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Witness: David L. Gladey, Steven Lamontagne, Leanne M. Landry and Jeffrey D. Turano
Request from: Office of Consumer Counsel

Question:

Exhibit CLP-ADDITIONS-12 shows planned underground residential direct buried cable work declining from $43 million in the 2020 plan (p. 64) to $28 million in the 2025 plan (p. 166). State the total circuit miles of direct buried cable on the system, the miles replaced in each year 2017 through 2025, the cost per mile realized, the miles remaining at December 31, 2025, and the failure rate of the replaced and remaining populations.

Response:

Over the time period covered by this question, the Company has implemented differing approaches for addressing reliability concerns associated with direct buried cables. Historically, the Company addressed reliability issues on direct buried cables mainly as repair work, when the need arose, with targeted replacement work performed on an as-needed basis. However, the Company was experiencing rising reliability and costs concerns on an emergent basis associated with this infrastructure, causing the Company to come to the conclusion that a more proactive and comprehensive replacement program would mitigate these concerns.

Therefore, beginning in 2019, the Company implemented a more proactive, preventive replacement approach for underground, direct-buried cable, which increased replacement costs as compared to historical work, but would have the benefit of obviating future repair costs. Under this approach, the Company instituted a plan to replace and upgrade longer segments of cable around failure points, eliminating the risk of future failure in those areas.

Because of the continuing impacts on the system for reliability and the need to address these concerns in the most cost-effective, feasible manner, the Company has continued to innovate on its construction methods for this replacement program. Beginning in 2024, the Company instituted a hybrid approach combining proactive replacements with repair work to extend the life of segments that had not experienced as many failures. In addition, the Company began using new installation methods for placing new cable in conduit (i.e., cable in conduit construction or "CIC"). Collectively, these measures have reduced both the amount of miles replaced and the time for construction, helping to mitigate construction cost increases driven by increases in labor and materials costs.

The costs reported in the table below are the total cost to replace and restore customers, including the work required to replace the cable, as well for temporary generation and temporary work until the cable is replaced. The cost also includes other equipment replaced along with the cable. For this response, the mileage replaced and cost of cable replacement was determined based on work order as-builts under the cable replacement project for primary cable.

Miles Replaced Each Year:

Year	Mileage
2017	17.30
2018	23.81
2019	60.47
2020	46.61
2021	40.78
2022	30.46
2023	37.15
2024	19.52
2025	20.40

Cost Per Mile Realized:

Year	Cost Per Mile	
2017	$	399,571
2018	$	653,419
2019	$	567,974
2020	$	906,990
2021	$	803,309
2022	$	1,229,449
2023	$	1,050,430
2024	$	1,190,929
2025	$	1,250,441

This cost reflects the total cost to replace and restore the customers which includes the work required to replace the cable as well as temporary generation or temporary work until the cable is replaced. This cost also includes other equipment that would be replaced as a result of the cable replacement. Other factors could include a change from injecting cable in 2017/1018 and also using CIC (cable in conduit construction).

Failure Rate:

Year	Failure Rate Per Mile
2017	0.12
2018	0.14
2019	0.12
2020	0.11
2021	0.09
2022	0.10
2023	0.08
2024	0.07
2025	0.09

Miles Remaining at December 31, 2025 are 5,347 miles. However, please note all conductors within Underground Residential Distribution (URD) areas in Connecticut are classified as "direct buried (DB)." This approach is used because direct-buried status was not historically tracked in the Company's systems (i.e., Smallworld). During GIS consolidation, this rule was established to standardize the identification of URD assets.