

Q. (Reference Schedule B, Distribution Feeder GDL-02 Loop 10 and 20)

- a) Please provide a table showing the number of primary conductor failures and customer outage minutes per year for Loop 10 and Loop 20 from 2010 to 2026 (to date).**
- b) When a primary conductor failure occurs, what is the typical time required to complete repairs?**
- c) How are customers on either of these Loops affected by a primary conductor failure?**
- d) Please provide a table for the years 2015 to 2026 (to date) showing the annual cost of restoring service on Loop 10 and 20.**

- A.** a) Table 1 below provides the number of primary conductor failures per year for Loop 10 and Loop 20 from 2010 to 2026 (to date). Prior to the implementation of Newfoundland Power's Outage Management System in 2019, data is unavailable for the customer outage minutes for each Loop. Table 1 below includes the data for the customer outage minutes from 2019 to 2026 (to date) for Loop 10 and Loop 20.

Table 1 Primary conductor Failures and Customer Outage Minutes per Year for Loop 10 and 20				
Year	Loop 10		Loop 20	
	Primary Conductor Failures	Customer Outage Minutes	Primary Conductor Failures	Customer Outage Minutes
2010	2	-	0	-
2011	2	-	0	-
2012	0	-	0	-
2013	0	-	0	-
2014	1	-	1	-
2015	0	-	0	-
2016	0	-	0	-
2017	0	-	0	-
2018	0	-	0	-
2019	0	0	0	0
2020	0	0	1	6,084
2021	0	0	0	0
2022	1	7,175	0	0
2023	0	0	1	5,460
2024	1	58,257 ¹	0	0
2025	0	0	0	0
2026 ²	0	0	0	0

¹ During troubleshooting for this outage on August 30, 2024, there were damages found to 3 different cables in the loop, requiring 2 cables to be repaired before power could be restored after isolating the third damaged cable. This resulted in a total outage duration of approximately 13 hours.

² Up to and including July 6, 2026.

- 1 b) In a looped configuration, power is supplied to customers in two directions with a
2 normally open point located approximately halfway in the loop. Loops allow a
3 point of redundancy to restore power to customers in the case of a cable fault by
4 isolating the faulted cable and restoring power to the customers through the
5 normally open point. Once service is restored to customers, work to repair the
6 faulted cable is completed in a planned manner. The time to complete permanent
7 repairs varies on a case-by-case basis depending on the extent of work required
8 to locate the exact location of the fault, excavate the ground, complete necessary
9 work to repair or replace the primary conductor and restore the site to original
10 conditions.
- 11
- 12 c) When an underground cable faults, an outage occurs for customers located
13 between the open point of the loop and the primary dip pole fuse. The outage is
14 sustained to customers until the fault location can be identified and the loop re-
15 configured to restore power. The exact number of customers impacted by a
16 particular primary conductor failure can vary depending on the configuration of
17 the loop at the time of the fault. Looped underground systems are often
18 reconfigured from the normal state to allow planned maintenance work by
19 Newfoundland Power or to allow for excavation by third parties in close proximity
20 to the primary underground cables. Loop 10 serves 92 customers and Loop 20
21 serves 80 customers and, in the event of a primary underground cable failure,
22 any range of customers on the loop could experience an outage. The outage
23 would continue until it has been determined which underground cable has
24 experienced the fault, that cable is isolated, and the loop is reconfigured to
25 restore power to all customers.
- 26
- 27 d) Newfoundland Power does not capture repair, preventive maintenance and other
28 maintenance-related costs on an individual loop or distribution feeder basis.
29 These costs are captured and reported on an aggregate basis as part of the
30 Company's maintenance programs. As a result, Newfoundland Power is unable to
31 provide the requested maintenance cost information for Loop 10 and Loop 20.