Q. (Reference 2022 Capital Expenditure Report, Appendix A, Replacements Due to In-Service Failures, page 1 of 8) With respect to the 24% cost overrun, it is stated "*The increase was largely due to repairs required for the DUN-T1 power transformer and costs associated with corporate spares that were higher than the historical average*."

a) How were these budget estimates derived, how did these increases become known, and at what point during the budgetary process did they become known?

b) Specifically, what repairs and costs were required for the DUN-T1 transformer?

c) Please explain why costs for corporate spares were higher than the historical average.

d) Please provide a full accounting of work and costs for this program in 2022 compared to budget estimates.

A. a) The budget for the *Substation Replacements Due to In-Service Failures* program is based on a historical average. Historical annual expenditures under this program over the most recent five-year period are expressed in current-year dollars as adjusted costs. The estimate for the budget year is calculated by taking the average of the adjusted costs for the five-year period and inflating it using the GDP Deflator for Canada for non-labour costs and the Company's internal labour inflation rate for labour costs.

The DUN-T1 power transformer failed in December 2021. This transformer was removed from service and sent to a repair facility for testing and assessment. In June 2022, the assessment determined that a significant failure had occurred on the C-phase high voltage winding. Copper particles and large amounts of carbon were spread throughout the other windings. Newfoundland Power subsequently contracted the repair facility to repair the DUN-T1 power transformer.

In January 2021, Newfoundland Power ordered voltage regulators to maintain a sufficient inventory of spare units.[1] These units were received between March 2022 and May 2022.[2]

b) The repair of the power transformer DUN-T1 is ongoing. Following the assessment of the power transformer, a full replacement of the high voltage and low voltage windings was required. The 2022 expenditures on the transportation, assessment, and repair of DUN-T1 in 2022 were $311,000. [3]

c) The average annual cost of corporate spares from 2017 to 2021 was $874,000. The corporate spares total cost in 2022 was $1,441,000. The voltage regulator order

[1] With delivery times for voltage regulators extending from approximately 40 weeks to 60 weeks, the Company determined an inventory of 30 spare units was necessary to respond to in-service failures for this equipment.

[2] This voltage regulator order was in addition to other electrical equipment which was also ordered to maintain sufficient inventories.

[3] The 2022 expenditures included engineering labour, consultant fees, transportation costs, repair progress payments, interest during construction, travel and accommodations. As the refurbishment is ongoing, additional expenditures will be required in 2023 to return DUN-T1 to service.

accounted for $1,040,000 of this cost in 2022. For comparison, the average annual cost of voltage regulators under corporate spares from 2017 to 2021 was $222,000.

d) Table 1 provides capital expenditures in 2022 for the *Substation Replacements Due to In-Service Failures* program.

Table 1
2022 Substation Replacements Due to In-Service Failures

Item	Expenditures ($000s)
Corporate Spares	1,441
In-Service Failures	
Switch Replacements	741
Breaker Replacements & Refurbishments	566
Transformer Replacements & Refurbishments	1,246
Instrument Transformer Replacements	2
Battery Bank/Charger Replacements	61
Voltage Regulator Replacements	24
Bus Replacements & Refurbishments	13
Protection & Control Replacements	269
Lightning Arrestor Replacements	4
Recloser Replacements & Refurbishments	119
Metering Tank Replacements	20
Miscellaneous	56
Subtotal	3,121
Total	**$4,562**