

1 Q. **Reference: Terminal Station Asset Management Strategy – 2026 Update**

2 It is stated “*The majority of Hydro’s battery banks consist of lead-acid flooded-cell type batteries,*
3 *whose capacity deteriorates over time.*” Have advanced battery technologies such as lithium-ion
4 displaced lead acid batteries in such applications? Are they expected to at some point in the
5 future?

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8 A. Newfoundland and Labrador Hydro’s (“Hydro”) current standard continues to be lead acid
9 flooded cell battery technology. Preliminary research into lithium-ion technologies has shown
10 advantages such as a smaller footprint and reduced weight, but they pose a high fire hazard risk
11 due to the nature of the batteries. Manufacturers are including integrated thermal protection
12 with lithium-ion banks, but the cost is much greater than current lead acid banks for no increase
13 in effective service life. Furthermore, lithium-ion batteries should not be float charged, and all of
14 Hydro’s current chargers are float chargers.¹ Hydro will continue to evaluate the technology as it
15 evolves.

¹ Float charging is a battery charging method in which a constant voltage is applied to a fully charged battery at a level sufficient to offset normal self-discharge and maintain the battery in a fully charged condition while minimizing overcharging.