Technical Bulletin

TB 0274 – 22kV Distribution supply strategy for the Oakdale West Industrial Precinct

Purpose

This bulletin is to inform Accredited Service Providers (ASP's) of the strategy to establish a 22kV distribution network in the Oakdale West Industrial Precinct.

Background

Endeavour Energy has made a strategic decision to adopt a 22kV supply voltage for the distribution network in the Oakdale West Industrial precinct.

Endeavour Energy has acquired a property within the Oakdale West Precinct to establish the South Erskine Park Zone Substation (ZS). The location of this proposed ZS is shown in Diagram 1a below. The anticipated commissioning date for the ZS is 2022.

Initial 22kV supply area

The 22kV network will extend to the locations indicated by the yellow polygon in Diagram 1a and the detailed HV layouts for the South & West precincts shown in Diagram 1b & 1c. At the extremities of the 22kV network, 11kV/22kV autotransformers will need to be installed to allow integration of the 22kV to the 11kV network thus allowing suitable contingency back up via cross zone substation links.

The locations of the 11kV/22kV auto transformers are dependent upon the configuration of the adjacent network. Additional land tenure, in the form of padmount easements will be required for these auto transformers. Additional auto transformer sites may be required dependent on the applied load and the location of the new load in relation to the existing 11kV network.

Note, not all assets within the Oakdale South precinct will be converted to 22kV, as shown in Diagram 1b.

Network Operation

Prior to South Erskine Park ZS being commissioned it is intended to supply customers via the 11kV networks from Mamre and Eastern Creek ZS's.

When South Erskine Park ZS is commissioned the supply voltage will be 22kV and with minimal conversion work previously established network will be energised at 22kV.

As the ultimate strategy for the majority of the distribution network in this area is to be 22kV, all new distribution assets are to be constructed at 22kV but operated at 11kV until the 22kV conversion is undertaken by Endeavour Energy.

Endeavour Energy acknowledges not all assets can be made 22kV from the outset, however to minimise the conversion costs when South Erskine Park ZS is established, assets that can be made 22kV will be scoped in the Method of Supply/Design Briefs for customer applications. It is envisaged as a minimum the underground cabling and in most cases the substation switchgear will be 22kV rated.

Actions

Where it is reasonable to do so, applications in progress may be rescoped for 22kV cable and switchgear via an alteration in the Method of Supply provided by Network Connections and forwarded to the relevant ASP/designer.

All new applications within the boundaries indicated below will be answered based on the ultimate supply voltage being 22kV. Therefore, all proposed underground HV cable and substation switchgear will be scoped as 22kV and transformers scoped as 11kV. The transformers will be replaced with 22kV transformers as part of the zone substation construction project.

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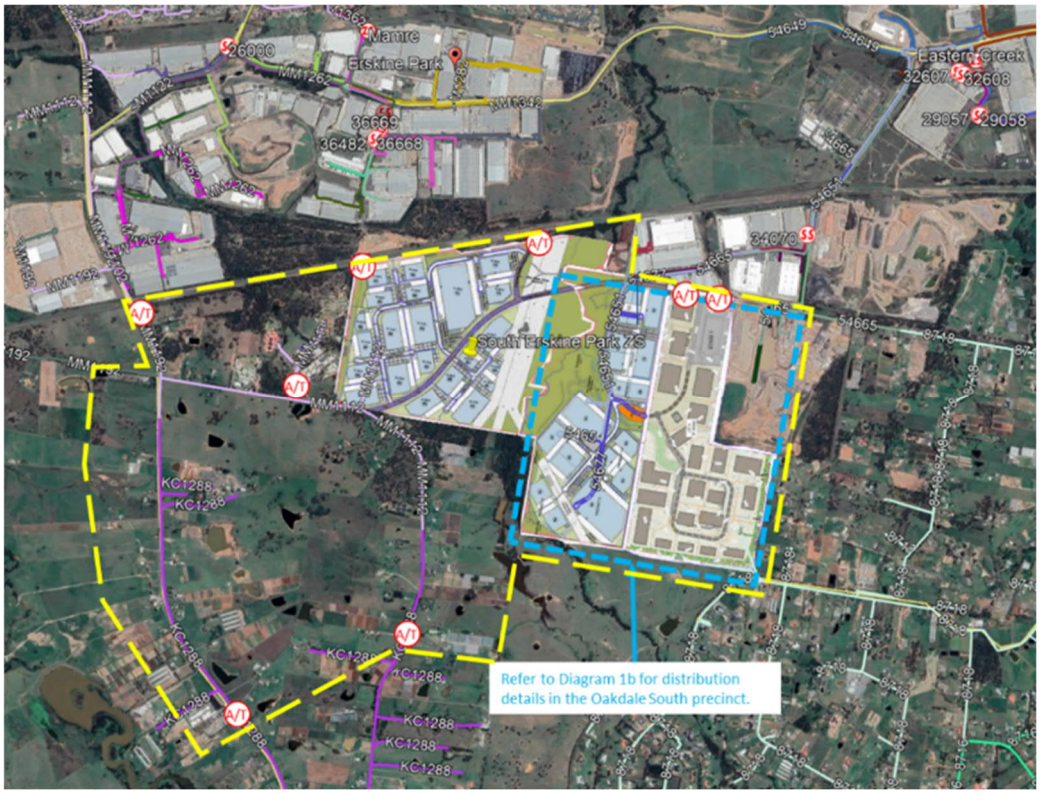

Diagram 1a – Location of the future South Erskine Park ZS and the envisaged 22kV supply area.

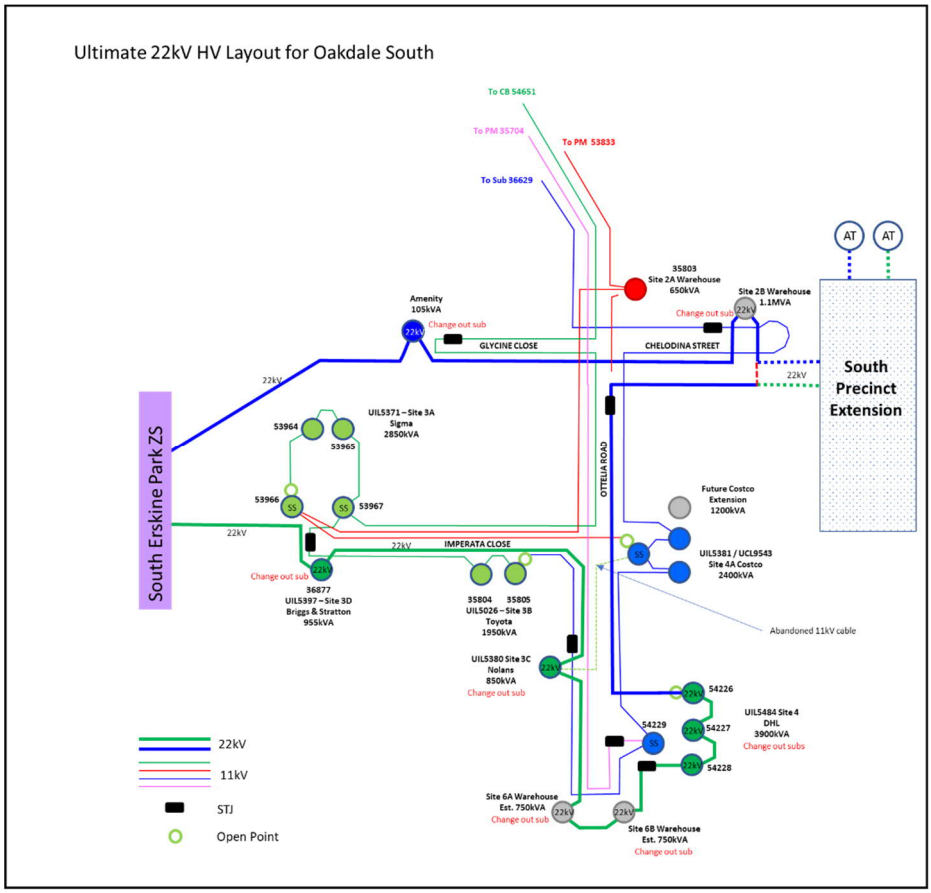

Diagram 1b – Detailed Hybrid distribution network proposed for the Oakdale South precinct.

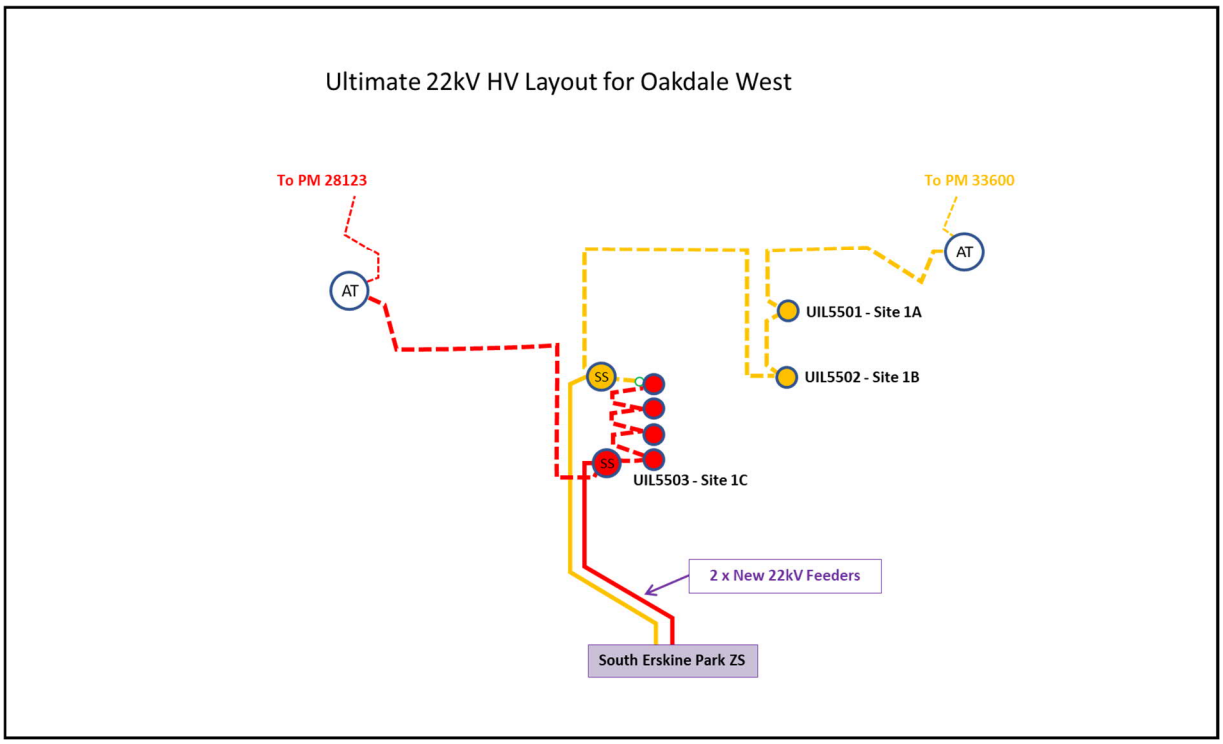

Diagram 1c – Detailed Hybrid distribution network proposed for the Oakdale West precinct.