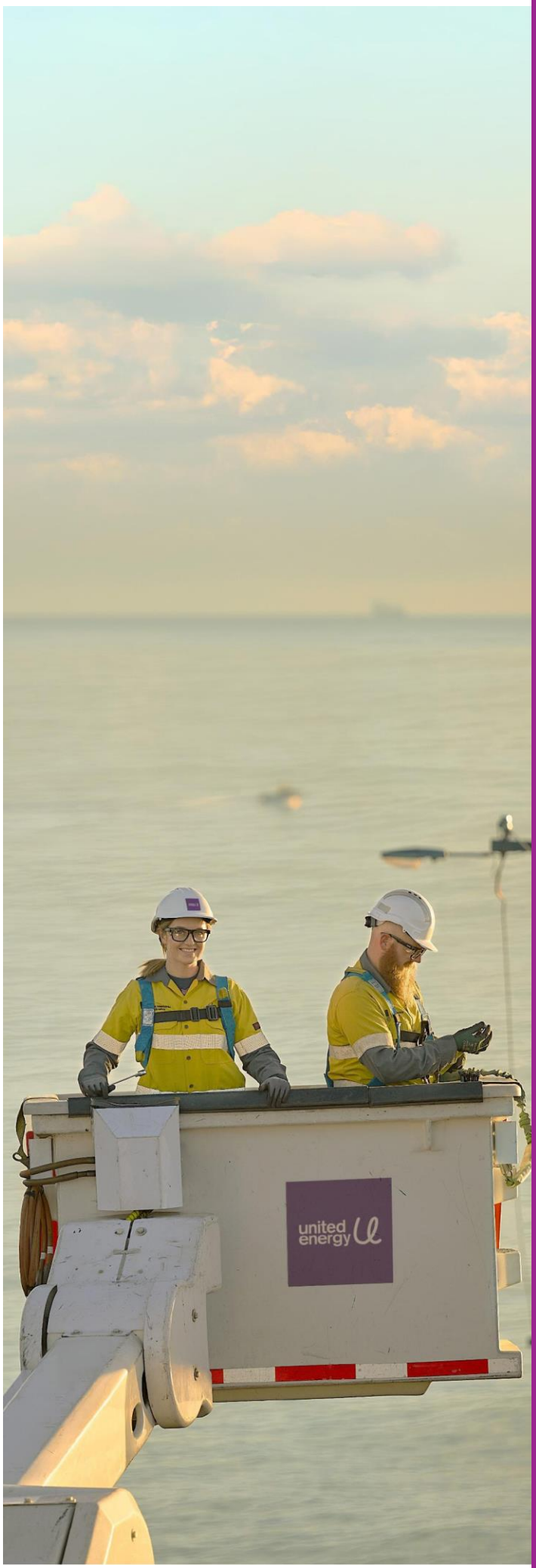

REPEX RIN RESPONSE

UE RIN 12 – PUBLIC

2026–31 REGULATORY PROPOSAL

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1. Overview

This document provides responses to the 2021–2026 regulatory information notices (RIN), section 4.4.7 – replacement capex modelling. Specifically, we must provide a description of the asset category, including:

(a) the assets included and any boundary issues (i.e. with other asset categories);

(b) an explanation of how these matters have been accounted for in determining quantities in the age profile;

(c) an explanation of the main drivers for replacement (e.g. condition); and

(d) an explanation of whether the replacement unit cost provides for a complete replacement of the asset, or some other activity, including an extension of the asset's life (e.g. pole staking) and whether the costs of this extension or other activity are capitalised or not.

As such, this document provides content in relation to section 4.4.7 for the following asset groups:

- poles
- pole top structure
- overhead conductors
- underground cables
- service lines
- transformers
- switchgear
- public lighting (this asset group is excluded from the AER's replacement expenditure modelling)
- SCADA, network control and protection (this asset group is excluded from the AER's replacement expenditure modelling).

We also report 'other' as an asset group in the annual Category Analysis (CA) RINs and Workbook 1. However, the miscellaneous, unspecified and heterogeneous nature of the asset categories and types within this group does not allow this expenditure group to be modelled using the AER's replacement expenditure model. As such the description of asset group is excluded from this document.

2. Replacement capex modelling

2.1 Poles

2.1.1 Asset scope and boundary issues

The assets included in this category are all poles (wood, concrete or steel) that are used to support:

- sub-transmission, high voltage (**HV**) or low voltage (**LV**) conductors
- overhead line switchgear
- overhead line capacitors
- pole top transformers
- HV and LV outdoor fuses
- HV surge arrestors
- HV pole supporting public lights.

The following pole types are specifically excluded:

- steel and concrete public lighting poles supporting public lighting
- privately owned electric lines.

2.1.2 Age profile determination

The following assumptions were applied to determine the pole age profiles:

- pole start-up date or date staked recorded in SAP was used
- only poles we owned were included in the recorded quantities
- out of commission poles were excluded from the reported quantities
- public lighting poles are excluded from this asset group and covered within the public lighting asset group.

2.1.3 Main drivers of replacement

The drivers of replacement are asset failures, including those due to external factors (such as third-party damage) and the asset condition based on cyclic inspection regime, which will measure the condition of the pole, where possible.

Any pole that does not meet the serviceability requirements will require intervention, which entails either replacement or staking for wood poles.

Staking of wood poles is a refurbishment (or an asset life extension) activity and not an asset replacement activity.

2.1.4 Unit cost scope

The cost in this asset group includes materials, labour, plant and equipment, mobilisation and travel, and the project or program overheads. The cost includes procurement, inventory, logistics, excavation, removal of old assets, hardware, installation, reinstatement and outage management.

The staking of wood pole includes the cost of the reinforcing stake or nails for support. New pole includes the pole installation with cross arms, fittings and insulators. Project overheads are allocated proportional to asset expenditure. Corporate overheads are excluded

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 for pole staking allows for extension of existing pole's life. The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 for the remainder of asset categories in this asset group allows for complete replacement of asset. In both instances, this cost is capitalised.

Projects and programs of work are usually delivered to resolve an issue or constraint. They include multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.2 Pole top structures

2.2.1 Asset scope and boundary issues

This category of assets includes all pole top structures that support overhead electrical conductors and other cross arm mounted assets, providing safe clearance and isolation from the ground and between phases plus to other adjacent objects, and complying with safety regulations (i.e. cross-arms, insulators and fittings). These have interfaces with other overhead line asset groups including poles, and overhead conductors.

2.2.2 Age profile determination

The age profile for crossarms have been estimated based on available information from SAP and GIS and the combination of the following:

- notification data between 1991 and 2012
- work order data between 2012 and 2024
- probabilistic failure and replacement modelling based on age and population.

This information is not reported in historical category analysis RINs.

2.2.3 Main drivers of replacement

The drivers of replacement are asset failures, including those due to external factors (such as third-party damage) and defects identified by the cyclic inspection regime.

2.2.4 Unit cost scope

The cost in this asset group includes the materials, labour, plant and equipment, mobilisation and travel, and the project or program overheads. Corporate overheads are not included. The cost includes procurement, inventory, logistics, hardware, removal of old assets, installation cost and outage management. It includes the cross-arms, fittings and insulators.

The project or program overheads have been proportionally allocated, where applicable, between this asset group and other asset groups that typically are delivered together (i.e. poles and overhead conductor asset groups). The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

Projects and programs of work are usually delivered to resolve an issue or constraint and include multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.3 Overhead conductors

2.3.1 Asset scope and boundary issues

This asset group includes overhead conductors and connectors used on the overhead distribution network. It also includes associated hardware such as connectors, HV/LV spreaders, vibration dampers and armour rods.

2.3.2 Age profile determination

The following assumptions were applied to determine the overhead conductor age profiles:

- out of service overhead conductor were excluded from the reported quantities
- overhead conductor lengths reported are those recorded as computed length in GIS.

The age profile for overhead conductor asset group is based on construction year. In instances where construction year is NULL then the insertion date in GIS is used.

2.3.3 Main drivers of replacement

The drivers of replacement are asset failures, including those due to external factors (such as third-party damage), defects identified by the cyclic inspection regime and a risk-based replacement program. The risk-based replacement program for deteriorated HV conductors address the increasing risk of conductor failure causing supply interruptions to customers.

2.3.4 Unit cost scope

The cost in this asset group includes the materials, labour, plant and equipment, mobilisation and travel, and the project or program overheads. The cost represents the procurement, inventory, logistic, removal of old assets, hardware, installation or stringing and outage management.

It excludes cross arms, fittings and insulators as they are accounted for in the pole top structure asset group. The project or program overheads have been proportionally allocated, where applicable, between this asset group, poles and pole top structure asset groups. Corporate overheads are not included.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

Projects and programs of work are usually delivered to resolve an issue or constraint and include multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.4 Underground cables

2.4.1 Asset scope and boundary issues

Underground assets in our network comprise of HV cables, LV cables, pillars and pits and HV terminations asset classes. Surge arrestors are also included in this category (i.e. underground cable - other), consistent with the AER's RIN (although the age-profile data is reported in a specific line item in the overhead switchgear category).

2.4.2 Age profile determination

The following assumptions were applied to determine the underground cable age profiles:

- out of service underground cables were excluded from the reported quantities

- the computed underground cable length for three phase cable runs that utilise three separate single core cables has been divided by three, to enable consistent cable length reporting regardless of actual cable configuration installed.
- Where an underground cable voltage was unknown, the quantity of underground cable was apportioned across the other underground cable voltages, in direct proportion with the known sub-category quantities.
- Where an underground LV cable type was unknown, the quantity of underground cable was apportioned across the other underground LV cable types in direct proportion with the known sub-category quantities.

2.4.3 Main drivers of replacement

The main drivers of replacement are asset defects captured through inspection and asset failures including those due to external factors (such as third-party damage).

2.4.4 Unit cost scope

The costs in this asset group include materials, labour, plant and equipment, mobilisation and travel, and the project or program overheads. The cost represents procurement, inventory, logistics, trenching, excavation, removal of old assets, cable, joints, conduit, communication, monitoring system, installation or cable laying or pulling, new joining pits, terminations on switchgear and outage management.

The project or program overheads have been proportionally allocated, where applicable, between this asset group, switchgear and/or transformers asset groups. Corporate overheads have not been included.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

Projects and programs of work are usually delivered to resolve an issue or constraint and includes multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.5 Service lines

2.5.1 Asset scope and boundary issues

Services are network assets that connect a customer from their premise to the electricity network. They can be overhead conductors or underground cables and supply all residential, industrial and commercial customers. There are fewer services than customers as a single service can supply apartment complexes that can contain more than one customer.

Our cost capture for this asset class is limited to overhead services only. This is because we are only responsible for the LV mains up to the pit or pillar for underground distribution. Cost capture for pits or pillars are reported in the “Underground – Other” category.

Private overhead electric lines (**POELs**) are above ground lines that start at the point of supply (connection point with our network) to the point at which the line is first connected to a building or other structure (not including a pole) on customer installations. POELs are recorded within SAP as being attached to a pole that belongs to a private landowner. There are more than 5,000 poles carrying private overhead electric lines, 3,166 in the low bushfire risk area (LBRA) and 1,939 in the hazardous bushfire risk area (HBRA). With respect to POELs, the service is considered the connection from our network to the first pole on the customer’s property that starts the privately owned line.

2.5.2 Age profile determination

The following assumptions were applied to determine the service line age profiles:

- only in service lines were in included in reported quantities
- the quantity and length of services is captured in our GIS
- the premise and supply complexity is based on a combination of GIS and SAP data.
- < = 11 kV ; residential ; simple type age profile has been adjusted to report the number of services installed instead of the total length of services installed.
- < = 11 kV ; commercial and industrial; simple type age profile has been adjusted to report the number of services installed instead of the total length of services installed.
- < = 11 kV ; residential; complex type age profile has been adjusted to report the number of services installed instead of the total length of services installed.
- < = 11 kV ; commercial and industrial; complex type age profile has been adjusted to report the number of services installed instead of the total length of services installed.

2.5.3 Main drivers of replacement

The drivers of replacement are asset failures, including those due to external factors (such as third-party damage) and defects identified by the cyclic inspection regime.

2.5.4 Unit cost scope

The cost in this asset group includes materials, labour, plant & equipment, mobilisation & travel, and the project or program overheads. The cost includes procurement, inventory, logistics, removal of old assets, hardware, installation and connection. Corporate overheads are excluded.

It excludes customer switchboard and metering, and also network utility cross arms, fittings and insulators as they are accounted for in the pole top structure asset group. The project or program overheads have been proportionally allocated, where applicable, between this asset group, poles and pole top structure asset groups.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

It is noted that projects and programs of work are usually delivered to resolve an issue or constraint and includes multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.6 Transformers

2.6.1 Asset scope and boundary issues

This asset group covers a number of different transformer types, each with their own distinct design. In general, the asset scope is limited to the transformer itself, and for larger transformers, all ancillary componentry including on-load tap changers and cooling systems.

Foundations, walls, enclosures and oil containment are excluded from this asset group.

2.6.2 Age profile determination

The following assumptions were applied to determine the transformer age profiles:

- only in service (in-commission) transformers were included in reported quantities
- only transformers we owned were included in reported quantities

- transformer voltages, capacities and phase types are captured as equipment characteristics, the quantity of transformers was allocated to the appropriate sub-categories
- the age profile of transformers is based on the construction date as recorded in SAP.

2.6.3 Main drivers of replacement

For distribution transformer, the drivers of replacement are asset failures, including those due to external factors and defects identified by the cyclic inspection regime.

ZSS transformers are replaced based on risks and asset condition. We assess the risk of a transformer failure on the entire zone substation. Assessing risks at zone substation level provides greater consideration on the unique characteristics of a given zone substation, including available redundancy and load transfer capability. We will replace the transformer if the risk reduction outweighs the replacement cost.

2.6.4 Unit cost scope

The cost in this asset category includes materials, labour, plant & equipment, mobilisation & travel, and the project or program overheads. The cost includes procurement, inventory, logistics, factory acceptance testing (if applicable or larger zone substation transformers), all associated zone substation hardware (oil, fan, tap-changer, surge arrestor or bushings), all associated distribution substation hardware (HV/LV switch/fuse, termination, and concrete plinth), removal of old assets, connection, and commissioning.

It excludes zone substation civil costs such as earth grid, foundation, bunding, firewall, transformer runway, gantry structures, fencing and associated zone substation electrical costs such as corresponding busbar, switchgear and secondary systems. It excludes distribution substation costs such as earthing, pole, fencing and chamber building.

The project or program overheads have been proportionally allocated, where applicable, between this asset group and other asset groups that typically are delivered together. Corporate overheads are excluded.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

It is noted that projects and programs of work are usually delivered to resolve an issue or constraint and includes multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.7 Switchgear

2.7.1 Asset scope and boundary issues

This asset group covers all switchgear of different types and capabilities as described in the RIN template, from fuses up to circuit breakers capable of breaking fault current. From 2018 onwards, this asset group also includes surge diverters.

For metal-enclosed switchgear, this asset group includes all componentry within the metal enclosure such as instrument transformers.

2.7.2 Age profile determination

The following assumptions were applied to determine the underground cable age profiles:

- out of service switchgear were excluded from the reported quantities
- only our switchgear was included in reported quantities.

2.7.3 Main drivers of replacement

For distribution switchgear, the drivers of replacement are asset failures, including those due to external factors and defects identified by the cyclic inspection regime.

ZSS switchboards are replaced based on risks and asset condition. We assess the risk of a circuit breaker failure on the entire zone substation. Assessing risks at zone substation level provides greater consideration on the unique characteristics of a given zone substation, including available redundancy and load transfer capability. We will replace the switchboard (including protection relays) if the risk reduction outweighs the replacement cost.

2.7.4 Unit cost scope

The cost in this asset category includes materials, labour, plant & equipment, mobilisation & travel, and the project or program overheads. The cost includes procurement, inventory, logistics, hardware, removal of old assets, connection, and commissioning. It also represents any zone substation civil cost such as structure or foundation. It excludes zone substation civil costs such as gantry structures and electrical costs such as corresponding busbar and secondary system. At the distribution level, it excludes cross-arms, poles, underground cable /overhead conductor and fencing.

The project or program overheads have been proportionally allocated, where applicable, between this asset group and other asset groups that typically are delivered together. Corporate overheads are excluded.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

It is noted that projects and programs of work are usually delivered to resolve an issue or constraint and includes multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

2.8 Public lighting

2.8.1 Asset scope and boundary issues

This asset group includes lanterns owned and operated by us as well as public lighting poles that have the sole purpose of supporting one or more public lighting lanterns.

2.8.2 Age profile determination

The following assumptions were applied to determine the public lighting age profiles:

- only in-service and billable assets were included in reported quantities
- records of installation dates are maintained in GIS a hierarchy of attributes is used to determine reported age for public lighting assets. The allocation of public lighting poles between major and minor roads is based on information maintained in GIS.

2.8.3 Main drivers of replacement

Fixed periodic frequency, irrespective of age or condition assessment as it is more economical to do so and/or asset failure for luminaires and lamps.

Asset condition based on inspection regime and/or asset failure for brackets and poles.

2.8.4 Unit cost scope

The cost in this asset group includes the materials, labour, plant & equipment, mobilisation & travel, and the project or program overheads. The cost represents the procurement, inventory, logistics,

hardware, removal of old assets, and installation. It includes luminaires, lamps, brackets and poles. Corporate overheads are excluded.

The project or program overheads have been proportionally allocated, where applicable, between the respective asset categories in this asset group that typically are delivered together. Cost share status was used to separate between major road and minor road assets.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

2.9 SCADA, network control and protection systems

2.9.1 Asset scope and boundary issues

This asset group covers protection relays, network communications assets, including RTUs, supervisory cable, and distribution communications assets.

2.9.2 Age profile determination

The following assumptions were applied to determine the secondary systems age profiles:

- only in-service assets were included in reported quantities
- records of construction dates are maintained in SAP for assets contributing to this reporting category.

2.9.3 Main drivers of replacement

The drivers of replacements are asset failure, asset condition and risks, which considers technology obsolescence, lack of market support and technology disruption.

2.9.4 Unit cost scope

The costs in this asset group include materials, labour, plant & equipment, mobilisation & travel, and the project or program overheads. The costs represent the procurement, inventory, logistics, hardware, and termination, removal of old assets, connection, and commissioning. It excludes any zone substation civil cost such as demountable building, switch room building, switchyard trenching, and any primary electrical assets.

The project or program overheads have been proportionally allocated, where applicable, between this asset group and other asset groups that typically are delivered together. Corporate overheads are excluded.

The proposed replacement expenditure and quantities in Workbook 1, table 2.2.1 allows for complete replacement of asset within the described boundary. These costs are capitalised.

It is noted that projects and programs of work are usually delivered to resolve an issue or constraint and includes multiple asset categories that has been demarcated and described separately by the AER for its review and modelling purpose.

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