

Distribution Un-Metered Supply Standard

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FOREWORD

Welcome to Western Power's Eighth edition, as revised (August 2019), 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 customer 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 the Standard, including the Distribution Customer Connection Requirements (DCCR), Underground Distribution Schemes Manual (UDS) and the WA Distribution Connections Manual (WADCM).

The Standard is a 'living document', reviewed and updated on a regular basis to meet the evolving needs of customers and industry.

The information in this Standard 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.

Matt Cheney

Head of Network Planning

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

The Standard applies to the electricity distribution network within Western Power's South West Interconnected System (SWIS). The application of this Standard and subsequent amendments apply to all new supply 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 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 apply as of the date of publication of this document.

2.2 References

In addition to applicable state and federal legislation this Standard is to be read in conjunction with the following reference documents:

- [Australian Standard AS/NZS 3000 – 2018 Wiring Rules](#) (Where nominated)
- [Distribution Customer Connections Requirements](#). (DCCR)
- [Underground Distribution Schemes Manual](#). (UDS)
- [Utility Providers Code of Practice](#). (UPCoP)
- [Western Australian Distribution Connections Manual](#). (WADCM)
- [Western Australian Electrical Requirements](#). (WAER)

3. Definitions

Terms and definitions used in this document

| 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 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. |
| Consumer mains | Those conductors between the point of supply and the main switchboard. Refer to Clause 1.4.37 of AS/NZS 3000 - 2018. |
| DCCR | Distribution Customer Connection Requirements as published and amended from time to time by Western Power. |
| 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 or pit connections. |
| Legacy | An unmetered supply connection that does not meet the Western Power published Standard (this document). |
| Point of supply | The junction of Western Power's distribution network conductors with the consumer mains cable which will be the load side terminals of a: <ul style="list-style-type: none"> • Red spot 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 connection | 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 are connected, in order to obtain an electricity supply. |
| 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 the Department of Mines, Industry Regulation and Safety, (Formerly EnergySafety). |

Table 1: Definition of Terms

4. Standard

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 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 connection to the existing distribution network forming a part of the SWIS.

Note: Western Power street lighting is considered as an Unmetered Supply, but is not subject to the requirements of this Standard."

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:

- I. The energy usage is consistent and can be readily estimated;
- II. The consumer's equipment/device requires a single phase connection where the maximum load does not exceed 4.8 kW;
- III. The load is not subject to consumer controlled variations (i.e. water pumping or air conditioning);
- IV. The required supply is not of a short duration (i.e. fetes, fairs and festive lighting);
- V. The point of supply for the consumer's equipment/device is located within public open space, a road reserve or within an area acceptable to Western Power and relevant Municipal authorities ;
- VI. The consumer's point of isolation/equipment/device and network connection point is installed underground on the same side of the road, visible from and no more than 30 metres from the point of supply;
- VII. The consumer's mains cable supplying the consumer's equipment/device is installed underground;
- VIII. 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;
- IX. It is not physically practical or commercial viable to install a 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 this Standard 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 in accordance with applicable Legislation, Standards, Codes, network requirements and industry best practice.

Legacy un-metered supply connections will be subject to this edition of the Standard should the consumer undertake works on the installation inclusive of any changes to the 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 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.

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

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 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 individual protected by a HRC fuse located within the pillar or an in-line fuse located within the 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 for any additional un-metered connections other than those related to that specific consumer.

A sensitive consumer for the purposes of this Standard may include but not limited to traffic lights, rail crossings, or 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.

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

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 shall be via a completed [Work Request \(UMS Application\)](#) available via Western Power's public website. The Work 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 on-line form.

If an applicant requires assistance in determining the commercial feasibility of the proposed un-metered supply, technical assistance can be sought via the on-line booking service or on receipt of a Work 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 requirements including but not limited to Underground Distribution Schemes and WA Distribution Connections Manuals.

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 [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 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.

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 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 [Work 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 connection 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, 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 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 in-line supply 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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