

# **Network Asset Technical Document**

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## **Un-metered Supply Network Standard**

**Requirements and conditions for the installation and removal of  
un-metered supplies within the South West Interconnected System**

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## Document Control

### Endorsement/Approvals

|             | Name              | Title                                      | Signature   |
|-------------|-------------------|--|---|
| Revised by  | Rod Hale          | Network Standards & Technology             | See hard copy on file for wet signature<br><b>Rod Hale</b>          |
| Reviewed by | Stefan Oosthuizen | Team Leader Network Standards & Technology | See hard copy on file for wet signature<br><b>Stefan Oosthuizen</b> |
| Endorsed by | Neil Chivers      | Strategic Planning & Standards Manager     | See hard copy on file for wet signature<br><b>Neil Chivers</b>      |
| Approved by | Matt Cheney       | Head of Network Planning                   | See hard copy on file for wet signature<br><b>Matt Cheney</b>       |

### Record of Revisions

| Revision number | Date     | DM Version  | Revised by | Description   |
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| 1               | Jun 2004 | 1656281     | G Roy      | Original Issue  |
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| 7               | Oct 2016 | 27457790    | R Hale     | Alignment of changes to the Contractor Connection Scheme and WAER 2015                |

### Documents Referenced In This Document

| DM Version | Title of document                                  |
|------------|--|
| 1225929    | Distribution Design Catalogue                      |
| 3384127    | Underground Distribution Schemes Manual            |
| 7159802    | Western Australian Distribution Connections Manual |

### Other Documents That Reference This Document

| DM Version | Title of document                                  |
|------------|--|
| 1050305    | Design Information Manual                          |
| 1225929    | Distribution Design Catalogue                      |
| 3384127    | Underground Distribution Schemes Manual            |
| 7159802    | Western Australian Distribution Connections Manual |



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Refer to DM for current version

**Stakeholders** (people to be consulted when document is updated)

| Position/title                             |
|--|
| Customer Connections Services              |
| Customer Connections Design                |
| Customer Relations                         |
| Customer Service Centre                    |
| Metering Services                          |
| Network Operations                         |
| Operational Improvement & Customer Funded  |
| Safety, Environment, Quality, and Training |

**Notification List** (people to be consulted when document is updated):

| Position/title   |
|--|
| Consult Australia (Formerly known as Association of Consulting Engineers Australia). |
| Dial Before you Dig  |
| Housing Industry Association   |
| Institute of Public Works Engineering Australia                                      |
| Master Builders Association  |
| Master Electricians Australia  |
| National Electrical Communications Association (WA Chapter)                          |
| Western Australian Local Government Association                                      |
| Western Australian Electrical Inspectors   |
| Urban Development Institute of Australia   |
| Stakeholders   |

This document must not be made available to personnel outside Western Power without the prior written approval of Western Power.

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## 1 Purpose

The purpose of this document is to define the requirements for the installation and connection of an un-metered supply to Western Power's low voltage distribution network.

## 2 Application

These requirements shall apply to all un-metered supplies connected to the electrical distribution network within Western Power's South West Interconnected System (SWIS) including those supplies that are to be upgraded or altered after the date of application.

An un-metered connection and supply is available to all consumers subject to the conditions and requirements detailed in this document and associated network requirements. The consumer is responsible for ensuring that all of Western Power's criteria is met and shall formally acknowledge compliance and acceptance of Western Power's terms and conditions.

### 2.1 Date of application

These requirements will apply to all new, upgraded or altered connections as of the date of publication of this document.

Where work on an installation was commenced or formal contracts to undertake electrical work were signed prior to the publication of this Standard then Western Power may grant permission, on receipt of a formal application for exemption from these requirements.

Where an exemption has been granted the installation shall be completed in accordance with the previously published requirements for un-metered supplies. An exemption will not be granted where there is a safety concern.

### 2.2 References

This Standard is to be read in conjunction with but not limited to the following:

|                                      |  |
|--------------------------------------|--|
| <a href="#">State Law Publishers</a> | Electricity Act 1945<br>Electricity Industry Act 2004<br>Electricity Industry (Metering) Code 2012<br>Electricity (Network Safety) Regulation 2015 |
| <a href="#">Standards Australia</a>  | Applicable Industry Standards including but not limited to Wiring Rules AS/NZS 3000  |
| <a href="#">UDSM</a>                 | Underground Distribution Schemes Manual  |
| <a href="#">WADCM</a>                | WA Distribution Connections Manual   |
| <a href="#">WAER</a>                 | WA Electrical Requirements   |

### 3 Definitions

**Applicant** - A local government authority, government agency, approved provider of specialised services or their nominated representative who has permission from the relevant authority to install a device/equipment requiring an un-metered electrical connection in either a road reserve or public open space.

**Approved provider** - An organisation whose primary business or function is the installation and maintenance of illuminated advertising equipment or telecommunication equipment/devices and which has the approval of the relevant Local Government Authority (LGA) and/or Main Roads WA to install such equipment/devices in either a road reserve or public open space.

**Electrical contractor** - An electrical contractor who holds a current electrical contractors licence and has satisfied the training and operational requirements as defined by the Electricity (Licensing) Regulations 1991.

**Note:** Where the connection is to be within a pit the connection shall only be completed by network authorised personnel.

**Consumer (customer)** - A government authority/agency, utility or approved provider, who retains ownership of the asset and who is responsible for the payment of energy consumption and usage charges applying to that equipment/device.

**Point of supply** - The junction of Western Power's distribution network conductors with the customer's consumer mains which will normally be within a pillar or pit.

**Retailer**- A body holding a retail licence or integrated regional licence to supply electricity as defined by the Electricity Industry Act 2004.

**UDS** - Underground Distribution Schemes Manual as published and amended from time to time by Western Power.

**WADCM** - WA Distribution Connections Manual as published and amended from time to time by Horizon Power and Western Power.

**WAER** - WA Electrical Requirements as published and amended from time to time by EnergySafety.

## **4 Requirements**

It is recognised that in some situations the installation of a metered supply may be impracticable. In such circumstances Western Power may in accordance with the Metering Code, permit the consumer's equipment/device to be connected via an un-metered supply.

### **4.1 Eligibility Criteria for an un-metered supply**

An un-metered supply (UMS) may be provided for a consumer's electrical equipment/device where all of the following criteria is satisfied:

- The energy usage is consistent and can be readily estimated;
- The consumer's equipment/device requires a single phase connection where the maximum load does not exceed 4.8 kW;
- The load is not subject to consumer controlled variations (i.e. water pumping or air conditioning);
- The required supply is not of a short duration (i.e. fetes, fairs and festive lighting);
- The point of supply for the consumer's equipment/device is installed within public open space or within a road reserve;
- The consumer's equipment/device is on the same side of the road, visible from and no more than 25 metres from the point of supply;
- The consumer's mains cable supplying the consumer's equipment/device is installed underground;
- Each un-metered supply is installed and effectively labelled in accordance with the requirements of the WAER, AS/NZS 3000, UDS, WADCM and this Standard;
- It is not physically practical or commercial viable to install a meter (optional).

### **4.2 Ineligible or unsuitable un-metered supply connections**

Where an application for an un-metered supply does not satisfy one or more of the criteria identified at clause 4.1, the application will be deemed ineligible. Additionally Western Power reserves the right to refuse or remove a connection if it is deemed by Western Power to be either not appropriate, not in accordance with the intent of this Standard or harmful to the network, a consumer or member(s) of the general public.

### **4.3 Installation/maintenance of un-metered supplies and associated equipment/devices**

The consumer shall take full responsibility for the installation and shall regularly maintain the un-metered supply and associated consumer owned equipment/devices/cables installed downstream from the point of supply in accordance with applicable Legislation, Standards, Codes, network requirements and industry best practice.

#### **4.4 Change of configuration**

Where the configuration of the connection has or requires modification due to either a change in supply demand and or duration or frequency of use, the consumer shall as soon as is practical, but not more than 5 business days from the date of the required change in supply configuration, formally advise in writing both the Retailer and Western Power of the nature of the change.

#### **4.5 Removal of un-metered supplies assets.**

Unless prior written approval has been granted by Western Power, an un-metered supply not being utilised by the consumer or deemed to be commercially inactive by Western Power, for a period greater than 12 months will be removed at the consumer's expense.

Until such time as the un-metered supply is removed or the consumer advises in writing that the un-metered supply is no longer required, the consumer shall continue to pay all connection, supply and usage charges.

To arrange disconnection and removal of an un-metered supply, the applicant shall complete and submit the relevant section(s) of the Customer Work Request ([UMS Application](#)) or contact Western Power's Customer Services Centre on 13 10 87 if further assistance is required.

#### **4.6 Multiple connections to a single un-metered point of supply**

Multiple consumer un-metered supplies may be connected to single un-metered point of supply within a pillar or pit where:

- All such connections are for the same consumer and with the same retailer account;
- The total load of all connections does not exceed the value stated at clause 4.1;
- Connection criteria for each supply satisfies the requirements identified at clause 4.1;
- The method of connection shall be a multi-way termination device in accordance with [Distribution Design Catalogue](#) drawing UM4.

### **5 Detail**

#### **5.1 Eligible un-metered connection categories**

The following list is indicative of the types of systems eligible for connection to an un-metered supply. The load shall be determined as the total connected wattage (or name plate rating) of the un-metered supply at the point of supply.

##### **5.1.1 General classifications**

- Parking ticket machines.
- Surveillance systems.
- Town clocks.
- Automated public toilets.
- Sewerage, drainage, water pressure and pipe alarms.
- Irrigation controllers.



### **5.1.2 Communications**

- Public telephone/communication sites.
- Communication devices. (i.e. Multiplexers, Small Capacity Distributions Systems)
- Transmitter sites and radio masts.
- Transport and communication shelter combinations.
- Pay TV systems.

### **5.1.3 Lighting**

- Pedestrian lighting. (i.e. cycle-ways and underpasses)
- Aux/Decorative lighting. (i.e. flood lighting, council street lighting)
- Illuminated street signs.
- Curb-side furniture. (i.e. illuminated bus stops and signage)
- Security lighting.

### **5.1.4 Traffic control**

- Traffic lights.
- Railway crossings. (i.e. flashing lights and boom gates)
- Road or Rail Authority assets. (i.e. traffic information)

## **5.2 Method of application for an un-metered supply**

Written approval shall be obtained from Western Power for each new application prior to the connection of an un-metered supply.

All applications for a new or upgraded un-metered supply shall be via a completed Customer Work Request ([UMS Application](#)) available from Western Power's public website. The application form together with site plans and letters of approval from the relevant Local Government Authority or Council must be submitted to Western Power at the address nominated on the form.

If an applicant requires assistance in determining the commercial feasibility of the proposed un-metered supply, on receipt of a formal request, Western Power may provide a feasibility study or technical evaluation (Fees may apply). The evaluation is a non-binding appraisal, designed to assist in the planning and decision making processes relating to the proposed project.

Alternatively the applicant may request a formal quotation which may require the forward payment of a design fee together with the submission of the UMS application and supporting documentation.

Where the applicant elects to proceed with the UMS project, full payment of the quoted connection costs, less the original design fee payment (where applicable) is required and must be accompanied by a 'Preliminary Notice', from the electrical contractor contracted by the applicant to complete the works. Western Power will not formally approve a UMS connection or commence any associated works until these requirements have been fulfilled.

The applicant is responsible for ensuring that the supplied information and application is accurate and complete. Western Power reserves the right to reject any incorrect or incomplete application.

## **5.3 Connection and installation requirements**

### **5.3.1 Compliance**

Installation of both Western Power's and the consumer's equipment/device shall comply with these requirements, the relevant statutory Acts, Regulations and Rules, Industry Standards, Underground Distribution Schemes Manual and the WA Distribution Connections Manual.

Where required by either a local government authority, government agency or Western Power, the consumer shall ensure that the un-metered supply equipment/devices together with the consumer's mains cable is mapped and recorded, for the life of that installation, by a registered and practicing member of Dial Before You Dig WA Ltd. Full details of the requirements may be obtained from [Dial Before You Dig WA's](#) website or by phoning 1100 during normal business hours.

### **5.3.2 Network fees and electricity account**

The consumer shall confirm payment of all Western Power's fees/charges in addition to establishing an un-metered supply account with an appropriate electricity Retailer, details of which shall be forwarded with the applicant's Customer Work Request ([UMS Application](#)).

### **5.3.3 Installation of an un-metered point of supply**

Western Power shall arrange for either the installation of or shall grant access to an appropriate point of supply. The preferred method of supply will be via a Western Power pillar utilising an internally panel mounted 'HRC un-metered supply fuse'.

However Western Power acknowledges that in certain circumstances the use of a pillar may in itself present or introduce a hazard either to pedestrians or traffic therefore in such cases Western Power may elect to install an un-metered supply (UMS) pit with an 'un-metered inline supply fuse' where the criteria identified at clause 4.1 is satisfied.

### **5.3.4 Equipment/device connection**

The consumer shall engage the services of an electrical contractor to complete their portion of the electrical installation, which may include preparing and terminating the consumer mains cable into the load side of the 'un-metered supply fuse' and 'neutral connector'.

The consumer mains cable size shall be a minimum of 2.5mm and a maximum of 16mm, installed underground in a 25mm heavy-duty orange PVC conduit to a minimum depth of 750 mm, with an over laid orange PVC marker tape located 300mm above the cable.

A consumer's switchboard; main earth stake and MEN connection shall be established prior to, or at the consumer's equipment/device unless the un-metered electrical installation is double-insulated throughout. The consumer's un-metered supply and installation shall be earthed in accordance with the requirements of AS/NZS 3000.

#### **5.3.4.1 Equipment/device**

The consumer shall ensure that all equipment/devices connected by means of an un-metered supply have an appropriate and effective method of electrical isolation for their equipment/device from the un-metered supply.

The method of isolation shall be in addition to the 'un-metered supply fuse' located in the pillar or pit and shall comply with the requirements of the appropriate industry standard for that equipment/device and AS/NZS 3000 whichever is the more stringent.

#### **5.3.4.2 Labelling**

The consumer shall ensure that all equipment/devices/cables is labelled in accordance with the WA Electrical Requirements, applicable Australian Standards including but not limited to AS/NZS 3000 and the network requirements.

#### **5.3.5 Energisation**

The electrical contractor shall verify the completion of their portion of the works via the transmission of a 'Completion Notice' (NoC) to Western Power and provide the consumer with a 'Certificate of Compliance' commonly known as a 'Safety Certificate'.

The electrical contractor must verify that the installation is ready for energisation in accordance with the notification requirements as prescribed by the Customer Work Request ([UMS Application](#)) and the terms and conditions as specified by Western Power.

On authentication of the above Western Power network authorised personnel will energise the consumer's un-metered supply installation and consumer mains cable. (Fees may apply).

The electrical contractor shall record the date of Initial energisation of the installation (refer to AS/NZS 3000 clause 8.4) at the site and on the test report. The onsite energisation date must be located in a clearly visible position within the equipment enclosure, not obscured or obstructed, be legible and permanent for the life of the installation.

In all instances the electrical contractor shall ensure that the consumer has a valid account with an electricity Retailer and shall submit account details with the Customer Work Request ([UMS Application](#)) and Notice of Completion.

Subsequent to the initial energisation of the consumer mains for an un-metered supply, the consumer's electrical contractor who is the holder of a current Network Authority Card, may remove and replace an un-metered supply fuse cartridge located within a network pillar for the purposes of service, repair or isolation, to ensure the safety of operational staff, consumer's personnel or members of the public.

Connection and disconnection of an un-metered supply originating from a network 'un-metered inline supply fuse' within a pit (or pillar) may only be completed by Network personnel or a person authorised by Western Power.

### **5.3.6 Electrical isolation**

The electrical contractor, prior to commencing any work, shall ensure the installation is made safe by electrically isolating the installation and shall fit appropriate locking mechanisms and service/danger tags to secure the installation in a de-energised state.

**Document end**