Distribution un-metered supply standard

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FOREWORD

Welcome to Western Power's Ninth edition, as revised (October 2021), of the Distribution un-metered supply (UMS) standard.

The document has been designed and developed, to reflect the various aspects of Western Power's involvement in the delivery and installation process for *consumer Un-metered supply* arrangements and connections.

Content includes independent stand-alone sections for policies, processes, design *requirements*, installation *requirements* and materials and is further supported by Western Power's web page.

The structure also allows the user easier access to other Western Power documents referenced within this document, including the Distribution customer connection requirements (DCCR), Underground distribution schemes manual (UDS) and the WA Service and installation requirements (WASIR).

This is a 'living document', reviewed and updated on a regular basis to meet the evolving needs of *consumers* and industry.

The following information is intended to be beneficial to all stakeholders and we hope you find it easy to read and understand. It reflects Western Power's commitment to continuous improvement and our desire to work closely with the community and relevant industry participants.

In keeping with this philosophy, we value your feedback on any aspect of this document and ongoing support.

Ben Bristow

Head of Function Grid Transformation

Western Power

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1. Purpose

The purpose of this document is to define and specify the conditions under which Western Power will install and connect an *un-metered supply* to Western Power's *low voltage distribution network*.

2. Application

These *requirements* apply to the electricity *distribution network* within Western Power's South West Interconnected System (SWIS). The application of these *requirements* and subsequent amendments apply to all new or *altered* supply and connection arrangements. The *requirements* are not retrospective unless an existing arrangement, connection or *electrical installation* or part thereof is *altered*, modified, upgraded or constitutes a safety issue as determined by an authorised inspector designated under the Energy Coordination Act 1994.

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

2.1 Date of application

These *requirements* shall be progressively applied from this document's *date of publication*.

2.2 Related policies and references

In addition to applicable state and federal legislation, these *requirements* are to be read in conjunction with the following reference documents:

- Australian standard AS/NZS 3000 - Electrical installations Wiring rules (where nominated)
- Distribution customer connections requirements. (DCCR)
- Underground distribution schemes manual. (UDS)
- Utility providers code of practice. (UPCoP)
- Western Australian Service and installation requirements . (WASIR)
- Western Australian Electrical Requirements. (WAER)

3. Definitions and abbreviations

The italicised words, phrases and abbreviations shown in the first column of the following tables have the corresponding meaning shown in the second column of the associated table. Where the word, phrase or abbreviation is shown in italics but not specifically referenced, the word, phrase or abbreviation shall have the same meaning as that referenced in the WASIR.

3.1 Definitions

Term	Definition
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.
authorised person	An individual with the skills, qualifications and certifications as prescribed by both, The Electricity Act 1945 and Western Power, subsequently endorsed by the latter to undertake un-metered supply/connections installations and connections to the network operator's distribution network. **Note:** Where a connection/disconnection is within a pit that action 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.
date of publication	Shall be the date nominated on the front cover of this document.
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:** An electrical workers/contractor's licence does not fulfil the requirements to act as or undertake the activities attributed to an authorised person inclusive of pillar and or pit connections.
legacy	An un-metered supply/connection that does not meet the Western Power published Standard (this document).
point of supply(connection)	The junction of Western Power's distribution network conductors with the consumer mains cable which will be the load side terminals of an approved: • HRC or In-line fuse within a pillar; or • In-line fuse within a pit.
retailer	A body holding a retail licence or integrated regional licence to supply electricity as defined by the Electricity Industry Act 2004.
underground service	A ground mounted pillar or similar network approved apparatus forming part of Western Power's electricity distribution system, to which the un-metered consumer mains cable is connected, in order to obtain an electricity supply.
un-metered (un-metered (supply)	Has the same meaning as that given by the Electricity Industry (Metering) Code 2012 for a Type 7 connection point and as prescribed by clauses 4.1 and 5.1 of this document.

Table 1: Definitions

3.2 Abbreviations

AS/NZS 3000	Electrical installations "Wiring rules" as published and amended from time to time by Standards Australia
DCCR	Distribution customer connection requirements as published and amended from time to time by Western Power.

UDS	Underground distribution schemes manual as published and amended from time to time by Western Power.
UPCoP	Utility providers code of practice as published and amended from time to time by Utility Providers Services Committee
WAER	WA Electrical Requirements as published and amended from time to time by the Department of Mines, Industry Regulation and Safety, (Formerly Energy*Safety*).
WASIR	WA service and installation requirements as published and amended from time to time by Horizon Power and Western Power.

Table 2: Abbreviations

4. Requirements

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

Western Power offers, subject to the application Terms and Conditions and the *consumer* fulfilling the conditions as specified in clauses **4** and **5**, an *un-metered underground service* to the existing *distribution network* forming a part of the SWIS.

Note: Western Power owned street lighting is considered an *un-metered supply* but is not covered by the *requirements* of this 'standard'.

4.1 Eligibility Criteria for an un-metered supply/connection

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

I. Compliance Metering Code;

II. The energy usage is consistent and can be readily estimated;

III. The *consumer's* equipment/device requires a single phase connection where the maximum *load* does not exceed 4.8 kW;

IV. The *load* is not subject to *consumer* controlled variations (i.e. water pumping or air conditioning);

V. The required supply/connection is not of a short duration (i.e. fetes, fairs and festive lighting);

VI. The *point of supply(connection)* for the *consumer's* equipment/device is located within public open space, a road reserve or within an area acceptable to Western Power and affected municipal authority;

VII. The *consumer's* point of isolation/equipment/device and *network point of supply(connection)* is installed via an *underground service* on the same side of the road, visible from and no more than 30 metres from that *point of supply(connection)*;

VIII. The *consumer's mains cable* supplying the *consumer's* equipment/device is installed underground;

IX. Each *un-metered supply* is installed and effectively labelled in accordance with the requirements of the WAER, AS/NZS 3000, UDS, WASIR and these *requirements*;

X. It is not physically practical or commercially viable to install a *network metered* supply (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 clauses **4** and **5**, 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 these *requirements* or harmful to a *consumer*, member(s) of the general public or the *network*.

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(connection)* in accordance with applicable legislation, standards, codes, *network technical/connection requirements* and *industry best practice*.

Legacy un-metered supply/connections will be subject to this edition of the *requirements* should the *consumer* undertake works on the installation inclusive of any changes to the supply or connection configuration.

4.4 Change of configuration or installation

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 practical, but not more than 5 business days from the date of the required change in supply/connection configuration, formally advise in writing both the *retailer* and Western Power of the nature of the change.

Where the *consumer* requests an isolation to conduct changes/maintenance to the installation, Western Power may choose not to re-connect the installation if there are identified safety concerns.

4.5 Removal of un-metered supply 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, for a period greater than 12 months, Western Power may initiate actions to abolish the supply and remove where appropriate redundant *network* infrastructure. (Fees and charges may apply).

The *consumer* shall remain responsible for the removal of their equipment/infrastructure and restoration of the *site* and surrounding area, in accordance with the relevant government agency/local council.

Until such time as the *un-metered supply*/connection 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*/connection, the *applicant* shall complete and submit the relevant section(s) of the *consumer* Service Request (UMS application) or contact Western Power's Customer Services Centre on 13 10 87 if further assistance is required.

Permanent

4.6 Multiple connections from a single un-metered pillar or pit

Multiple *consumer un-metered supplies* may be connected at an individual un-metered *pillar or pit* where:

I. The *pillar or pit* is designed to accommodate multiple connections;

II. The connection is to be made to a *network* mini *pillar* (LU10) or an *un-metered supply pit* (UM-04);
III. The maximum number of connections does not exceed three (3);
IV. Each *un-metered supply* to be individually protected by a network approved fuse located within the *pillar* or *pit*;
V. No supply phase has more than one connection;
VI. The total *load* of each connection does not exceed the value stated at clause 4.1;
VII. Connection criteria for each supply satisfies the *requirements* identified at clause 5.1;

Note: Where an existing or intended *un-metered supply* is classified as a sensitive *consumer* by Western Power, then that *pillar or pit* shall not be used as a *point of supply(connection)* for any additional *un-metered* connections other than those related to that specific *consumer*.

A sensitive *consumer* for the purposes of these *requirements* may include but not limited to traffic lights, rail crossings, or a *low voltage* connection as defined by and identified as such in Geoview.

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(connection)*.

5.1.1 General classifications

I. Parking ticket machines.
II. Surveillance systems.
III. Town clocks.
IV. Automated public toilets.
V. Sewerage, drainage, water pressure and pipe alarms.
VI. Irrigation controllers.

5.1.2 Communications

I. Public telephone/communication *sites*.
II. Communication devices. (i.e. Multiplexers, Small capacity distributions systems)
III. Transmitter *sites* and radio masts.
IV. Transport and communication shelter combinations.
V. Pay TV systems.

5.1.3 Lighting

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

5.1.4 Traffic control

I. Traffic lights.
II. Railway crossings. (i.e. flashing lights and boom gates)

III. Road or Rail authority assets. (i.e. traffic information)

5.2 Method of application for an un-metered supply/connection

Written approval shall be obtained from Western Power for each new, modified or *altered un-metered supply* and/or connection.

All applications for a new or upgraded *un-metered supply*/connection shall be via a completed Service Request (UMS application) available via Western Power's public website. The Service Request 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 by the online form.

If an *applicant* requires assistance in determining the commercial feasibility of the proposed *un-metered supply*, technical assistance can be sought via the online booking service or on receipt of a Service Request.

Additionally, Western Power may offer 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 application/design fees, 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 *authorised person* (contractor) or *electrical contractor*, contracted by the *applicant* to undertake 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 the requirements, the relevant statutory legislation/rules, Industry standards, and *network technical/connection requirements* including but not limited to Underground distribution schemes (UDS) manual and WA Service and installation requirements (WASIR).

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 *consumers 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* Service Request (UMS application).

5.3.3 Installation of an un-metered point of supply(connection)

Western Power shall arrange for either the installation of or shall grant access to an appropriate *point of supply(connection)*. The preferred method of supply/connection will be via a Western Power *pillar* utilising an internally approved panel mounted HRC or in-line *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* in-line supply fuse' where the criteria identified at clause 4.1 is satisfied.

5.4 Equipment/device

5.4.1 Connection

The *consumer* shall engage the services of an *authorised person* (contractor) or *electrical contractor* to complete their portion of the *electrical installation* inclusive of the *consumer's* equipment and mains cable.

Note: Where the *electrical contractor* is not authorised, the *consumer mains cable* and conduit tail shall be located alongside the *pillar or pit* with enough length to enable the wiring system to be correctly positioned and terminated, by an *authorised person*, into the *pillar or pit* with the connection made to the *load* side '*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 an appropriately sized heavy-duty orange PVC conduit (maximum of 40mm) to a minimum depth of 750 mm, with an over laid orange PVC marker tape located 300mm above the cable.

Where required 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.

5.4.2 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 within the *network* equipment and shall comply with the requirements of the appropriate industry standard for that equipment/device and AS/NZS 3000 whichever is the more stringent.

5.4.3 Labelling

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

In addition to the above, each fuse shall identify the equipment owner, type of *load* and the location of the *consumer* point of isolation/equipment/device supplied (clause **5.1**).

5.4.4 Energisation

The *authorised person* (contractor) and *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 *authorised person* (contractor) or *electrical contractor* must verify that the installation is ready for energisation in accordance with the notification requirements as prescribed by The Electricity Act 1945 and the Terms and Conditions as specified by Western Power's Service Request (UMS application).

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

The *authorised person* (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 *consumer* and their agent shall ensure that the *consumer's un-metered supply*/connection has a valid account with an electricity *retailer* and shall submit account details with the Service Request and Notice of Completion.

Subsequent to the initial energisation of the *consumer mains cable* for an *un-metered supply*, only Western Power, an *authorised person* (contractor) or 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 or pit* 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* approved fuse' within a *pit* (or *pillar*) may only be completed by *network* personnel or a person authorised by Western Power.

5.4.5 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.

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