Q. Reference: "2020 Capital Budget Application," Newfoundland Power, July 5, 2019, Report 4.2 "Feeder Additions for Load Growth." secs. 2.1 and 2.3.

On page 1, Newfoundland Power states "An overloaded section of conductor on a distribution line is at risk of failure. Failures are caused by overheating of the conductor as the customer load exceeds the conductor's capacity ratings."

On page 3, footnote 4, Newfoundland Power states "Newfoundland Power's planning criteria for maximum current on a single-phase distribution line is 85 amps."

Please indicate the percentage of outages, both in quantity and duration, that were caused by undesirable operation of the feeder protection due to heavily loaded single-phase taps on feeders OXP-01, PUL-05, and BCV-03 over the past five years.

A. Past feeder reliability performance is not a component of the justification for the *Feeder Additions for Load Growth* project, as implied in this question. The *Feeder Additions for Load Growth* project consists of expenditures to address overload conditions and provide additional capacity to address growth in the number of customers and volume of energy deliveries. This is necessary to ensure an adequate supply of reliable power to customers.[1]

Newfoundland Power does not specifically identify outages caused by undesirable operation of feeder protection due to heavily loaded single-phase taps. Such outages would be recorded in the Company's Outage Management System as being caused by equipment failure. Outages related to failed insulators, transformers, and other types of equipment would also be recorded as equipment failure.

In the past 5 years approximately 16% of all outage events on feeders BCV-03, PUL-05 and OXP-01 were caused by equipment failure. This includes outages caused by failed conductor. Over the past 5 years, the duration of outages resulting from equipment failure equated to 51% of the total outage duration to the customers supplied by feeders BCV-03, PUL-05 and OXP-01.

[1] See Section 3(b)(ii) of the *Electrical Power Control Act, 1994.*