

1 Q. **Reference: 2027 Capital Budget Application, Project 26, Upgrade Power Transformers (2027-**
2 **2028), page 3.**

3 For each of the job activities outlined in section 3.3, please describe how Hydro determined the
4 categories of severity, including any alignment with industry standards, and the frequency with
5 which Hydro assesses and evaluates these categories.

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8 A. Section 3.3.1 – Power Transformer Solid Insulation Moisture: the category definitions are those
9 of solid insulation moisture contamination severity stated in a Doble Engineering presentation
10 titled “Water and Relative Saturation” published in 2013. Newfoundland and Labrador Hydro
11 (“Hydro”) evaluates its power transformer solid insulation moisture annually.

12 Section 3.3.2 – Power Transformer Bushings: the category definitions are informed by Hydro’s
13 operational experience and engineering judgement and incorporate guidance from both Doble
14 Engineering and power transformer bushing OEMs.¹ Hydro collects condition information on its
15 power transformer bushings visually on a 120/180 day frequency and electrically on a six-year
16 frequency. Hydro evaluates its power transformer bushing condition annually.

17 Section 3.3.3 – Power Transformer Oil: the category definitions incorporate industry standard
18 IEEE C57.106-2015 (entitled "Guide for Acceptance and Maintenance of Insulating Mineral Oil in
19 Electrical Equipment"). Hydro measures the condition of its power transformer oil on either an
20 annual frequency or triennial frequency with approximately 9% of them on the triennial
21 frequency. Hydro evaluates its power transformer oil condition annually.

¹ Original Equipment Manufacturer.