

1 **Q. (Reference Application, para. 7)**
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3 **It is stated “The deteriorated condition of MUN-T2 was not known at the time**
4 **of filing the Applicant’s 2023 Capital Budget Application as inspection and oil**
5 **sampling results collected at that time appeared normal.” Do the most recent**
6 **inspection and oil sampling results appear normal?**
7

8 A. Oil sampling was conducted in February 2022 prior to the failure of MUN-T2. The oil
9 colour and results of dissolved gas analysis appeared normal.¹ Oil sampling was
10 conducted again in August 2022 following notification by Memorial University that
11 MUN-T2 was experiencing abnormal noise and temperature levels. The results showed
12 the oil appeared dark in colour. A laboratory analysis showed all gases were within
13 normal limits.²
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15 An internal inspection of MUN-T2 was then completed to diagnose the issue. The
16 internal inspection revealed particles in the oil and slight gaps in the core. The results
17 were sent to an independent consultant for review to confirm the failure mode of
18 MUN-T2. For more information, see the *Application, Schedule B, Section 2.0*.

¹ Oil sampling includes standard oil tests and dissolved gas in oil analysis. Standard oil tests check for contaminants and moisture, which at unacceptable levels can lower the dielectric strength of oil and cause a fault. Dissolved gas analysis is used to monitor and diagnose internal transformer electrical problems, such as the presence of arcing or poor electrical connections. Certain gases naturally increase as a transformer ages, but can be a sign of excessive temperatures and overloading in newer transformers. Oil sampling and analysis is completed annually to gauge the internal health of transformers.

² See the *Application, Schedule B, page 3*.