quantifiable asset condition, referred to as an Asset Health Index (“AHI”),
7 provides a numerical score on a predefined scale. This enables comparability
8 between assets within the same class and improves the predictability of asset
9 end-of-life. Asset condition parameters and weightings can be developed
10 internally, guided by sound utility practice standards, or in consultation with a
11 third-party consultant. Parameters and weights would need to be established
12 before AHI technology functionalities could be introduced.
13

14 ii. Life Cycle Modeling

15 Newfoundland Power will explore the business processes required to
16 implement economic life cycle modeling. If deemed suitable, this will involve
17 developing technology functionalities to support these business processes.
18 Life cycle modeling relies on various parameters such as asset health indices,
19 associated costs, failure data, and more, which will require additional
20 planning and integration with other business units and associated
21 technologies before life cycle modeling functionalities would be implemented.
22

23 iii. Asset Performance Management

24 Asset Performance Management (“APM”) encompasses the capabilities of
25 data capture, integration, visualization and analytics tied together for the
26 explicit purpose of improving the reliability and availability of physical assets.
27 APM includes the concepts of condition monitoring, predictive forecasting and
28 reliability-centered maintenance.⁴ A determination of the suitability of APM
29 will need to be completed and resulting business processes would need to be
30 established before these functionalities could be implemented.
31

32 Newfoundland Power has aligned both the asset management review and the Asset
33 Management Technology Replacement to ensure that both existing and future
34 functionalities are considered during the replacement project and in future year
35 enhancements.

⁴ See Gartner (n.d.). *Information Technology Glossary, Asset Performance Management*. Retrieved August 30, 2024 from <https://www.gartner.com/en/information-technology/glossary/asset-performance-management-apm>.