

## Substation Maintenance Instruction

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# SCADA Equipment

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SUBSTATION MAINTENANCE INSTRUCTION

ASSET STANDARDS & DESIGN

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SMI 109 SCADA EQUIPMENT

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## 1.0 PURPOSE

To detail the minimum maintenance requirements for SCADA equipment used in Endeavour Energy electrical substations.

## 2.0 SCOPE

This document defines the broad routine maintenance requirements for SCADA equipment outlined in Automation Design Instruction ADI 0012 – Substation Automation Systems. The routine maintenance requirement is comprised on an inspection and a minor overhaul.

## 3.0 REFERENCES

### Internal

Group Board Policy (Health & Safety) 3.0 – Work Health and Safety  
Company Policy (Network) 9.1.10 – Network Electrical Safety  
Company Policy (Network) 9.9.1 - Network Asset Maintenance  
Company Procedure (Network) GAM 0001 – Network Standards Framework: Preparation and Amendment of Network Standards  
Company Procedure (Network) GAM 0089 – Authorisations Governance and Management  
Branch Procedure (Communications & Control) NCB 3000 – Development, Testing and Commissioning of RTU Databases  
Automation Design Instruction ADI 0012 – Substation Automation Systems  
Substation Maintenance Instruction SMI 124 – Maintenance Data Entry and Defect Prioritisation

### External

Work Health and Safety Act 2011 (NSW)  
Work Health and Safety Regulation 2017 (NSW)  
Electricity Supply Act 1995 (NSW)  
Electricity Supply (Safety and Network Management) Regulation 2014  
AS 5577:2013 – Electricity network safety management systems  
Electrical Safety Rules  
ENA National Electricity Network Safety Code (Doc 01-2008)

## 4.0 DEFINITIONS AND ABBREVIATIONS

### ADI

Automation Design Instruction

### LAN

Local Area Network

### SCADA

Supervisory Control And Data Acquisition

## 5.0 ACTIONS

### 5.1 General

Work **must** be carried out in accordance with manufacturers' recommendations unless otherwise specified. Distinct types or brands of SCADA equipment may not contain some of the components listed for routine maintenance. In such situations that particular component **will** be disregarded.

Maintenance data entry and defect prioritisation **must** be recorded in a manner consistent with Substation Maintenance Instruction SMI 124 – Maintenance Data Entry and Defect Prioritisation.

All readings taken during the tests must be recorded. A report containing the results from all tests, corrective actions taken and evident anomalies will be sent to the Operations Manager, Protection and Control and the SCADA and Programs Manager.

|                                                                                                                                                | MD1000 | MD3311 | MD300 Series | ABB RTU 560 |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------------|-------------|
| <b>1.0 INSPECTION</b>                                                                                                                          |        |        |              |             |
| Inspect condition of all associated SCADA equipment and modules and report any defects.                                                        | X      | X      | X            | X           |
| Test operation of the medical emergency button with the assistance of System Control.                                                          | X      | X      | X            | X           |
| <b>2.0 MINOR OVERHAUL</b>                                                                                                                      |        |        |              |             |
| Clean and inspect all associated SCADA equipment and modules where practical.                                                                  | X      | X      | X            | X           |
| Check and if required adjust SCADA power supplies in accordance with manufacturer's recommendations.                                           | X      |        |              |             |
| Check and adjust calibration of analogues input modules.                                                                                       | X      | X      | X            |             |
| Check analogue transducers associated with transformer voltages, currents, power factor, and feeder current are correct to plus or minus 0.5%. | X      | X      | X            | X           |

## 6.0 AUTHORITIES AND RESPONSIBILITIES

**General Manager Asset Management** has the authority and responsibility for approving this instruction.

**Manager Asset Standards and Design** has the authority and responsibility for:

- making recommendations to the General Manager Asset Management in respect to this instruction; and
- approving minor amendments to this instruction.

**Communication and Control Manager** has the authority and responsibility for:

- keeping the content of this instruction up to date based on industry best practice; and
- consulting changes in accordance with Company Procedure GAM 0001 – Network Standards Framework: Preparation and Amendment of Network Standards.
- **Regional Transmission Managers** have the authority and responsibility for:
  - meeting the requirements of this instruction within their area of responsibility; and
  - verifying that Endeavour Energy employees and/or contractors engaged to perform the work have appropriate qualifications.

**Endeavour Energy employees and/or contractors** have the authority and responsibility for:

- verifying that the requirements of this instruction are met;
- working in accordance with local and statutory requirements; and
- working in accordance with Endeavour Energy's Electrical Safety Rules.

## **7.0 DOCUMENT CONTROL**

**Documentation Content Coordinator** : Communication & Control Manager

**Documentation Distribution Coordinator** : Branch Process Coordinator