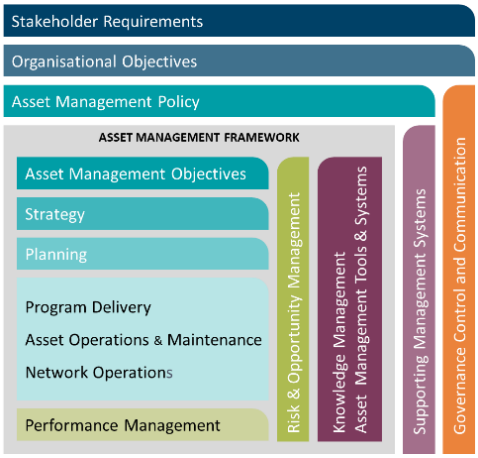
Western Power's
Asset Management System



Distribution Construction Standard Handbook General Part 01

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Document control

Endorsement approvals

	Name	Title	Signature and Date
Compiled by	Nory Cerrado	Distribution Draftsperson	Signature on file
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Record of revisions

Revision No.	Date	EDM Version	Compiled by	Description
1	30/04/2025	10	Nory Cerrado	First Revision with new Format and 3 yearly review

This document gives direction to and influences the following documents.

Doc	Title of document
ALL CHAPTERS	DDC - DISTRIBUTION DESIGN CATALOGUE
ALL CHAPTERS	DCSH - DISTRIBUTION CONSTRUCTION STANDARD HANDBOOK
ALL CHAPTERS	DSPM - DISTRIBUTION SUBSTATION PLANT MANUAL

Stakeholders (people that were consulted when document was updated)

Business Unit / Function
Asset Management - Asset Performance
Asset Management – Safety Environment Quality and Training
Asset Management - Grid Transformation
Asset Operations – Network Operations
Asset Operations – Operational Services
Asset Operations – Customer Connection Services
Business and Customer Service – Customer Service

Notification list (people to be notified when document is updated)

Business Unit / Function
Asset Management - Asset Performance
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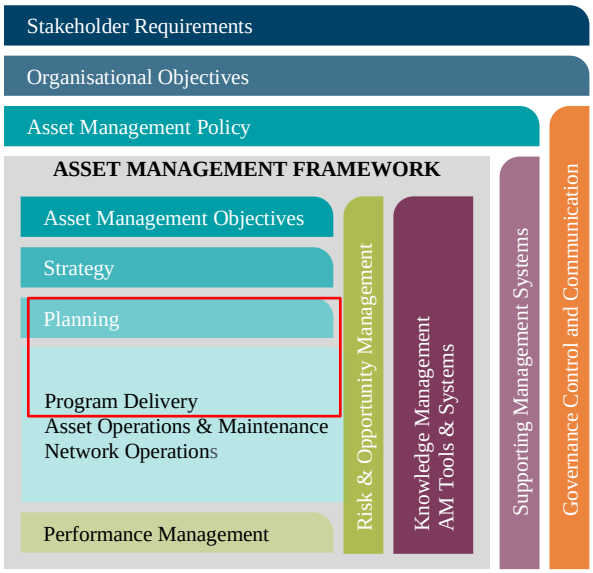
Document classification and hierarchy

A key requirement of the Western Power Asset Management Policy (AMP) is to develop and maintain an Asset Management System (AMS). This Distribution Substation Plant Manual is defined as a technical document within the AMS document classification and structure and sits within the planning and Program Delivery components of the AMS.

The AMS and the interrelationships between the collection of documents, tools and systems that are used for asset management are described in the AMS document EDM# 40304923.



General Notes

1. Overhead Hardware - Bolt Selection

All bolt holes must be drilled to size for the bolt being fitted as oversize bolt holes allow excess plant/equipment movement which may result in the plant/equipment being damaged.

Pole bolt length selected to avoid excessive thread protrusion, maximum 100mm. Bolt packing (multiple washers/springs etc) must not be used as a permanent fixing.

Pole bolt excess thread may be flat trimmed and sharp edges must be removed to suit the fitting of washers and coil springs as per standard bolt selection. This is to prevent overlength bolts and/or sharp edges presenting a hazard to public and personnel safety (e.g. pole top switch handle bolts). Cold galv or galmet should be applied to exposed metal.

2. Overhead Hardware – Sleeve/Splice Clearances

Fargo and crimp type compression sleeves must have a 100mm minimum clearance from all other line hardware such as insulators, conductor ties, armor rods, PG clamps and dead ends etc.

3. Overhead Hardware – North Country Extreme Pollution Areas

In North Country (from Ledge Point to Kalbarri inclusively), all areas within 20 kilometres of the coast are considered to be in extremely corrosive environments. In such areas, grease and tape must be appropriately applied to all new lugs and connectors (as described in drawing R8/3) to prevent moisture ingress.

4. Overhead Hardware – Steel Strap (Band-It Strap) use on wood poles

Steel straps are not to be used on wood poles as the prime fixing method for equipment due to possible wood shrinkage causing the equipment to become loose and unstable. It may be used in conjunction with other fixing methods (e.g. Bolts, coach screws, TEK screws, etc) but not as the sole support method.

1 Purpose

The Technical Requirements therein set out the minimum standard of construction required for the distribution network asset. This standard shall form the auditing guidelines for acceptance and hand-over of assets on the distribution network within the South West Interconnected System.

The person/s engaged to undertake the construction of network assets for hand-over to Western Power Corporation shall be responsible for ensuring that these Technical Requirements are met.

2 Application

2.1 General

The Distribution Construction Standards Handbook has been prepared independent of the Distribution Design Catalogue (DDC), however links will be provided for reference where possible.

Although it is intended to include as much information as possible on each drawing, the drawing Notes shall also be referred to as they clarify the required intent of the drawing.

In addition, references have been provided on some drawings similar or related to others to allow greater depth of detail to be provided.

Rather than provide revision history comments on each drawing, a central revision history is provided. This is also traceable from the revision number and/or date provided on each drawing. Previous drawing versions can always be sourced from the Document Management System.

The Construction Standards Handbook has been divided into the following sections for ease of use. A small description of each is provided below.

Part 2 **Reference**

(R series) represent equipment and arrangements that are common to multiple structures.

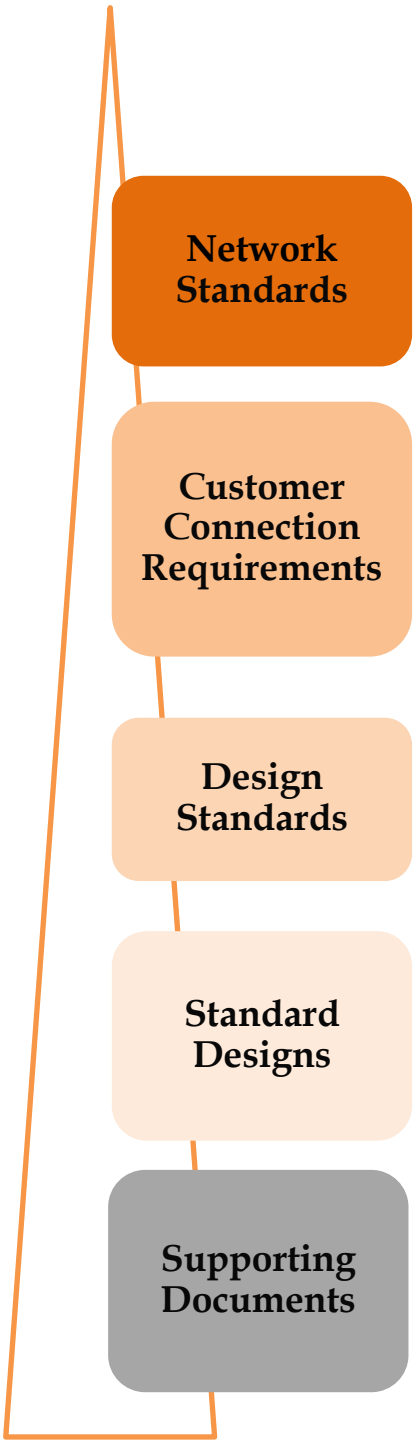
When reference is made to a R series drawing, this shall refer to the set of drawings associated with the reference (ie R8 shall refer to R8/1, R8/2 and R8/3)

Part 3 **High Voltage Underground**

(UH series) represents High Voltage Underground type structures and arrangements. The Underground reference applies to those materials associated with below ground and groundmount installations.

Part 4	**High Voltage Overhead**	(H series) represents High Voltage Overhead type structures and arrangements. The Overhead reference applies to those materials associated with above ground, polemount and aerial installations.
Part 5	**Low Voltage Underground**	(U series) represents Low Voltage Underground type structures and arrangements. The Underground reference applies to those materials associated with below ground and groundmount installations.
Part 6	**Low Voltage Overhead**	(L series) represents Low Voltage Overhead type structures and arrangements. The Overhead reference applies to those materials associated with above ground, polemount and aerial installations.
Part 7	**Low Voltage ABC**	(A series) represents Low Voltage Aerial Bundled Conductor (ABC) type structures and arrangements.
Part 8	**Streetlights**	(S series) represents Streetlight type structures and arrangements.
Part 9	**Maintenance Manual**	(MM series) is a collection of drawings for superseded construction standards. These can be used where existing pole top assets are being reinstalled on a new pole (in accordance with an approved asset strategy). This will typically occur when poles with pole top assets attached are being changed as part of the pole replacement program. The MM series can also be used on a 'like-for-like' basis to match the original pole top configuration where use of the current standard would compromise other aspects of the design. For any other replacement activities, the current standard in the DCSH should be applied.
Part 10	**Conductor Tensioning Table**	(CT Series) Represents tension, sag and beat tables to construct new lines and of regulate existing lines during maintenance.

2.2 Philosophy



Western Power's Network Standards are top-level technical standards that specify the overall functional and performance requirements for the South-West Interconnected Network (SWIN) as a whole. These establish high-level technical targets for the system.

Customer connection requirements are technical standards focused on assisting customers in interpreting Network Standards and understanding the regulatory and functional requirements for connections to Western Power's South-West Interconnected Network (SWIN). They provide a simplified overview of the supported standard connection arrangements and schemes.

Western Power's Design Standards are technical standards which establish key design criteria and interpret compliance against industry standards, codes, aligning with Network Standards.

Western Power's Standard Designs are predefined, typical solutions for electrical components or systems that comply with relevant Design Standards. Offered as engineering drawings, templates, and forms, they provide convenient, proven pre-engineered options that save engineering time and costs.

Supporting documents are procedural materials that complement technical standards by providing guidance and instruction for implementation. They include. Procedures, Guidelines & Work instructions. Supporting documents give regulated parties guidance on translating standards into actionable workflows, processes, and tasks. They enable consistency and fidelity in application of standards across Western Power.

3 Definitions

Material	Any apparatus connectable to a point of supply. Any network consumable or part which is adapted from the MIMS dialogue.
Structure	Any combination of equipment which is representative of a network asset having a specific function
LV	Low Voltage. This represents voltages less than 1000V, typically 415V three phase and 240V single phase.
HV	High Voltage. This represents voltages exceeding 1000V, typically between 6 and 33kV.
DCM	Distribution Construction Manual replaced by Distribution Design Catalogue (DDC)
ABC	Aerial Bundled Conductor
WAER	Western Australian Electrical Requirements
AS	Australian Standard
AS/NZS	Australian Standard/New Zealand Standard
WA	Western Australia
WPC	Western Power Corporation