

1 **Q. (Reference Application) Has NP identified zones on the Island where deterioration**
2 **of equipment is greater owing to such things as corrosion, insect infestation, etc?**
3 **Please provide details as to locations and the means NP has employed to detect**
4 **deterioration, including scientific and laboratory testing. Please advise if other**
5 **jurisdictions are employing scientific and laboratory testing determine**
6 **deterioration.**

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8 A. Newfoundland Power identifies deterioration of equipment owing to such things as
9 corrosion and insect infestation through its assessment management programs and
10 inspections practices. The Company completes numerous types of scientific testing as
11 part of its asset management practices to identify deterioration. These tests are completed
12 by trained Newfoundland Power technical staff. Some examples of these tests include:
13 (i) partial discharge testing; (ii) insulation resistance testing; (iii) thermography testing;
14 (iv) vibration analysis and (v) various other electrical equipment testing of electrical
15 equipment and electromechanical relays. For additional information on Newfoundland
16 Power's use of laboratory testing see response to Request for Information CA-NP-011.

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18 Since Newfoundland Power's service territory is primarily the coastal areas of the
19 province, corrosion of equipment due to the salt laden environment is generally prevalent
20 throughout most of the Company's service area. Newfoundland Power's vast experience
21 operating utility assets in the salt laden environment recognizes that corrosion can lead to
22 deterioration of equipment and result in poor reliability for customers. The Company's
23 equipment standards reflect the corrosive climatic conditions experienced in its service
24 territory.¹

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26 Newfoundland Power has not identified significant deterioration of equipment associated
27 with insect infestation. It has been Newfoundland Power's experience that insect
28 infestation is not as prevalent in the Newfoundland environment as it is in other areas in
29 continental North America with more temperate climates.

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31 Newfoundland Power is generally aware that other jurisdictions may be employing
32 scientific and laboratory testing to determine the cause and extent of deterioration. The
33 Company has not completed any studies to confirm which utilities are undertaking this
34 level of asset management.

¹ For example, since 2001 Newfoundland Power only installs stainless steel transformers in its service territory. This has led to an increase in the reliability of electric service to customers. Prior to transitioning from steel to stainless steel transformers the Company experienced problems related to corrosion of transformer tanks. In some geographic areas steel transformers were required to be removed from service after only a few years due to rusting.