

Comparison of Cost for Underground versus Overhead Rebuild

Source: GMP Response to DPS 1-28a.

Based on FY21

Assumptions

- 1.) Assume that this project is completely outsourced so that no internal labor is absorbed.
- 2.) For modeling purposes only, assume all spending occurs at end of Year 0.
- 3.) Assume that this project is a rebuild of an existing end-of-life distribution line.
- 4.) The comparison is between underground and single-phase overhead.

- 1 = # of miles of rebuild
- 7.6% = Capital A&G rate (rate used during MYRP)
- 5.00% = MACRS Depreciation Rate
- 27.715% = Tax Rate
- 2.0% = Long-term inflation rate per year.
- 8.33% = Average Pre tax cost of capital
- 6.02% = Average Post tax cost of capital

Option A: Underground Rebuild

Denotes inputs by Mara

1 = # of miles of rebuild
\$308,728 = Spending per Mile of Underground
 \$308,728 = Amount of Capital Spending for Underground Lines

63 = Useful life in years.
 1.59% = Annual Depreciation Rate for Underground Distribution Lines

Inspection

\$24 = Annualized cost for inspection per mile.

Pole Inspection (still some poles w/Underground Service)

\$16 = Spending per pole for pole treatment.
 8 = Number of poles per mile. (assume 12 services [4 underground, 8 overhead])
 10 = Inspection Interval in Years
\$13 = Annualized Spending for pole inspection per mile.

Tree Trimming (for the fewer poles)

\$12,000 = FY21 Average bid cost per mile.
 7 = # of years per trimming cycle
 400 = Feet Trimmed per Mile

\$130 = Annualized Spending per Mile for tree trimming.

50 = Trimming in feet per pole
 8 = Number of poles per mile

Restoration

\$1,292 = Average Cost per Incident
 0.1 = Average Incident per mile per year (10% of Overhead)
\$129 = Annualized Spending per Mile for Restoration.

Reduced Pole Attachment Revenue

\$155 = Reduced Pole Attachment Revenue

Higher Property Taxes

180% = Change in Property Taxes when going from Overheads to Underground
 200,000 = Property taxes per:
 10,000,000 = \$10 MM of capital spending for overhead lines

11,114 = Annual Property Tax Expense

Option B: Overhead Rebuild

1 = # of miles of rebuild
\$187,962 = Spending per Mile of Single Phase Overhead
 \$187,962 = Amount of Capital Spending for Single Phase Overhead Lines

50 = Useful life in years.
 2.01% = Annual Depreciation Rate for Overhead Distribution Lines

Pole Inspection (Overhead)

\$16 = Spending per pole for pole treatment.
 23 = Number of poles per mile.
 10 = Inspection Interval in Years
\$39 = Annualized Spending for pole inspection per mile.

Tree Trimming (Overhead)

\$12,000 = FY21 Average bid cost per mile.
 7 = # of years per trimming cycle
 5,280 = Feet Trimmed per Mile

\$1,714 = Annualized Spending per Mile for tree trimming.

Restoration

\$1,292 = Average Cost per Incident
 1.0 = Average Incident per mile per year
\$1,292 = Annualized Spending per Mile for Restoration.

Property Taxes

200,000 = Property taxes per:
 10,000,000 = \$10 MM of capital spending for overhead lines

\$3,759 = Annual Property Tax Expense

(\$4,761) = Difference in O&M costs between Overhead and Underground per mile per year.

Conclusion

\$35,944 = Annual Cost of Option A: Underground Rebuild (Lifetime)
 \$21,641 = Annual Cost of Option B: Single Phase Overhead Rebuild (Lifetime)
\$14,302 = Difference in cost per mile per year between Underground and Single Phase Overhead Rebuild.