Q. (Reference Schedule B, Replacement Transformers) It is stated (page 28) "*The age profile of the Company's distribution transformers reflects its implementation of pole-mounted units with stainless steel tanks beginning in 2001. The majority of the Company's transformers have been in service for less than 20 years, with approximately 7% in service for 40 years or more*."
a) Is the expected service life of units with stainless steel tanks longer than that of the units that have been in service for 40 years or more?
b) Of the transformers that failed from 2020 to 2024 (average of 654 annually), what portion were pole-mounted units with stainless steel tanks?

A. a) Yes, a pole-mounted distribution transformer with a stainless-steel tank is expected to have a longer average service life in Newfoundland Power's operating environment than a similar unit with a mild steel tank, as a stainless-steel tank reduces the risk of corrosion-related tank failures. This extension is shown by the increase in average service life for pole-mounted transformers in Newfoundland Power's depreciation studies following the introduction of stainless-steel tanked transformers.

Table 1
Distribution Transformer Average Service Life

Depreciation Study Year	Transformer Average Service Life
2000	33
2010	40
2019	42

Newfoundland Power credits the approximately 27% increase in average service life for its pole-mounted distribution transformers largely to its deployment of stainless-steel transformer tanks.

b) Newfoundland Power does not track transformer replacements based on tank material. However, approximately 93% of the pole-mounted distribution transformer replacements completed between 2020 and 2024 were related to corrosion damage.[1] Other causes of transformer retirements can include physical damage, rodent/bird activity, lightning strikes and internal electrical failure, none of which are mitigated by a stainless-steel tank.[2]

[1] In the event a stainless-steel tanked pole-mounted distribution transformer fails in service, Newfoundland Power evaluates the unit and sends it for refurbishment if it is economical to do so.

[2] Newfoundland Power now specifies lightning arrestors to be installed on all new pole-mounted distribution transformers procured. These devices are not present on transformers installed before the mid-1990s, such as the 7% of Newfoundland Power's fleet that are in service for 40 years or more.