

Wood pole asset management: revised forecast update

Customer Advisory Panel

November 2020



How we've responded to CAP feedback

Further assurance that the model and data is sound, and the process is robust would help

There is a perception that we are stuck between two competing regulators—the safety regulator and the economic regulator

Stakeholders want to better understand how REFCLs and pole management work together to reduce bushfire risk

- We've completed our pole trial, and reflected the impact of these results
- We've tested the characteristics of our forecast interventions (i.e. we've confirmed our forecast targets older, lower durability poles)
- We've completed our risk-modelling, and this model and input assumptions have been peer reviewed
- Since our discussion with the CAP, we met (separately) with the ESV and the AER, and are scheduling a tri-partite discussion
- We consider ESV, as the technical regulator, is best placed to make judgement on the prudence of our proposed serviceability threshold. In this context, we will be submitting a revised bushfire mitigation plan (BMP) to ESV in December 2020 that explicitly refers to this threshold. The acceptance of our BMP will make the application of this threshold a binding compliance obligation
- Subject to the acceptance of our revised BMP, we consider it is the AER's role to assess whether our forecast for the 2021–2026 regulatory period reasonably reflects the efficient costs consistent with this threshold
- REFCLs will reduce the likelihood of a fire start from our assets for a specific failure mode (i.e. a single phase-to-ground failure). Our modelling had intended to explicitly capture this impact, but at this stage, we do not have data that allows us quantify the reduction in fire starts due to single phase-to-ground failures that would be avoided
- Poles in REFCL areas that are justified on a risk-reduction basis comprise less than 1 per cent of our total wood pole forecast
- Our modelling also considers the location of any fire-start, and the likelihood of that fire being suppressed:
 - the location zones are based on the Victorian Government's F-Factor scheme
 - the likelihood of suppression has regard to the fire danger rating (e.g. a fire on a Code Red day), and the location (e.g. the average suppression chance in low bushfire risk zones is 99%, and 94.3% in high bushfire risk, REFCL and bushfire construction areas)
- In total, CutlerMerz considered our bushfire risk assumptions are conservative:

The [bushfire] values used within the model tend to be conservative and may result in an underestimate in the value of the bushfire risk

Our revised wood pole forecasts have reduced

Original proposal for Powercor

Compliance-driven pole replacements and reinforcements:

- 15,983 poles due to measurable condition factors (i.e. through our enhanced pole calculator)
- 8,231 poles due to observed defects (i.e. non-measurable condition factors)

Risk-driven pole replacements and reinforcements:

- 15,556 poles due to risk-modelling

Total cost: \$233.8m over 2021-2026



**Powercor
reduction of
\$44m**

Revised proposal for Powercor

Compliance-driven pole replacements and reinforcements:

- 20,117 poles due to measurable condition (+4,134)
- 3,479 poles due to observed defects (-4,752)

Risk-driven pole replacements and reinforcements:

- 4,756 poles due to risk-modelling (-10,800)

Total cost: \$190.0m over 2021-2026



**CitiPower
reduction of
\$42m**

Original proposal for CitiPower

Compliance-driven pole replacements and reinforcements:

- 1,553 poles due to measurable condition factors (through our enhanced pole calculator)
- 524 poles due to observed defects (i.e. non-measurable condition factors)

Risk-driven pole replacements and reinforcements:

- 2,816 poles replaced on risk-modelling

Total cost: \$58.9m over 2021-2026

Revised proposal for CitiPower

Compliance-driven pole replacements and reinforcements:

- 486 poles due to measurable condition (-1,067)
- 361 poles due to observed defects (-162)

No risk-driven pole replacements or reinforcements have been included in our revised proposal

Total cost: \$17.4m over 2021-2026

Our revised forecasts balance compliance, risk and affordability

Compliance-driven (measurable condition)

- Revised forecast increased in total:
 - decreased due to revised tip-load assumptions based on pole trial
 - increased due to annual decay rate assumption (1mm per annum)
- Our decay rate assumption is conservative:
 - available data suggests 2mm per annum
 - changed measurement practices, however, limit robustness (e.g. formerly measured diameter using calipers, but now use diameter-tape)
 - other distributors typically observed decay rates between 2-3mm per annum
 - assumed no decay rate for CitiPower to reflect lower risk

Compliance-driven (observed defects)

- Original proposal included replacements due to large visible cracks (introduced to address community concerns, rather than a technical justification)
- Given other changes in our asset management practices, the deterioration associated with these observed defects is expected to be captured in our 'measurable' condition assessments (i.e. through our enhanced pole calculator)
- Now removed visible crack criterion from revised proposal
- Individual poles may still be investigated, and replaced or reinforced if required, but are no longer included in our revised forecast on this basis

Risk-driven

- EA Technology developed risk-model
 - No risk-driven interventions for CitiPower
 - CutlerMerz peer reviewed modelling input assumptions and robustness of risk model
- “ In our opinion, the approach and logic used in the risk model developed by CitiPower and Powercor to quantify pole replacement risk is robust and can be relied upon. The cost of consequence and likelihood of consequence values used to parameterise the model are reasonable, unbiased and are not likely to overstate the risks associated with pole replacements.