

COPPERSTRING 2.0

132kV, 220kV, 275kV, 330 kV and 500kV Current Transformers and Combined Transformers Technical Specification

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Revision Notes

Rev A: Initial Issue

Rev B: Addition of 500kV equipment. Quantities updated.

1 Introduction

UGL is preparing an offer for CopperString 2.0 project. CopperString 2.0 is connecting Queensland north west power system customers and prospective renewable energy generators to NEM. The project includes approximately 1000km of transmission lines and nine substations.

This document specifies the minimum technical requirements for the supply of 132kV, 220kV, 275kV, 330kV and 500kV Current Transformers and Combined Transformers for the project.

2 Definition

AS/NZS	Australian/New Zealand standard
AMEC	Australian Energy Market Commission
Contractor	UGL
HV	High Voltage
HDG	Hot dip galvanised
ISO	International standards organisation
LV	Low voltage
NCC	National construction code
NEM	National electricity market
NEMA	National electrical manufacturers association
Principal	CUSTRING PTY LTD
Project	COPPERSTRING Project
SI	International system of units
Site	Specified in Section 2 of this document
SLD	Single line diagram
SS	Stainless steel
Supplier	Supplier of goods and/or services
3D	Three dimensional

Powerlink descriptive specification, as per Appendix B applies to the procurement of this package. Following terminologies therefor shall apply:

Principal	UGL/CPB JV or Powerlink where relevant
Contractor	Supplier of goods and/or services.

3 Site location

The equipment will be installed at the proposed substations in Queensland:

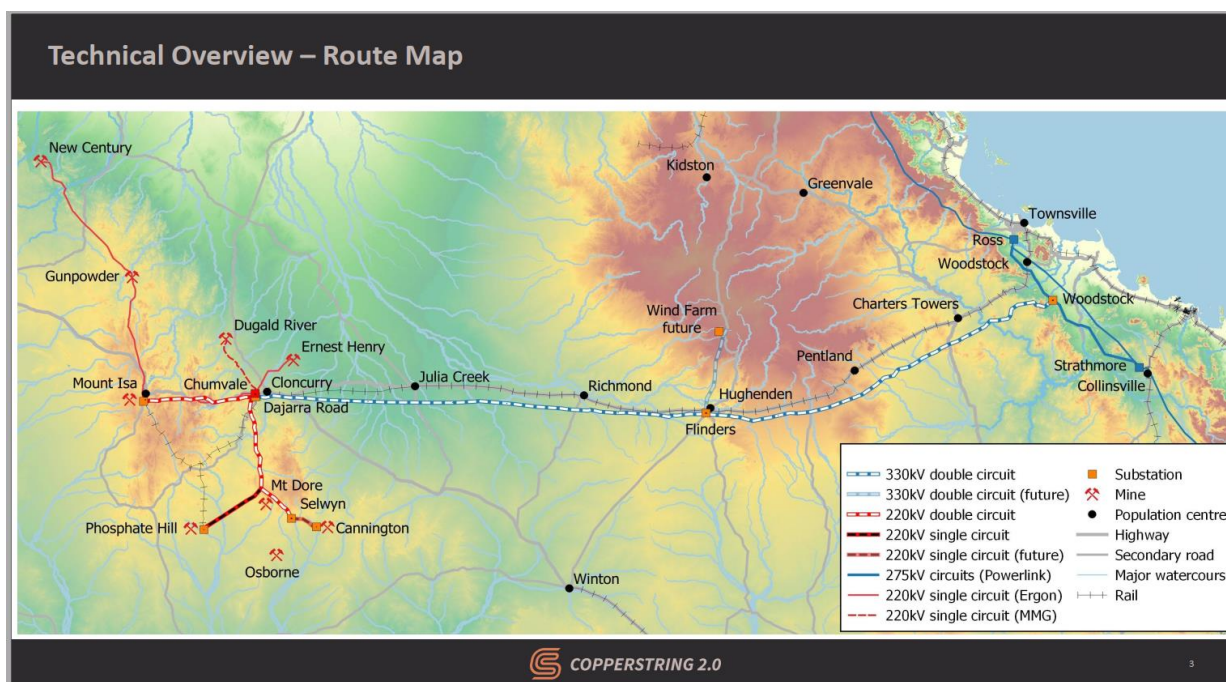
- **Woodstock** 500/275 kV substation
- **Flinders** 500/330kV substation
- **Dajarra Rd** 330/220kV substation
- **Pentland** 500kV switching station
- **Mt Isa** 220/132 kV substation
- **Mulgrave** 275kV substation

Site location coordinate are:

Substation	GPS Coordinates (DDD°MM' SS.S")	
	Latitude	Longitude
Woodstock	19°56'21.06"S	147° 3'18.71"E
Flinders	20°52'51.70"S	144° 9'52.81"E
Dajarra Road	20°44'53.01"S	140°24'27.77"E
Mount Isa	20°46'27.00"S	139°29'24.83"E
Pentland	20° 37'15.67" S	145° 36'20.37" E
Mulgrave	19°56'21.06"S	147° 3'18.71"E

Below map shows approximate location of substations

Mulgrave substation is next to Woodstock substation



4 Deviations and Order of Precedence

The Contractor shall notify the Principal in writing of any deviation from this specification. Work shall not commence without agreement in writing from the Contractor.

The Contractor shall notify the Principal in writing of any conflicts, discrepancies, or ambiguities within or between this specification, Powerlink specifications, Australian Standards and acts, regulations, and codes. Work shall not commence without resolution in writing from the Contractor. Order of precedence shall be as follows.

1. Acts, regulations, and codes.
2. Sections 1 to 6 of this specification.
3. Section 7 of this specification
4. Australian Standards.

5. Technical Requirements

The Supplier is expected to fill and return all the schedules of appendix A.

6. Appendix A Schedules

Schedule 1 – Quantities
Schedule 2 – Scope of Supply
Schedule 3 – Documentation Requirements
Schedule 4 – General Technical requirements
Schedule 5a – 330kV CT & CT-VT Technical Requirements
Schedule 5b – 275kV CT & CT-VT Technical Requirements
Schedule 5c – 220kV CT & CT-VT Technical Requirements
Schedule 5d – 132kV CT & CT-VT Technical Requirements
Schedule 5e – VT Section Technical Requirements for Combined CT-VT
Schedule 5f – 500kV CT & CT-VT Technical Requirements
Schedule 6 – Environmental Conditions
Schedule 7 – Technical Departures
Schedule 8 – Technical Clarifications and assumptions
Schedule 9 – Spare Parts and Tools
Schedule 10 – Type Test Information
Schedule 11 – Lead Time

7. Appendix B Descriptive Specification

SME-131.1 Supply of High Voltage Current Transformers and Combined Transformers

While this appendix covers the general requirements for all voltage levels technical particulars have been given for two specific voltage levels (namely 132kV and 275kV). Suppliers are requested to comply with these general requirements and refer to appendix A for detailed technical particulars of other voltage levels.