REPLACEMENT

UNDERGROUND CABLES ADDENDUM

PAL RRP BUS 3.4.03 – PUBLIC
2026–31 REVISED PROPOSAL

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1. Overview

This business case addendum sets out our response to the AER's draft decision on our underground cables and describes the further work we have undertaken since our regulatory proposal. It should be read in conjunction with the following documents:

- our regulatory proposal business case[1]
- our revised risk-based HV cable model.[2]

Our regulatory proposal included several discrete forecasts, including targeted fault/corrective interventions across low voltage (LV) and high voltage (HV), underground pits and pillars, an additional targeted risk-based HV cable replacement program, and a defective SWER isolation initiative focused on earthing system repairs.

While the AER accepted our forecasts for corrective LV cable replacement and underground pits and pillars, it did not accept our overall capital expenditure forecast. The AER cited specific concerns around volume justification for our fault/corrective HV cable, risk-based HV cable and defective SWER isolation programs.

In response, we have updated our risk-based HV cable modelling to improve transparency, clarified the separation between fault/corrective and risk-based programs and refined our SWER isolation scope and classification. We have also accepted the AER's substitute estimate for our fault/corrective HV cable replacement.

These updates have resulted in a lower forecast from our regulatory proposal. Our revised forecast for our underground cables program is presented in table 1.

TABLE 1 REVISED PROPOSAL: UNDERGROUND CABLES ($M, 2026)

CATEGORY	REGULATORY PROPOSAL	DRAFT DECISION	REVISED PROPOSAL
Corrective HV cable	13.2	9.2	9.2
Corrective LV cable	7.0	7.0	7.0
SWER ISO earth repair	7.4	-	1.7
Risk-based HV cable	16.7	-	15.9
Underground pits and pillars	2.9	2.9	2.9
TOTAL	**47.2**	**19.1**	**36.7**

1 PAL BUS 4.04 – Underground cables, January 2025
2 PAL RRP MOD 3.4.02 – Risk based HV underground cables, December 2025

2. Background

This section provides an overview of our underground cable asset class, including what we put forward in our regulatory proposal and the AER's draft decision.

2.1 Our regulatory proposal

Our forecasting approach for underground cables in the 2026–31 regulatory period was based on three broad categories, including historical faults, corrective forecasts that use defect find rates and annual inspection volumes, and a targeted risk-based program.

These forecasts responded to a growing volume of high-priority defects and deteriorating asset condition across our underground cable network. Improved inspection practices—particularly in bushfire-prone areas, as directed by Energy Safe Victoria (ESV)—revealed rising failure risks in pits, pillars, and HV cables.

Our modelling also forecast that 60 per cent of our HV underground cables would be at high risk of failure by 2031 without intervention in the 2026–31 regulatory period. To address this growing risk, we proposed a risk-based HV cable replacement program, targeted at deteriorated cable sections in our 10 highest-risk areas. These cable sections were identified based on partial discharge monitoring and condition-based risk management (CBRM) modelling to prioritise assets to replace, consistent with the AER's asset replacement planning note.

2.2 AER draft decision

In its draft decision, the AER accepted our forecast for our fault/corrective LV and pits and pillars programs, noting they were reasonable and based on verifiable historical data.

However, the AER considered that we did not provide sufficient justification for the uplift in volumes, particularly for our HV fault/corrective, risk-based HV cable and defective SWER isolation replacement programs.

In making its draft decision, the AER determined that:

- the forecasting approach for our fault/corrective HV program was unclear and did not demonstrate a clear increase in defect or failure rates to justify the uplift in expenditure in the last two years of the current period
- our risk-based HV cable program lacked transparency, relied on hardcoded models and did not demonstrate a clear increase in defect or failure rates to justify the uplift in expenditure in the last two years of the current period
- we did not provide evidence that a double-count of replacement expenditure to address both our HV cable programs has been netted off, given our application of multiple forecasting methods
- our defective SWER isolation program had reconciliation issues with historical expenditure and volumes, was unclear on the scope of work and sufficient detail to justify the need for this work was not provided.

3. Revised proposal

In our revised proposal, we have accepted the AER's draft decision for fault/corrective LV and HV cable, and underground pits and pillars.

However, our proposed risk-based HV cable and defective SWER isolation programs are prudent and necessary to manage deteriorating asset condition and maintaining network reliability. We have addressed the AER's concerns around these programs by updating our modelling and clarifying our forecasting approach.

3.1 Response to AER draft decision

The following section highlights our response to the key issues raised by the AER around our risk-based HV cable and defective SWER isolation programs. As noted previously, we have accepted the AER's decision for our fault/corrective HV cable program, so we have not responded to the corresponding issues raised in the draft decision.

3.1.1 We have updated our risk-based HV cable modelling and clarify uplifts in volumes

In its draft decision, the AER considered that our risk-based HV cable program lacked transparency, relied on hardcoded models and did not demonstrate a clear increase in defect or failure rates to justify the uplift in expenditure in the last two years of the current period.

Uplifts in the last two years of the current period

The forecast increase in HV cable volumes in the final two years of the current regulatory period has been misattributed by the AER to refer to our risk-based program. It related instead to our fault/corrective cable replacement program. We note that our risk-based program is a new program for the 2026–31 regulatory period.

Notwithstanding this, as noted previously, we have reviewed the AER's draft decision and accepted the AER's alternative (lower) estimate for our HV fault/corrective program.

Transparency of our modelling

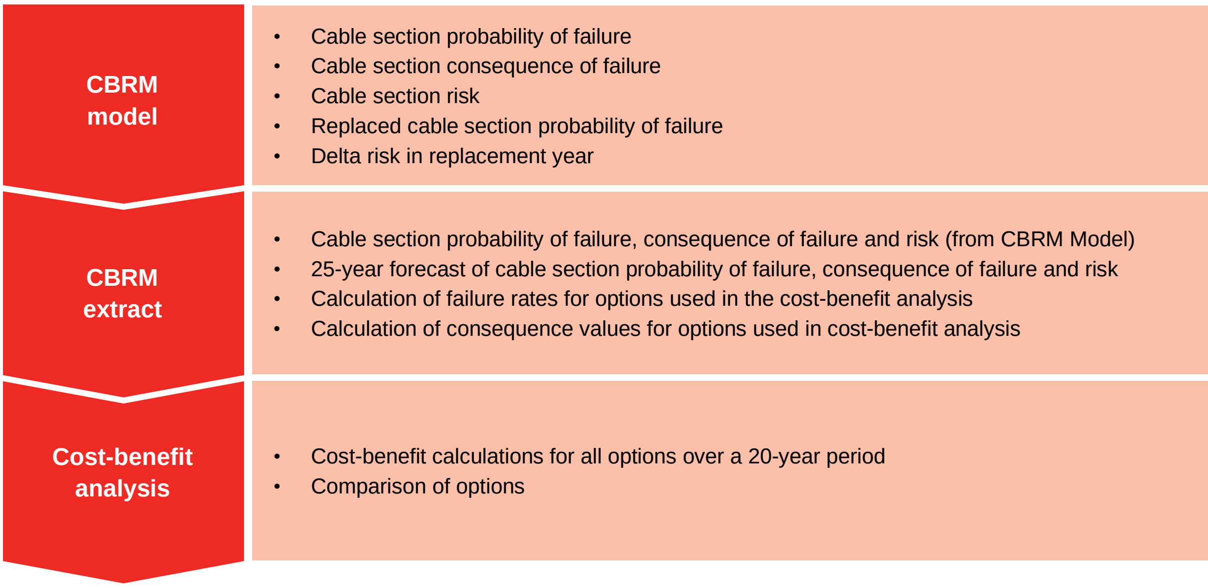
Regarding the AER's concern around hardcoded inputs in our cost-benefit analysis, we note that our risk-based HV cable model is derived from an extract of our CBRM model, which incorporates asset condition, probability of failure (PoF) and consequence of failure (CoF) to assess risk and prioritise investment. The model enables targeted investment decisions by assessing asset condition, forecasting future deterioration and presenting the change in risk of each length of feeder in our cable population. Through the information request process, we submitted an extract of this CBRM model to the AER.[3]

Figure 2 outlines the relationship between our CBRM model and our risk-based model. The flowchart demonstrates that the CBRM model and its outputs are a direct input into our risk-based model. For further transparency, we have updated our risk-based HV cable model to include this CBRM extract.[4] This better demonstrates how the CBRM inputs feed into our risk-based model and directly addresses

[3] Powercor, IR042 – Q42 – CBRM extract - cables
[4] PAL RRP MOD 3.4.02 – Risk based HV underground cables, December 2025

the AER's concerns around hardcoded values. We have also included additional information around key CBRM outputs in appendix A.

FIGURE 1 DATA FLOW FROM CBRM MODEL



We further note that since the release of the updated VCR parameters in 2024, the prioritised cables within our risk-based HV cable replacement program have changed, resulting in a lower forecast expenditure compared to our regulatory proposal, as highlighted in section 3.2. However, the preferred option remains the replacement of the 10 cable sections with the highest delta risk.

3.1.2 Our risk-based HV cable forecast accounts for overlaps with other programs

To address the AER's concerns around potential overlaps between our HV risk-based and HV fault/corrective program, we note that these two programs are distinct in their planning approach and objectives:

- the fault/corrective program is reactive in nature. Forecast volumes are driven by historical fault data and defect rates identified through field inspections and fault response activities which can depend on asset failures (including third-party damage), conditional defects and deteriorated cable sections. The program targets cable assets that have already exhibited signs of failure or non-compliance and prioritises replacement based on the likelihood of recurrence
- in contrast, the risk-based HV cable replacement program is proactive. Our risk-based HV cable model uses our CBRM model to forecasts cable sections at highest risk using a combination of PoF and CoF, this methodology is detailed in section 3.1.1. Cable sections for this program are prioritised based on the greatest reduction in network risk achievable through replacement.

We acknowledge the AER's feedback regarding the potential for overlap between these programs, however, we consider any such overlap to be minimal in practice given:

- our risk-based cable program is only targeting the top 10 highest risk cables in our population of over 25,000

- cable sections with the highest PoF are indeed more likely to fail and therefore have the potential to be captured within the fault/corrective program. However, the risk-based program targets assets where the combination of PoF and CoF makes early intervention economically justified — this is mostly due to very large consequences rather than high probabilities of failure, reducing the likelihood of an overlap.

To validate the separation between the two programs, we have considered the number of faults expected to occur across our entire cable population and reduced from this the number of faults expected to occur under our preferred option. This provides the expected number of faults that would be mitigated each year due to our risk-based program. We have then applied our standard unit rate ($1,035,184 per km) to calculate the expected cost of the mitigated faults.[5]

Given the above, we have reduced our risk-based forecast in line with this identified overlap. Table 2 provides a summary of the mitigated faults and expenditure with the full calculation included in our model.[6]

TABLE 2 OVERLAP BETWEEN RISK-BASED AND CORRECTIVE HV CABLE PROGRAMS

DESCRIPTION	FY27	FY28	FY29	FY30	FY31
Faults mitigated (cumulative)	-	0.13	0.46	1.07	2.11
Cost of fault (removed from forecast)	-	$1,343	$4,728	$11,122	$21,848

3.1.3 We have clarified the scope and classification of our defective SWER isolation program

We maintain that our defective SWER isolation program is a necessary and distinct capital initiative.

This program addresses defective earthing systems identified through routine asset inspections and cyclic earthing system testing. These inspections are a part of our ESV approved Bushfire Mitigation Plan (BMP) and hence compliance driven to prioritise safety, ensuring that SWER systems continue to operate within safe parameters.

In SWER networks, the earth is not merely a fault current path; it functions as a primary conductor, with load currents flowing through the ground. As such, the integrity of the earthing system is critical to the safe and reliable operation of the network. When defects are identified, the repair typically involves the replacement of earthing conductors, which are installed underground.

We confirm that this work is underground in nature and should be classified as capital expenditure. The replacement of defective earthing conductors constitutes an asset replacement, not routine operating expenditure. These replacements restore the asset to its original service potential and extend its useful life, consistent with the principles of capital expenditure classification.

The forecast for this program is based on historical defect volumes identified through our inspection and testing regime. We have updated our forecasts with the latest available data and have a applied a four-year average to both volumes and unit rates to forecast our updated defective SWER isolation

[5] It is assumed that a fault will on average require 10m of replacement cable
[6] PAL RRP MOD 3.4.02 – Risk based HV underground cables, December 2025, 'Overlap_adjustment' tab

program. This forecast is included in our replacement expenditure forecast model and has resulted in a significant reduction in the unit rate associated with these activities.[7]

3.2 Revised proposal forecasts

The following section sets out updated forecast volumes and expenditure for our revised proposal.

Our revised forecasts reflect adjustments to both the risk-based HV cable replacement and defective SWER isolation programs, following feedback from the AER's draft decision. Overall, our program expenditure has reduced compared to our regulatory proposal.

We have also accepted the AER's draft decision in relation to our LV and HV corrective cable replacement programs, as well as our underground pits and pillars.

Table 3 and table 4 below set out the revised volumes and expenditure for each of these asset categories.

TABLE 3 REVISED FORECAST VOLUMES

CATEGORY	FY27	FY28	FY29	FY30	FY31	TOTAL
Corrective HV cable (km)	2.05	2.05	2.05	2.05	2.05	10.24
Corrective LV cable (km)	6.75	6.75	6.75	6.75	6.75	33.73
SWER ISO earth repair	130	130	130	130	130	650
Risk-based HV cable (km)	1.49	1.49	1.49	1.49	1.49	7.47
Underground pits and pillars	422	422	422	422	422	2,110

7 PAL RPP MOD 3.4.01 – replacement expenditure forecast model, December 2025

TABLE 4 REVISED FORECAST EXPENDITURE ($M, 2026)

CATEGORY	FY27	FY28	FY29	FY30	FY31	TOTAL
Corrective HV cable	1.8	1.8	1.8	1.8	1.8	9.2
Corrective LV cable	1.4	1.4	1.4	1.4	1.4	7.0
SWER ISO earth repair	0.3	0.3	0.3	0.3	0.3	1.7
Risk-based HV cable	3.2	3.2	3.2	3.2	3.2	15.9
Underground pits and pillars	0.6	0.6	0.6	0.6	0.6	2.9
TOTAL	**7.4**	**7.4**	**7.4**	**7.3**	**7.3**	**36.7**

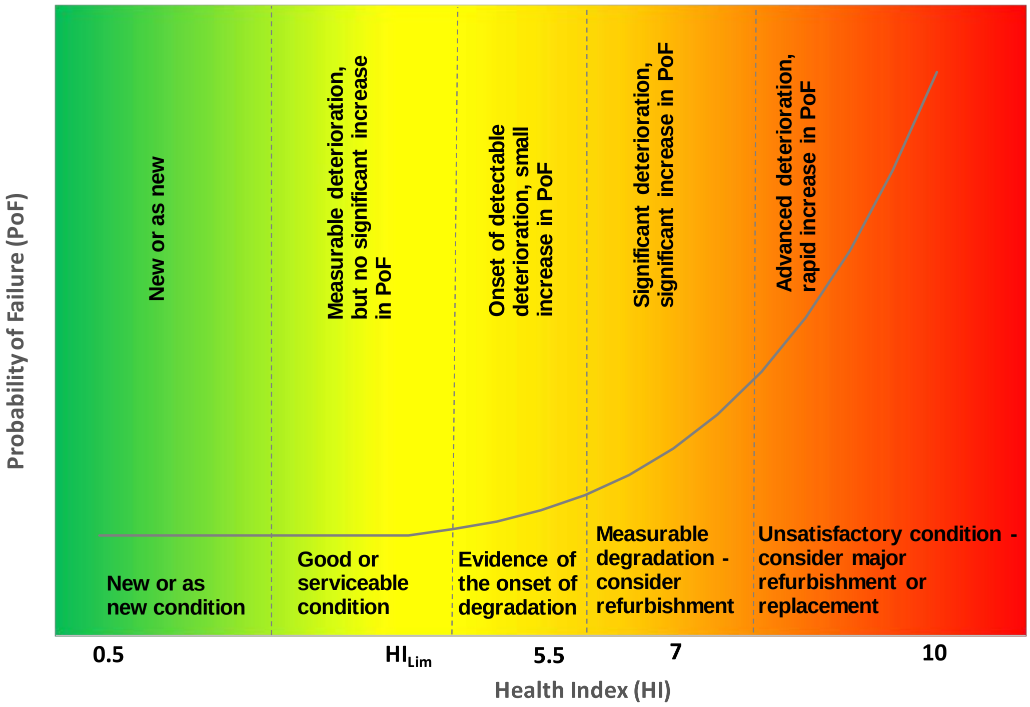
A

CBRM MODEL

A CBRM model

At the core of the CBRM model is the Health Index (HI), which is calculated for each cable section using a combination of asset type, age, operating conditions, historical fault data and condition assessments. This index reflects the current health of the cable section and is used to determine its PoF. The relationship between the HI and the PoF is modelled using a hybrid cubic function, as seen in figure 2, which aligns with industry practice and reflects real-world degradation patterns.[8]

FIGURE 2 RELATIONSHIP BETWEEN PROBABILITY OF FAILURE AND HEALTH INDEX



The model also calculates the CoF for each cable section across five categories: network performance, safety, operational expenditure, capital expenditure and environmental impact. These values are derived from historical incident data and modified based on asset-specific characteristics such as location, customer density, and installation method.

Combining PoF and CoF results in a quantified ‘risk value’ for each cable section. This is calculated for both the current year and a selected future year, allowing for long-term risk forecasting. The model also calculates ‘delta risk’, which represents the reduction in future risk achieved by replacing a cable section. This metric is central to prioritising investment, as it identifies assets where replacement results in the greatest risk reduction.

Due to the large number of cable sections (over 25,000), the model aggregates data into asset groupings based on delta risk. These groupings form the basis of our options used in the risk-based HV cable cost benefit analysis to evaluate multiple investment scenarios.

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8 UK Office of Gas and Electricity Markets, DNO Common Network Asset Indices Methodology, April 2021, Section 6.1; and EA Technology, Condition Based Risk Management (CBRM) – Enabling asset condition information to be central to corporate decision making

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