



Standard: Numbering and Titling Specification

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Revision	Date	Description
17	26/05/2020	Numbering and Titling Documents updated and combined. <i>HPC-9CA-01-0003-2012 Drawing Titles and HPC-9CA-01-0004-2013 Standard Drawing Numbers</i> superseded by incorporating into this standard.

Refer to Appendix A for Full Revision History.

STAKEHOLDERS	
<i>The following positions must be consulted if an update or review is required:</i>	
EPCM Contracts Manager	Senior Engineer Secondary Systems
Engineering Services Manager	Major Project Directors
Asset Managers	

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1 PURPOSE

This Specification defines the requirements for Numbering and Titling of Engineering Technical Documents and Drawings for Horizon Power.

This Specification also captures legacy numbering that was used as a convention prior to Horizon Power (previously Western Power and State Energy Commission of WA - SECWA) which is still used in current projects.

2 COMPLIANCE

All personnel involved in the creation and/or revision of Engineering Technical Documents and Drawings will comply with this specification. This includes project participants, Contractors, Suppliers and Principal Representatives.

3 OWNERSHIP

Documents created by, or on behalf of Horizon Power are an asset of value.

Engineering Technical Document and Drawings are and shall remain the property of Horizon Power and are not for distribution outside of Horizon Power except where specifically authorised by Horizon Power.

4 REFERENCES

Document Number	Description
HPC-9CA-01-0001-2012	Engineering Drawings, General Requirements, Practices and Preparation of Drawings / CAD Specification

5 DEFINITIONS AND ABBREVIATIONS

Term	Description
Attribute	A unique part of a document number.
Contractor	The provider of goods or services under the Contract
Commercial Documentation	Commercially related documents applicable to a contract and/or project
Correspondence	Formal communication between two or more parties for example a letter or memo.
Discipline code	This code is used to define the broad content of the document differentiating between for instance Mechanical and Quality.
Document Type	This code further defines the document into specific kind of documents being either discipline specific or used by many disciplines; for instance, a single line diagram is a unique document type associated to the Electrical discipline while document type plan is generic.

Term	Description
Document	Documents are all documents created for the purposes of the Contract and/or project that contain specific information about the facility and/or equipment and include the electronic files of such documents.
Drawing Management Group	The Principal's Drawing Management Group provides document management and control services. Including systematic registration, dissemination, control, status reporting and storage of Controlled Documents.
Drawings	Drawings are all drawings, plans, sketches and layouts created for the purposes of the Contract and/or project and include electronic files of such documents.
Ellipse	Enterprise Management System.
Facility	Primary area within the location that the drawing is most appropriate.
Horizon Power	Regional Power Corporation.
Location	Location of the Site that the drawing or document refers to.
Legacy numbering	Outdated or obsolete numbering no longer in use / numbering may be used for existing sites and facilities for revisions. May not be used for new Sites and drawings.
Project Identifier	A single project identifier assigned by for inclusion in all document numbers generated by Horizon Power or its Contractors.
Originator (Correspondence Only)	A code to identify the organization responsible for the development of the document.
Principal	Horizon Power (Regional Power Corporation)
Principal Document Number	A number allocated to a document by The Principal.
Project Management Documentation	Documents that communicate non-technical information regarding the project.
Project Identifier/Contract Number	A single project identifier assigned by Horizon Power for inclusion in all documentation numbers generated for the project; combined with the contract number to define a specific Supplier package identifier.
ProjectWise	The Horizon Power application used for storing and managing all Controlled Engineering Technical Documents, Drawings and relative Engineering Data.
Revision	An Alpha, Numeric or Numeric Alpha code to track and define the version of a document at a particular point in the lifecycle.
Recipient (Correspondence/ Commercial Only)	A code to identify the receiving organization.

Term	Description
Standard	Horizon Power Standard is a document or drawing that prescribes the mandatory requirements for all Engineering work performed.
Subcontractor	A person or company that assumes by secondary contract some or all of the obligations of an original contractor.
Sub Supplier	A Supplier who provides goods or services to another Supplier.
Supplier	Providers of equipment.
Technical Documentation	Formal information which includes text documents, databases, and drawings that communicate technical information pertaining to the physical or functional requirements of a project.
WBS	Work Break Down Structure.
Work	The Supplier/Contractor Scope of Work and Services defined in the Contract.

6 GENERAL REQUIREMENTS

All document authors will and are responsible for ensuring an appropriate document number is requested as per the instructions outlined in section 6.1 Request for Number; prior to development of a document.

The Principal's Document Control Group shall allocate all document and drawing numbers. Registrations are recorded in the Horizon Power's Technical Document Management System (DMS) ProjectWise.

Supplier/Contractor will assign a Principal Document Number to all documents which are generated as part of the execution of Work; including those produced by any Subcontractors or Sub suppliers.

6.1 Request for Numbers

All requests for numbers shall be sent to Horizon Power Document Control.

Email address: HPDC@horizonpower.com.au

All requests for numbers shall be on the latest revision of the electronic form, HPA-0000000-DC-FRM-0001.

This is obtainable from Horizon Power Drawing Management Group.

7 DOCUMENT NUMBER STRUCTURE AND CODING

7.1 Legacy Drawings

7.1.1 Current drawing number vs legacy (Including Western Power)

Legacy drawing numbering convention shall only to be used in the scenario of an existing drawing (built during the legacy drawing numbering phase) undertaking an upgrade to the already constructed infrastructure. The legacy drawing numbering convention must not be used in the design/commissioning phases of any new facilities. Horizon Power Drawing Management Group will allocate all legacy drawing numbers. Refer to Appendix H.2

7.1.2 South Hedland and Hedland Projects

South Hedland and Hedland projects used a different numbering format as shown in Appendix H.1. Moving forward the new numbering drawing convention will be used.

7.2 Structure

7.2.1 Location Drawing Number Convention

Principal's Representative will use the following numbering convention.

Table 7-2-1 Location Drawing Number Convention

AAA	-	AA	-	AA	-	AAA	-	NNNN	-	NN
Location Code	-	Facility	-	Discipline	-	Doc. Type	-	Sequence Number	-	Sheet Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example HDT-SS-EL-LAY-0001-01

1. **Location Code** – Location of the Site, refer to Appendix B
2. **Facility Code** - For a list of Facility codes, refer to Appendix C
3. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
4. **Document Type** – For a list of document types, refer to Appendix E
5. **Sequence** – Document Control will assign a four-digit sequential number to all documents, so each resulting number is unique.
6. **Sheet Number** - Document Control will assign a two-digit sequential number

7.2.2 Transmission Line Drawing Number Convention

The Transmission Line drawing identifier shall include the substations at both ends of the line, with the following rules governing the order of precedence:-

- 1) Power stations (energy sources) shall have the highest order of precedence
- 2) Terminal Yards shall be the next in the order of precedence
- 3) This will be followed by Zone substations, as the lowest order of precedence
- 4) If the line connects two locations of equal precedence, then the location with the higher alphabetical order will take precedence.

Examples:

- SHP - SHT 31 (SHP takes precedence as it is a Power Station and SHT is a Terminal Yard)
- KRT - BUL 81 (KRT takes precedence as it is a Terminal Yard and BUL is a Zone Substation)
- HDT - SHT X1 (both locations are Terminals, i.e. equal precedence. HDT takes precedence as it is higher on the alphabetical order)

Principal's Representative will use the following numbering convention.

Table 7-2-2 Transmission Line Drawing Number Convention

AAAAAAA	-	AA	-	AA	-	AAA	-	NNNN	-	NN
Transmission Line Code	-	Facility	-	Discipline	-	Doc. Type	-	Sequence Number	-	Sheet Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example: KRTDMP81-TL-EL-RPL-0001-01

1. **Transmission Line Code** – Transmission Line codes, refer to Appendix G
2. **Facility Code** - For a list of Facility codes, refer to Appendix C
3. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
4. **Document Type** – For a list of document types, refer to Appendix E
5. **Sequence** – Document Control will assign a four-digit sequential number to all documents, so each resulting number is unique.
6. **Sheet Number** - Document Control will assign a two-digit sequential number

7.2.3 Concept and Tender Drawing Number Convention

To differentiate current drawings from Tender / Concept drawings, Project specific drawing numbers shall be allocated.

This allows the current drawing to remain available for active projects. The new project drawing will copy the content from the live drawing. The current drawing shall be referenced in the title block of the new project drawing.

Once the project is confirmed by the HP Project Manager, the current drawing will be checked out for Modification and the concept drawing shall be superseded. The current drawing will incorporate the changes from the concept as required.

Principal's Representative will use the following numbering convention.

Table 7-2-3 Concept / Tender Drawing Number Convention

AAAAAAA	-	AA	-	AA	-	AAA	-	NNNN	-	NN
Project Number	-	Facility	-	Discipline	-	Doc. Type	-	Sequence Number	-	Sheet Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example: M0001557-TL-EL-LAY-0001-01

1. **Project Number** – The Job number applicable to the project defined by Ellipse
2. **Facility Code** - For a list of Facility codes, refer to Appendix C
3. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
4. **Document Type** – For a list of document types, refer to Appendix E
5. **Sequence** – Document Control will assign a four-digit sequential number to all documents, so each resulting number is unique.
6. **Sheet Number** - Document Control will assign a two-digit sequential number

7.2.4 Standalone Power Systems Numbering Convention

Principal's Representative will use the following numbering convention.

Table 7-2-4 Standalone Power Systems Drawing Number Convention

AAA	-	AA	-	AA	-	AAA	-	NNNN	-	NN
Location Code	-	Ellipse Asset or Standard Project Identifier	-	Discipline	-	Doc. Type	-	Sequence Number	-	Sheet Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example:

- EHR-**GS011**-EL-DGA-0005-05 – Site Asset Specific Drawing Number
- EHR-**GP2095**-EL-DGA-0005-05 - Project Standard Specific Drawing Number (Across Multiple Sites)

1. **Location Code** – Location of the Site, refer to Appendix B
2. **Generation Systems / Generation Project Identifier**

Individual Site Assets will be allocated a unique identifier generated from Ellipse. **(GS011)**

Project Standard Specific drawings that will be used across all sites will be allocated a Generation Project Identifier. Last four digits of the project number shall be used **(GP2095)**

3. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
4. **Document Type** – For a list of document types, refer to Appendix E
5. **Sequence** – Document Control will assign a four-digit sequential number to all documents, so each resulting number is unique.
6. **Sheet Number** - Document Control will assign a two-digit sequential number

7.2.5 Document Numbering Convention

Principal’s Representative will use the following numbering convention.

Table 7-2-5 Document Numbering Convention

AAAAAAA	-	AAAAAAA	-	AAA	-	AA	-	AAA	-	NNNN
Project Number	-	Contract Number / PO NUMBER (If Applicable)	-	Location Code	-	Discipline	-	Doc. Type	-	Sequence Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example:

- M0001557-**0000000**-DMP-EL-RPT-0001 - Non Contractual
 - M0001557-**HP12345**-DMP-EL-RPT-0001 Horizon Power Contractual Document
 - M0001557-**S123456**-DMP-EL-RPT-0001 – Non Specific HP Contractual Documents (EPCM)
1. **Project Number** – The Job number applicable to the project defined by Ellipse
 2. **Contract Number / Purchase Order Number** – Unique Contract / Purchase Order Specific Identifier will be allocated by the Project. Please use the General Code **(0000000)** if a Contract number / PO Number is not applicable. Horizon Power specific Contracts shall use HPXXXXX for ease of Identification. Non Specific HP Contracts (Supplier ie.EPCM / Subcontractor contract number) shall use SXXXXXX and will be assigned to all supplier data documentation denoted by the prefix S
 3. **Location Code** – Location of the Site, refer to Appendix B

4. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
5. **Document Type** – For a list of document types, refer to Appendix E
6. **Sequence** – Document Control will assign a four-digit sequential number to all documents, so each resulting number is unique.

8 REDLINE NUMBERING

A redline drawing could be a hand or electronic mark-up drawing, showing the 'as built\as constructed' status of the drawing. The redline drawings are used to provide as constructed and up to date information to those who require it to proceed with Work; whilst the drawing is being back-drafted to an 'as built' status, if applicable.

Redline drawings are not a formal revision and as such are to be numbered using the numbering conventions described within this document suffixed by one the following extensions.

[_REV RLMU](#) – Redline Mark Up.

[_REV RLNC](#) – Redline No Change.

For Example: HDT-SS-EL-LAY-0001-01_0 [RLMU](#)

Where there are multiple redline mark-ups on the same drawing number and revision then the suffix is to include a numeric identifier. For example; [_RLMU1](#), [RLMU2](#) etc.

9 REVISION NUMBERING

All revisions of a document must be issued to Horizon Power Drawing Management Group in sequential order. Documents that skip revisions will be returned to the originator for correction.

Principal shall consider all documents having an alpha revision to be in the review or approval cycle or to have an issue status of issued for review, issued for tender or information only.

Controlled deliverables will be allocated a Revision as shown in the matrices below.

Table 9-1 Revision Number for New Documents and Drawings

Revision Status	Revision Number	Example	Description
Number Issued	Tilde (-)	-	The initial issue by Document Control (Place Holder)
Preliminary Issue or Issued for Tender	Alpha	A,B,C, etc.	Assigned as per project procedures for review, tender etc.
Issued for Use	Numeric	0	Issued for use / Drawing issued in support of, or as part of a standard or specification.
Issued for Construction	Numeric	0	Assigned as per project procedures
Issued for Use or Issued for Construction	Numeric	1,2,3,....	Amendments to the IFC or IFU revision that are reissued at IFC / IFU status
As Built	Numeric	Next Numeric (eg 4)	Assigned as per project procedures
Cancelled or Superseded	Next Alpha or Numeric	Next Alpha or Numeric	Assigned as per project procedures

Table 9-2 Revision Sequence for the Update of Existing Documents and Drawings

Revision Status	Revision Number	Example	Description
As Built or IFC or IFU	Numeric	4	Existing document / drawing issued by DCC
Preliminary Issue or Issued for Tender	Numeric Alpha	4A,4B,4C etc.	Assigned as per project procedures for review, tender etc.
Issued for Construction	Numeric	5	Assigned as per project procedures
Issued for Use	Numeric	5	Issued for use / Drawing issued in support of, or as part of a standard or specification.
Issued for Use or Issued for Construction	Numeric	6,7,8,....	Amendments to the IFC or IFU revision that are reissued at IFC / IFU status
As Built	Numeric	Next Numeric (eg 9)	Assigned as per project procedures
Cancelled or Superseded	Numeric	Next Alpha or Numeric	Assigned as per project procedures

9.1 Revision Description

The revision description describes the status of the document within the lifecycle of the document at a specific point in time.

The revision description is different to the issue reason; which describes why a specific document is being transmitted.

The Project Number shall be added to the IFC and As Built Revision Descriptions, e.g. "Issued for Construction for PN123456" "AS BUILT for PN123456"

9.2 Cancelled deliverables

Where a deliverable is cancelled, the drawings shall be revised to the next revision, watermarked 'CANCELLED' and the revision description updated to reflect the reason for cancellation.

Drawings are then delivered to Document Control to be uploaded onto ProjectWise.

Please Note: HorizonCAD Build Contains a Status Tool for Watermarks

9.3 Superseded deliverables

Where a deliverable is superseded by a new drawing number, the existing drawing shall be revised to the next sequential revision, watermarked "Superseded" with the new drawing number and the revision description updated to reference the new drawing number

The new drawing number shall reference the superseded number in the revision description e.g. 'Supersedes drawing BGP-GN-EL-0007-01'.

Drawings are then delivered to Document Control to be upload onto ProjectWise

Please Note: HorizonCAD Build Contains a Status Tool for Watermarks

9.4 File name

File names of drawings must follow the following conventions.

BRM-SS-EL-LAY-0001-01_Rev.dgn	CAD file name
BRM-SS-EL-LAY-0001-01_Rev.pdf	PDF file name

9.4.1 File names for legacy drawings

Existing drawings that have alpha-numeric file names (e.g. sdtcv01.dgn) should retain their file names if they contain Reference Files or Raster Images. Renaming such files with attachments can break the links from drafting software Bentley MicroStation. Files that do not have attachments shall be updated to the Drawing Number captured on the drawing (e.g. SS174-100-1_Rev.dgn)

10 STANDARDS DOCUMENTS AND NUMBERS

10.1 Standard drawings numbering

Standardised numbering conventions are required to manage standard drawings used in construction, maintenance, projects and specifications, where quite often drawings reference other drawings. The drawing numbering convention can be broken down in to a number of parts. Each part represents a different step in the classification of the drawing type given in Table 10-1.

Table 10-1 Standard Drawing Number Convention

AAA	-	AA	-	AA	-	AAA	-	NNNN	-	NN
HPA	-	SD	-	Discipline	-	Doc. Type	-	Unique Sequence Number	-	Sheet Number

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example: HPA-SD-EL-LAY-0001-01

1. **Location Code** – HPA signifying Standard, refer to Appendix B
2. **Facility Code** – SD signifying Standard, refer to Appendix C
3. **Discipline** - The discipline selected will be the most appropriate for the content of the document. Note that this is not necessarily the discipline that originates the document. Refer to Appendix D
4. **Document Type** – For a list of document types, refer to Appendix E
5. **Unique Sequence Number** – Document Control will assign a four-digit unique sequential number to all standard drawings, so each resulting number is unique from Table 10-2.
6. **Sheet Number** - Document Control will assign a two-digit sequential number

Table 10-2 Standard Drawing Number Convention

NNNN	STANDARD DRAWING TYPE UNIQUE SEQUENCE
0000-0999	Distribution Overhead
1000-1999	Distribution Underground
2000-2999	Distribution General
3000-3999	Transmission Substation
4000-4999	Transmission Line
5000-5999	Transmission General
6000-6999	Generation Fossil
7000-7999	Generation Renewable

Drawing file name convention is **DrawingNumber_VersionNumber.dgn**

Example is:

HPA-SD-EL-LAY-0001-01_3.dgn for revision 3

HPA-SD-EL-LAY-0001-01_3.pdf for revision 3

Examples of legacy standard drawing numbers¹ superseded by this Section 10.1:

- HPA-DL-S-3002-01
- HPA-SD-E-0001-01

This example indicates that the drawing is for all of Horizon Power (HPA), the facility is distribution line (DL) or Standard (SD), the discipline is structural (S) or electrical (E). The sequential number starts with '3', so it is a general arrangement or '0'. The remainder of numbers are determined as required, the first is the drawing number, and the last is the sheet number.

10.2 Distribution Standards Drawings

Drawings that are added to existing distribution design and construction manuals shall follow the legacy-numbering format for that manual, e.g. *Distribution Construction Standard*, *Distribution Substation Manual*, *Distribution Design Catalogue*.

An example of drawing number for the *Distribution Construction Standard* is shown below:

- R3-1 (Title: Insulators - Reference chapter)
- H16-2/4 (Title: LBS with bypass switch & 2 bushing TX - High Voltage chapter)
- U9 (Title: Universal Pillar Installation Guide – LV Underground chapter)
- The first letter indicates the chapter of origin (e.g. High Voltage chapter). The number is the sequential drawing number within that chapter and '-x' for sheets.
-

Drawing file name convention is **DrawingNumber_VersionNumber.dgn**

Format is AB-C-D_E e.g. R3-1_2.dgn or H16-2-4_3.dgn and same for .pdf

A – Chapter of the standard eg. R; H

B – Sequential number of construction type eg. 3; 16

C – Alternate construction type of same sequential number eg. 1; 2

D – Sheet number of drawing where multiple sheets (numeric) eg nil; 4

E – Revision number (numeric) eg, 2; 3, is separated by underscore “_”

An example of drawing number for the *Distribution Substation Manual* is shown below:

- DSM-3-02 SHT 1
- DSM-3-02 SHT 2

The first three letters indicate the manual of origin, the second number (3) indicates the chapter of origin (Substation Arrangements). The final number is the drawing number. Drawings from this manual frequently have multiple sheets, but the sheet number is not formally part of the drawing number.

Note: the *Distribution Substation Manual* is being gradually incorporated into the *Distribution Construction Standard* as Chapter G.

¹ Superseded standard HPC-9CA-01-0004-2013: Standard Drawing Numbers

An example of drawing number for the *Distribution Design Catalogue* is shown below:

- PO15 (Pole)
- TX1-2 (Transformer)
- LU11 (Universal Pillar)
- The first portion (consisting of letters) indicate the chapter of origin (Transformers). The remainder is the designation of the Compatible Unit (CU). Drawings from this manual frequently address multiple CUs, which differ from each other by the bill of materials.

For PO15 drawing revision 1, the drawing file name will be PO15_1.dgn

If there is more than 2 sheets on the drawing, the sheet numbers will be presented with a dash and revision with an underscore for the filename. For example TX1 has sheet 1 and sheet 2 on version 3, the drawing file names will be TX1-1_3.dgn and TX1-2_3.dgn

10.3 Distribution Standards Drawings Versioning

Note that *Distribution Construction Standards* have revision numbers as letters, for historical reasons. When these are revised, they should be transitioned to numbered revisions. For example, an existing drawing of revision C would be superseded by a new drawing marked revision 4.

The convention of the date on all distribution standards drawings and revisions will be **dd/mm/yy** format.

10.4 Standards Document Numbering

A legacy system of standards document numbering will be retained since the convention has been in use and cross-referenced in multiple documents that relate to compliance and regulatory obligations.

The numbering format is contained in the Standards Register (DM#1918455) that is used to maintain the currency and review period of standards within Horizon Power. Table 10-3 shows the numbering convention for standards documents.

Table 10-3 Standards Documents Number Convention

HPC	-	X	A	A	-	XX	-	NNNN	YYYY
HPC	-	Doc. Type	Engineering Area	Work Type	-	Category	-	Sequential Number	Registration year

Note: No spaces shall be created before or after any attribute; including the hyphen.

For Example: *HPC-8DJ-12-0002-2019 – LV Connected Battery Energy Storage Systems*

1. **Location Code** – HPC signifying Standard Document
2. **Document Type** – 8 signifying Specification
3. **Engineering Area** – D signifying Electrical
4. **Work Type** – J signifying Requirements

5. **Category** – 12 signifying Generation Renewable
6. **Sequence** – 0002; Document Control will assign a four-digit sequential number to all documents from the register (DM#1918455), so each resulting number is unique.
7. **Year** – 2019; year the standard number was generated and registered

Refer to the Standards Register (DM#1918455) for the numbering format and convention details.

11 DRAWING TITLING

Titles of drawings in general will conform to the five-line format as described within this specification.

All drawings shall be appropriately titled to clearly identify the location and item depicted by the drawing. Existing drawings being revised which do not conform to the current specification titling are to be updated to conform to this standard.

11.1 Titles

To standardise the approach of drawing titling and assist in the data base search functions. The following shall apply:

1. **Title Line 1** shall have the Geographical location, refer to Appendix B, e.g. KARRATHA TERMINAL
 No Deviation from these parameters shall be permitted
2. **Title Line 2** shall be the Facility Type, Equipment Type or Switchyard Area, refer to Appendix F
 No Deviation from these parameters shall be permitted.
3. **Title Line 3** shall contain a description of the type of drawing, refer to Appendix E Page 30 to 32
 No Deviation from these parameters shall be permitted
4. **Title Line 4** describe the area, item of plant or other information covered by the drawing. It should include identification by circuit number, bay number or any other information to describe the applicability of the drawings. The layout of the line should follow circuit number, voltage, circuit type and description. The description may be 1 or 2 lines
5. **Title Line 5 (Optional)** As above

Some Typical Drawings (numbers and titles) as follows

Number	DMP-SS-EL-MAT-0001-01
Title Line 1	DAMPIER SUBSTATION
Title Line 2	AUXILIARY POWER SUPPLIES
Title Line 3	MATERIAL LIST
Title Line 4	440V AC SUPPLY &
Title Line 5	CHANGEOVER BOARD

Number	HDT-SS-EL-SCH-0001-01
Title Line 1	HEDLAND TERMINAL
Title Line 2	PROTECTION
Title Line 3	SCHEMATIC DIAGRAM
Title Line 4	HDT508 22kV REACTOR 52C
Title Line 5	DC PROTECTION

APPENDIX A - REVISION INFORMATION

(Informative) Horizon Power has endeavoured to provide standards of the highest quality and would appreciate notification of errors or queries.

Each Standard makes use of its own comment sheet which is maintained throughout the life of the standard, which lists all comments made by stakeholders regarding the standard.

The document **DM# 1539733** can be used to record any errors or queries found in or pertaining to this standard, which can then be addressed whenever the standard gets reviewed.

Date	Rev No.	Notes
02/11/11	3	Added Location Codes for Rio Tinto Power Stations & Substations
01/12/11	4	Added Location Code for Carnarvon Solar Farm
25/01/12	5	Added Location Codes for Utah Point & Rottnest
24/05/12	6	Added Location Codes for new BHP Substations
30/05/12	7	Changed Document into a Standard
29/10/12	8	Reformatted and document and project numbering added
21/01/13	9	Renamed, reformatted and project document numbering modified and new document types added
16/04/13	10	Added Location Codes for South Hedland Terminal
10/05/13	11	Document Revised to incorporate the addition of one more numerical field in part 4 of the drawing number for the South Hedland Project, and to split the project numbering and document numbering parts into separate documents.
29/10/14	12	Removed location codes and referenced CS#10 for 'single source of truth'. Added revision control
07/12/17	13	Changed title from <i>Generating Drawing Numbers for New Sites post Western Power</i> to <i>Drawing Numbers</i> . Merged with GHD version 12. Added new sections for Standards Drawings, WP standard template drawings.
17/01/2018	14	New CS 10 Number
13/12/2019	15	Issued for Review
07/05/2020	16	Numbering and Titling Documents Updated and Combined.
26/05/2020	17	Numbering and Titling Documents updated and combined. <i>HPC-9CA-01-0003-2012 Drawing Titles</i> and <i>HPC-9CA-01-0004-2013 Standard Drawing Numbers</i> superseded by incorporating into this standard.

APPENDIX B - LOCATION CODES (NUMBERING & TITLING)

DMP-SS-EL-MAT-0001-01

CODE	LOCATION	TYPE
HPA	HORIZON POWER	REGION
AST	ANDERSON STREET SUBSTATION	SUBSTATION
AYN	ARDYALOON	COMMUNITY
AYN	ARDYALOON POWER STATION	POWER STATION
BLG	BALGO	COMMUNITY
BGB	BEAGLE BAY	COMMUNITY
BGB	BEAGLE BAY POWER STATION	POWER STATION
BEN	BENTLEY	TOWN
BEN	BENTLEY SUBSTATION	SUBSTATION
BYA	BIDYADANGA	COMMUNITY
BYA	BIDYADANGA POWER STATION	POWER STATION
BLA	BILLILUNA	COMMUNITY
BRM	BROOME	TOWN
BRM	BROOME POWER STATION	POWER STATION
BUL	BULGARRA SUBSTATION	SUBSTATION
LOM	CAMBALLIN / LOOMA	TOWN
LOM	CAMBALLIN / LOOMA POWER STATION	POWER STATION
CLB	CAPE LAMBERT SUBSTATION	SUBSTATION
CRN	CARNARVON	TOWN
CRG	CARNARVON POWER STATION	POWER STATION

CODE	LOCATION	TYPE
CRD	CARNARVON RENEWABLE - DERMS	POWER STATION
CRN	CARNARVON SUBSTATION	SUBSTATION
CRL	CORAL BAY	TOWN
CRL	CORAL BAY POWER STATION	POWER STATION
CRS	CORAL BAY SOLAR FARM	SOLAR FARM
CRL	CORAL BAY WIND FARM	WIND FARM
CUE	CUE	TOWN
CUE	CUE POWER STATION	POWER STATION
DMP	DAMPIER	TOWN
DMP	DAMPIER SUBSTATION	SUBSTATION
DEN	DENHAM	TOWN
DNP	DENHAM POWER STATION	POWER STATION
DBY	DERBY	TOWN
DBY	DERBY POWER STATION	POWER STATION
DRN	DJARINDJIN	COMMUNITY
DRN	DJARINDJIN POWER STATION	POWER STATION
EKI	EAST KIMBERLEY	REGION
EPI	EAST PILBARA	REGION
ESP	ESPERANCE	TOWN
EHR	ESPERANCE HARBOUR ROAD SUBSTATION	SUBSTATION
EHR	ESPERANCE POWER STATION	POWER STATION
EHR	ESPERANCE WIND FARM	WIND FARM
EXP	EXMOUTH	TOWN
EXP	EXMOUTH POWER STATION	POWER STATION

CODE	LOCATION	TYPE
FDS	FAIRWAY DRIVE SUBSTATION	SUBSTATION
FIT	FITZROY CROSSING	TOWN
FIT	FITZROY CROSSING POWER STATION	POWER STATION
BRM	FREDERICK STREET SUBSTATION	SUBSTATION
GPR	GAP RIDGE SUBSTATION	SUBSTATION
GAS	GASCOYNE	REGION
GJN	GASCOYNE JUNCTION	TOWN
GJ	GASCOYNE JUNCTION POWER STATION	POWER STATION
HC	HALLS CREEK	TOWN
HC	HALLS CREEK POWER STATION	POWER STATION
HDR	HARDING RIVER DAM SUBSTATION	SUBSTATION
HDT	HEDLAND TERMINAL	TERMINAL
HTN	HOPETOUN	TOWN
HTP	HOPETOUN POWER STATION	POWER STATION
BPS	IPP - BOODARIE POWER STATION	POWER STATION
BKN	IPP - BROCKMAN SUBSTATION	SUBSTATION
CBS	IPP - CAPE LAMBERT BULK SUPPLY	POWER STATION
DBS	IPP - DAMPIER BULK HANDLING SUB	SUBSTATION
DMS	IPP - DAMPIER MAIN SUBSTATION	SUBSTATION
FIH	IPP - FINUCANE INNER HARBOUR SUB	SUBSTATION
FIN	IPP - FINUCANE ISLAND SUBSTATION	SUBSTATION
FOH	IPP - FINUCANE OUTER HARBOUR SUB	SUBSTATION
GWY	IPP - GOLDSWORTHY SUBSTATION	SUBSTATION
HPS	IPP - HEDLAND POWER STATION	POWER STATION

CODE	LOCATION	TYPE
HDS	IPP - HOPE DOWNS SUBSTATION	SUBSTATION
HBI	IPP - HOT BRIQUETTE IRON POWER STATION	POWER STATION
JAD	IPP - JUNA DOWNS SUBSTATION	SUBSTATION
KRP	IPP - KARRATHA POWER STATION	POWER STATION
LPS	IPP - LAMBERT POWER STATION	POWER STATION
MAO	IPP - MARANDOO	SUBSTATION
MSM	IPP - MILLSTREAM	SUBSTATION
MSM	IPP - MILLSTREAM SUBSTATION	SUBSTATION
NPS	IPP - NELSON POINT SUBSTATION	SUBSTATION
NGA	IPP - NIMINGARRA	POWER STATION
PWA	IPP - PANAWONICA	SUBSTATION
PDC	IPP - PDC	OTHER
BHP	IPP - PORT HEDLAND SUBSTATION	SUBSTATION
RYL	IPP - ROY HILL SUBSTATION	SUBSTATION
SGP	IPP - SHAY GAP SUBSTATION	SUBSTATION
SRV	IPP - STRELLEY SUBSTATION	SUBSTATION
TPE	IPP - TOM PRICE	TOWN
WAS	IPP - WEST ANGELES	SUBSTATION
WCT	IPP - WICKHAM 1 OPERATIONS POWER STATION	POWER STATION
JGL	JIGALONG	COMMUNITY
KLU	KALUMBURU	COMMUNITY
KLU	KALUMBURU POWER STATION	POWER STATION
KRT	KARRATHA	TOWN

CODE	LOCATION	TYPE
KTP	KARRATHA TEMPORARY POWER	POWER STATION
KTS	KARRATHA TEMPORARY SUBSTATION	SUBSTATION
KRT	KARRATHA TERMINAL	TERMINAL
KIM	KIMBERLEY	REGION
KUN	KUNUNURRA	TOWN
KPC	KUNUNURRA PARRYS CREEK SUBSTATION	SUBSTATION
KUG	KUNUNURRA POWER STATION	POWER STATION
KUN	KUNUNURRA SUBSTATION	SUBSTATION
LAK	LAKE ARGYLE	TOWN
LAK	LAKE ARGYLE SUBSTATION	SUBSTATION
LAV	LAVERTON	TOWN
LAV	LAVERTON POWER STATION	POWER STATION
LEO	LEONORA	TOWN
LEO	LEONORA POWER STATION	POWER STATION
MLB	MARBLE BAR	TOWN
MLB	MARBLE BAR POWER STATION	POWER STATION
MKA	MEEKATHARRA	TOWN
MKA	MEEKATHARRA POWER STATION	POWER STATION
MEN	MENZIES	TOWN
MEN	MENZIES POWER STATION	POWER STATION
MID	MIDWEST	REGION
MMG	MOUNT MAGNET	TOWN
MMG	MOUNT MAGNET POWER STATION	POWER STATION
MNM	MOUNT NEWMAN MINING SUBSTATION	SUBSTATION

CODE	LOCATION	TYPE
MGP	MUNGALLAH POWER STATION	POWER STATION
MRO	MURCHISON RADIO ASTRONOMY	POWER STATION
MDR	MURDOCH DRIVE SUBSTATION	SUBSTATION
NRS	NORSEMAN	TOWN
NRS	NORSEMAN POWER STATION	POWER STATION
NUL	NULLAGINE	TOWN
NUL	NULLAGINE POWER STATION	POWER STATION
ONS	ONSLow	TOWN
OWP	ONSLow POWER STATION	POWER STATION
OLT	ONSLow SOLAR	SOLAR FARM
OLT	ONSLow TOWN ZONE SUBSTATION	SUBSTATION
ORD	ORD RIVER HYDRO POWER STATION	POWER STATION
PBO	PARABURDOO	TOWN
PCK	PEGS CREEK SUBSTATION	SUBSTATION
PIL	PILBARA (NWIS	REGION
PSN	POINT SAMPSON	TOWN
PSN	POINT SAMPSON SUBSTATION	SUBSTATION
PHD	PORT HEDLAND	TOWN
RPS	REDBANK POWER STATION	POWER STATION
ROE	ROEBOURNE	TOWN
ROE	ROEBOURNE SUBSTATION	SUBSTATION
RTP	ROTTNEST ISLAND	REGION
RTP	ROTTNEST ISLAND POWERSTATION	POWER STATION
SAN	SANDSTONE POWERSTATION	POWER STATION

CODE	LOCATION	TYPE
SAN	SANDSTONE	TOWN
SHP	SOUTH HEDLAND POWER STATION	POWER STATION
SHT	SOUTH HEDLAND TERMINAL	TERMINAL
GLD	SOUTH REGION	REGION
SWC	SOUTH WEST CREEK SUBSTATION	SUBSTATION
SHL	STOVEHILL SUBSTATION	SUBSTATION
UTP	UTAH POINT	SUBSTATION
WBN	WARBURTON	COMMUNITY
WRN	WARMUN	COMMUNITY
WRN	WARMUN POWER STATION	POWER STATION
WFD	WEDGEFIELD SUBSTATION	SUBSTATION
WKI	WEST KIMBERLEY	REGION
WPI	WEST PILBARA	REGION
WCT	WICKHAM	TOWN
WIL	WILUNA	TOWN
WIL	WILUNA POWER STATION	POWER STATION
WYN	WYNDHAM	TOWN
WPS	WYNDHAM EMERGENCY POWER STATION	POWER STATION
WYN	WYNDHAM SUBSTATION	SUBSTATION
YAL	YALGOO	TOWN
YAL	YALGOO POWER STATION	POWER STATION
YGA	YUNGNORA	COMMUNITY
YGA	YUNGNORA POWER STATION	POWER STATION

APPENDIX C - FACILITY CODES (NUMBERING)

DMP-**SS**-EL-MAT-0001-01

CODE	FACILITY
BS	BATTERY ENERGY STORAGE SYSTEM
DE	DEPOTS
DL	DISTRIBUTION LINES
GF	GEOHERMAL FARM
GS	GENERATION SYSTEMS (SPS)
HF	HYDRO FARM
HG	HYBRID GENERATION SYSTEM
HY	HYDROGEN POWER STATION
PS	POWER STATIONS
SD	STANDARD ** ONLY USE FOR HP STANDARD NUMBERING**
SF	SOLAR FARM
SS	SUBSTATIONS AND SWITCHYARDS
TF	TIDAL FARM
TL	TRANSMISSION LINES
WF	WIND FARM

APPENDIX D - DISCIPLINE CODES (NUMBERING)

DMP-SS-**EL**-MAT-0001-01

CODE	DESCRIPTION
AD	ADMINISTRATION
AR	ARCHITECTURAL
BD	BUSINESS DEVELOPMENT / STRATEGIC MARKETING
CI	CIVIL
CS	COMMISSIONING
CM	COMMUNICATION SYSTEMS
CN	CONSTRUCTION/CONSTRUCTION MANAGEMENT
CO	CONTRACTS
DC	DOCUMENT CONTROL
EL	ELECTRICAL
EN	ENVIRONMENTAL
EP	EPCM
ES	ESTIMATING
FA	FABRICATION
FI	FINANCE
GE	GEOLOGY & GEOTECHNICAL
HS	HEALTH & SAFETY
HR	HUMAN RESOURCES
IM	INFORMATION MANAGEMENT
IS	INFORMATION SYSTEMS/ICT
IX	INSPECTION SERVICES

CODE	DESCRIPTION
IC	INSTRUMENTATION & CONTROL
LA	LANDSCAPE
LO	LOGISTICS AND MATERIAL MANAGEMENT
MA	MAINTENANCE
ML	MATERIALS/METALLURGY
ME	MECHANICAL
MT	METERING
MD	MULTI DISCIPLINE
OP	OPERATIONS
PA	PLANNING APPROVALS AND LAND DEVELOPMENT
PC	PROJECT CONTROLS AND PLANNING
PI	PIPING
PM	PROJECT MANAGEMENT
PT	PROCUREMENT
QA	QA/QC
RI	RISK
SD	SAFETY IN DESIGN (ENSMS)
SR	SAFETY & RISK
SC	SCADA
SE	SECURITY
ST	STRUCTURAL
SU	SURVEYING /GIS

APPENDIX E - DOCUMENT AND DRAWING TYPES (NUMBERING & TITLING)

DMP-SS-EL-MAT-0001-01

CODE	DESCRIPTION
PROJECT MANAGEMENT	
AGC	AGREEMENT
AGN	AGENDA
COE	CLOSE OUT EVALUATION
FNO	FILE NOTE
FRM	FORM
HDD	HANDOVER DOSSIER
IMG	IMAGE
IST	INSTRUCTION
LTR	LETTER
MEM	MEMORANDUM
MOM	MINUTES OF MEETING
PHT	PHOTO
ORG	ORGANISATION CHART
POS	POSITION DESCRIPTION
PRS	PRESENTATION
PPL	PROPOSAL / TENDER SUBMISSION TO CLIENT
SOW	SCOPE OF WORK AND/OR SERVICES
STR	STRATEGY

CODE	DESCRIPTION
PROJECT CONTROLS	
BUD	BUDGET
CST	COST REPORT
CTR	COST TIME RESOURCE
EST	ESTIMATE
PCR	PROJECT CHANGE REQUEST
PGR	PROGRESS REPORTS
VAR	VARIATION
WBS	WORK BREAKDOWN STRUCTURE
CONTRACTS	
ADD	RFP ADDENDUM
AWL	CONTRACT AWARD COVER LETTER
BKG	BANK GUARANTEE
CBE	COMMERCIAL BID EVALUATION
CDA	CONFIDENTIALITY DEED/AGREEMENT
CEC	CONTRACT EXECUTION CHECKLIST
CLA	CLARIFICATION/DEPARTURE
CLM	CLAIM
COT	CONDITIONS OF TENDERING
CRV	CONTRACT VARIATION
CTS	CONTRACT SECURITY

CODE	DESCRIPTION
DEE	DEED OF SETTLEMENT
EOI	EXPRESSION OF INTEREST
EVL	TENDER EVALUATION
EXC	EXECUTED CONTRACT
INV	INVOICE
ITT	INVITATION TO TENDER
LOI	LETTER OF INTENT
MOU	MEMORANDUM OF UNDERSTANDING
NOD	NOTICE OF DELAY
NOV	NOTICE OF VARIATION
NSP	NOTICE OF SUCCESSFUL PROPOSAL
NUP	NOTICE OF UNSUCCESSFUL PROPOSAL
PCO	PURCHASE ORDER
POP	PROPOSAL OPENING RECORD
POR	PURCHASE ORDER REQUISITION
PQL	PRE-QUALIFICATION
PRC	PROGRESS CLAIM
QTE	SUPPLIER QUOTATION
RFA	RECOMMENDATION FOR AWARD
RFS	RECOMMENDATION FOR SHORTLIST
RFI	REQUEST FOR INFORMATION

CODE	DESCRIPTION
RFP	REQUEST FOR PROPOSAL
RFQ	REQUEST FOR QUOTATION
SDR	SUPPLIER DATA REQUIREMENTS (SDRL)
SOR	SERVICE ORDER
SSJ	SOLE SOURCE JUSTIFICATION
TBE	TECHNICAL BID EVALUATION
TDP	TECHNICAL DEVIATION PROPOSAL / CONCESSION REQUEST
TRA	DOCUMENT TRANSMITTAL
VAQ	VARIATION APPROVAL REQUEST
WCO	WORKS CONTRACT
QUALITY	
ALT	SAFETY ALERT
CKL	CHECKLIST
AUD	AUDIT REPORT
CAR	CORRECTIVE ACTION REQUEST
CAT	CALIBRATION AND TEST RECORD
FAT	SUPPLIER TESTING DOCUMENTS
FTC	FUNCTION TEST CERTIFICATE
GDE	GUIDE
IAI	INSPECTION ASSESSMENT INSTRUCTION
ITP	INSPECTION & TEST PLAN

CODE	DESCRIPTION
ITR	INSPECTION & TEST REPORT
NCR	NON-CONFORMANCE REPORT
POL	POLICY
PRO	PROCEDURE
PQS	SUPPLIER PRE-QUALIFICATION
QAN	QUALITY ALERT NOTICE
QSS	QUALITY SHOP SURVEY
WOI	WORK INSTRUCTION
DOCUMENT CONTROL	
DRF	DRAWING REQUEST FORM
PDM	PROJECT DISTRIBUTION MATRIX
TEM	TEMPLATE
ENGINEERING	
AEL	AUTHORISED ENGINEERS LIST
BOD	BASIS OF DESIGN
BOM	BILL OF MATERIALS
CAL	CALCULATION
CER	CERTIFICATE
CHT	CHART
COC	CERTIFICATE OF COMPLETION
CPK	CONSTRUCTION WORK PACK

CODE	DESCRIPTION
DEC	DESIGN CRITERIA
DAS	DATASHEET
EDQ	EQUIPMENT DATA QUESTIONNAIRE
ENM	ENGINEERING ANALYSIS MODEL
FLC	FLOWCHART
FRP	FORTNIGHTLY REPORT
HMS	HAZARDOUS MATERIAL SCHEDULE
HZR	HAZARD REPORT
IDX	INDEX
IOM	INSTALLATION AND OPERATIONS MANUAL
JOB	JOB BOOK / DOCUMENT INDEX
LST	LIST (E.G. EQUIPMENT, LINE TIE-INS, BATTERY LIMITS ETC.)
MAN	MANUAL
MAP	MAPS
MTX	MATRIX
MDL	MASTER DOCUMENT LIST
MDR	MANUFACTURER'S DATA REPORT
MRP	MONTHLY REPORT
MST	METHOD STATEMENT
MTO	MATERIAL TAKE OFF
PHI	PHILOSOPHY

CODE	DESCRIPTION
PLN	PLAN
REC	RECORD
REF	REFERENCE
REG	REGISTER
REQ	REQUISITION
RPT	REPORT
SCO	CONTRACT SPECIFICATION
SDL	SUPPLIER DOCUMENT / DRAWING LIST
SFT	SOFTWARE
SPC	SPECIFICATION
SRL	SUPPLIER REQUIREMENT LIST
SST	STANDARD SPECIFICATION
TEN	TECHNICAL NOTE /STUDY
TQR	TECHNICAL QUERY
VIP	VALUE IMPROVEMENTS
WRP	WEEKLY REPORT
DRAFTING (DRAWING TYPES)	
ALM	ALIGNMENT SHEET
APL	AREA PLAN
AMT	ARRANGEMENT
ASY	ASSEMBLY

CODE	DESCRIPTION
BLK	BLOCK DIAGRAM
CPT	CONCEPT DRAWING
CON	CONNECTION DIAGRAM
DES	DESCRIPTIVE
DET	DETAIL
DNG	DRAINAGE DRAWING
ELE	ELEVATION
FND	FOUNDATIONS
GAR	GENERAL ARRANGEMENT
HAZ	HAZARDOUS AREA
INS	INSTALLATION DETAIL
INC	INTERCONNECTION DIAGRAM
KEY	KEY DIAGRAM
LAY	LAYOUT
LSP	LIGHT & SMALL POWER
LOC	LOCATION PLAN
MAF	MANUFACTURER DRAWING
MAT	MATERIAL LIST
MOD	MODEL
NET	NETWORK DIAGRAM
OIN	OVERHEAD INSTALLATION

CODE	DESCRIPTION
ONE	OVERHEAD NETWORK
OSE	OVERHEAD SERVICES
PIP	PIPING SUPPORT DRAWING
PLA	PLAN
PFD	PROCESS FLOW DIAGRAM
PRF	PROFILE DRAWING
RAT	RATING DIAGRAM
RPL	ROUTE PLAN
SCD	SCHEDULE
SCH	SCHEMATIC DIAGRAM
SEC	SECTION DRAWING
SFD	SIGNAL FLOW DIAGRAM
SLD	SINGLE LINE DIAGRAM
SIP	SITE PLAN
SUT	SITE UTILISATION
SIW	SITE WORK
SKT	SKETCH
STW	STEELWORK DRAWING
SYS	SYSTEM FUNCTION DIAGRAM
TAB	TABLE
TER	TERMINATION DIAGRAM

CODE	DESCRIPTION
UIN	UNDERGROUND INSTALLATION
UNE	UNDERGROUND NETWORK
UGS	UNDERGROUND SERVICES
WID	WIRING DIAGRAM
CONSTRUCTION	
CIR	CONSTRUCTION INSPECTION REPORT
COS	CONSTRUCTION STRATEGY
FCN	FIELD CHANGE NOTICE
FIR	FIELD INSPECTION REPORT
FQY	FIELD QUERY
JSA	JOB SAFETY ANALYSIS
POB	PERSONS ON SITE REGISTER
SIN	SITE INSTRUCTION
SQR	SITE QUERY
COMMISSIONING	
CDR	DAILY REPORT
CMM	COMMISSIONING METHOD STATEMENT
CMS	COMMISSIONING MANAGEMENT SYSTEM GENERATED DOCUMENT
CPL	COMMISSIONING PUNCH LIST
CPS	COMMISSIONING PARAMETER SETTINGS
CRP	COMMISSIONING REPORT

CODE	DESCRIPTION
COM	COMMISSIONING PROCEDURE
CWP	COMMISSIONING / COMPLETIONS WORK PACK
DOS	COMMISSIONING DOSSIER
NOE	NOTICE OF ENERGISATION
OTP	OPERATION TEST PROCEDURE
TRN	TRAINING DOCUMENTS

APPENDIX F - DRAWING TITLE REFERENCES

FACILITY TYPE, EQUIPMENT TYPE OR SWITCHYARD AREA

Line TWO of the Title

DESCRIPTION	REMARK
ALARMS	SCHEMATICS
AUXILIARY POWER SUPPLIES	AC SUPPLIES & DISTRIBUTION
BUILDING	INTERNAL PLANS
BATTERY ENERGY STORAGE SYSTEM	
BUSBARS	DRAWINGS ASSOCIATED WITH RIGID BUSBARS
CIRCUIT BREAKERS	
CAPACITOR BANKS	
COUPLING CAPACITORS	
CONDUCTORS	
CIVIL	
CABLING	SCHEDULES & ACCESSORIES (INCLUDING SEALING ENDS)
CONSUMER MAINS	
CONNECTORS	INCLUDES TERMINAL PALMS, ADAPTOR PLATES & SPACERS
COMMUNICATIONS	INCLUDES PILOT WIRE SYSTEMS
CONTROL PANELS	MIMIC TYPE
CONTROL	SCHEMATICS
CABLE TRENCHES	

DESCRIPTION	REMARK
CURRENT TRANSFORMERS	
CURRENT & VOLTAGE TRANSFORMERS	COMBINED CT & VT
CABLE TRAYS	
DC SUPPLIES	
DEPOTS	
DISCONNECTOR	
DISTRIBUTION NETWORK	
DISTRIBUTION SUBSTATION	
DISTRIBUTION CONNECTION	
EARTHING	
EARTHING COMPENSATORS	
ELECTRICAL CONTROL ROOM	
EQUIPMENT ENCLOSURES	MARSHALLING BOX, FUSE BOX
ELECTRICAL	RESTRICTED USE
EARTH SWITCH	
FENCES	
FIRE PROTECTION	
GEOHERMAL FARM	
GENERAL	PROPERTY DETAILS ETC.
GENERATION SYSTEMS	
HYDRO FARM	

DESCRIPTION	REMARK
HYBRID GENERATION SYSTEMS	
HEAT RECOVERY SYSTEM	
HYRDOGEN POWER STATION	
INTERCONNECTION LINES	
INSULATORS	
INSULATOR SET HARDWARE	
LABELS	SCHEDULES AND DETAILS
LIGHTING	
LANDSCAPING	
LINE TRAPS	
MICROGRID	
METERING	
PROTECTION CUBICLE	ARRANGEMENT & WIRING DIAGRAMS
PROTECTION RACKS	ARRANGEMENT & WIRING DIAGRAMS
PROTECTION	SCHEMATICS
POWER STATION	
REACTORS	
ROADS	
RTU CUBICLE	
SWITCHBOARD	
SCADA	

DESCRIPTION	REMARK
SURGE DIVERTERS	
SERVICES	
SOLAR FARM	
SUSPENSION INSULATOR SET	
STANDALONE POWER SYSTEM	
SWITCHROOM	RELAY ROOM PANEL LAYOUTS
SUBSTATIONS AND SWITCHYARDS	FOR DRAWINGS SUCH AS ELEVATION AND LAYOUT OF BAYS
STRUCTURES	
SUPERVISORY	
SITE WORKS	EARTHWORKS, RETAINING WALLS, FEATURE WALLS ETC.
SWITCHYARD	
TENSION INSULATOR SET	
TIDAL FARM	
TRANSFORMERS	INCLUDES AUXILIARY & STATION TRANSFORMERS
TRANSMISSION LINES	
VOLTAGE TRANSFORMERS	
WIND FARM	
WATER SYSTEM	

APPENDIX G - TRANSMISSION LINE PREFIX

KRTDMP81-TL-EL-RPL-0001-01

Title	Line	Description	Drawing Prefix
AST - MDR 71	71	ANDERSON STREET SUBSTATION TO MURDOCH DRIVE SUBSTATION	ASTMDR71
AST - MNM 71	71	ANDERSON STREET SUBSTATION TO MOUNT NEWMAN MINING SUBSTATION	ASTMNM71
BUL - PCK 81	81	BULGARRA SUBSTATION TO PEGS CREEK SUBSTATION	BULPCK81
CBS - CLB 61	61	IPP - CAPE LAMBERT BULK SUPPLY TO CAPE LAMBERT SUBSTATION	CBSCLB61
KRT - CLB 81	81	KARRATHA TERMINAL TO CAPE LAMBERT SUBSTATION	CLBKRT81
SHT - CLB X1	X1	SOUTH HEDLAND TERMINAL TO CAPE LAMBERT SUBSTATION	CLBSHTX1
DBS - DMP 61	61	IPP - DAMPIER BULK HANDLING SUB TO DAMPIER SUBSTATION	DBSDMP61
DBS - DMP 62	62	IPP - DAMPIER BULK HANDLING SUB TO DAMPIER SUBSTATION	DBSDMP62
HDT - SHT X1	X1	HEDLAND TERMINAL TO SOUTH HEDLAND TERMINAL	HDTSHTX1
HDT - SHT X2	X2	HEDLAND TERMINAL TO SOUTH HEDLAND TERMINAL	HDTSHTX2
HDT - SWC 71	71	HEDLAND TERMINAL TO SOUTH WEST CREEK SUBSTATION	HDTSWC71
HDT - WFD 71	71	HEDLAND TERMINAL TO WEDGEFIELD SUBSTATION	HDTWFD71
HDT - WFD 72	72	HEDLAND TERMINAL TO WEDGEFIELD SUBSTATION	HDTWFD72
KRP - SHL 31	31	IPP - KARRATHA POWER STATION TO STOVEHILL SUBSTATION	KRPSHL31
KRP - SHL 32	32	IPP - KARRATHA POWER STATION TO STOVEHILL SUBSTATION	KRPSHL32
KRT - BUL 81	81	KARRATHA TERMINAL TO BULGARRA SUBSTATION	KRTBUL81

Title	Line	Description	Drawing Prefix
KRT - DMP 81	81	KARRATHA TERMINAL TO DAMPIER SUBSTATION	KRTDMP81
KRT - KTS 81	81	KARRATHA TERMINAL TO KARRATHA TEMPORARY SUBSTATION	KRTKTS81
KRT - PCK 81	81	KARRATHA TERMINAL TO PEGS CREEK SUBSTATION	KRTPCK81
KRT - SHL 81	81	KARRATHA TERMINAL TO STOVEHILL SUBSTATION	KRTSHL81
KRT - SHL 82	82	KARRATHA TERMINAL TO STOVEHILL SUBSTATION	KRTSHL82
MDR - GW 71	71	MURDOCH DRIVE SUBSTATION TO GOLDWORTHY SUBSTATION	MDRGW71
MDR - SRY 71	71	MURDOCH DRIVE SUBSTATION TO IPP - STRELLEY SUBSTATION	MDRSRY71
MDR - WFD 71	71	MURDOCH DRIVE SUBSTATION TO WEDGEFIELD SUBSTATION	MDRWFD71
MNM - WFD 71	71	MOUNT NEWMAN MINING SUBSTATION TO WEDGEFIELD SUBSTATION	MNMWFD71
SHP - SHT 31	31	IPP - SOUTH HEDLAND POWER STATION TO SOUTH HEDLAND TERMINAL	SHPSHT31
SHP - SHT 32	32	IPP - SOUTH HEDLAND POWER STATION TO SOUTH HEDLAND TERMINAL	SHPSHT32
SHP - SHT 33	33	IPP - SOUTH HEDLAND POWER STATION TO SOUTH HEDLAND TERMINAL	SHPSHT33
SHP - SHT 34	34	IPP - SOUTH HEDLAND POWER STATION TO SOUTH HEDLAND TERMINAL	SHPSHT34
SWC - WFD 71	71	SOUTH WEST CREEK SUBSTATION TO WEDGEFIELD SUBSTATION	SWCWFD71

APPENDIX H - LEGACY NUMBERING

H.1 SOUTH HEDLAND DRAWING NUMBERING SCHEME

This appendix is for reference only. South Hedland and Hedland Projects used this version of drawing numbering to conform to past practice.

Drawing numbering structure:

AAA	AA	A	XNNNN	NN
PART 1	PART 2	PART 3	PART 4	PART 5

These parts are identical to the current standard described in section 3, with the exception of part 4 of the number:

Part	Format	Description	
4	XNNNN	Determines both the use and the sequential number of the drawing or document.	
		X (1 character)	The first number or character classifies the primary type or use of the document
		NNNN (4 characters)	The following four numeric characters capture the orderly recording of the item for classification. This sequential number cannot start at 000, the sequential numbering must start with 001.

H.2 EXISTING DRAWING NUMBERING (INCLUDING WESTERN POWER)

This appendix is for reference only. Existing drawings across different locations use this version of drawing numbering to conform to past practice.

Drawing numbering structure:

Table 1 Drawing numbering structure

AAA	AA	A	XNNN	NN
PART 1	PART 2	PART 3	PART 4	PART 5

Explanation of Drawing Numbering Parts

Part	Format	Description
1	AAA (3 characters)	The location code of the site.
2	AA (2 characters)	Determines the primary area within the location that the drawing or document is most appropriate

Part	Format	Description	
3	A (1 character)	Classifies the primary discipline relating to the drawing or document	
4	XNNN	Determines both the use and the sequential number of the drawing or document.	
		X (1 character)	The first number or character classifies the primary type or use of the document
		NNN (3 characters)	The following three numeric characters capture the orderly recording of the item for classification. This sequential number cannot start at 000, the sequential numbering must start with 001.
5	NN (2 characters)	Indicates the sheet number, or '01' for drawings with only one sheet.	

- MRO-CM-K-7002-01

This example indicates that the drawing is for Murchison Radio Astronomy power station (MRO), the facility is communication system (CM), the discipline is controls or SCADA (K). The sequential number starts with '7', so it is a schematic diagram. The remainder of numbers are determined by the project.

- YGA-BU-S-3003-01

This example indicates that the drawing is for Yungngora community (YGA), the facility is buildings (BU), the discipline is structural (S). The sequential number starts with '3', so it is a general arrangement drawing. The remainder of numbers are determined by the project.

PART 2: FACILITY		
AA	Facility	
RG	Renewable Generation Systems	Wind Turbines
		Solar Systems
		Hydro Turbines
		Tidal Systems
		Geothermal
SB	Switchboards, Switching Equipment, Associated Equipment	
SE	Stored Energy System	
SI	Site Overall	
SS	Substations and Switchyards	Control Room Areas
		Switchroom
		Transformers
TL	Transmission Lines	Overhead
		Underground
TN	Transmission Network Single Line Diagrams	
WS	Water Systems	
WW	Wastewater System	

PART 3: DISCIPLINE	
A	Discipline
C	Civil
D	Communications
E	Electrical
G	General
H	Hazardous Areas

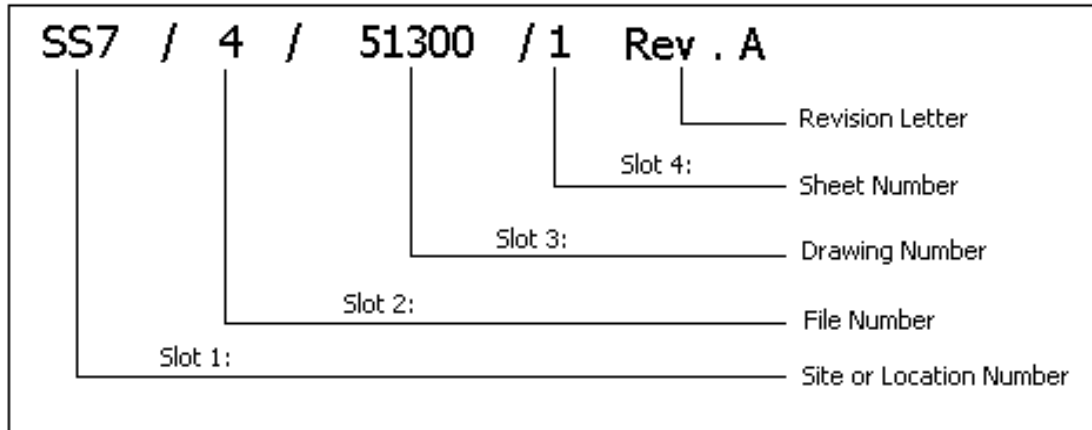
PART 4: SEQUENCE	
X	Drawing Type
1	Connectivity Diagram (Line, Process, System, Protection, etc.)
2	Fabrication / Manufacturing / Installation / Detail
3	General Arrangements (Site, Switchboard, Hazardous Areas, Equipment, Services, Environmental, Heritage, etc.)
4	Layouts (Panels, Switchboards, Building, Equipment, etc.)
5	Process Diagrams (P&ID)
6	Schedules / Lists (Materials, Equipment, Cables, Signage, etc.)
7	Schematic Diagram
8	Wiring / Termination / Connection Diagrams

PART 5: SHEET
NN

APPENDIX I - WESTERN POWER LEGACY DRAWING NUMBERING STANDARD

WESTERN POWER TRANSMISSION SUBSTATIONS DRAWING NUMBERING SYSTEM

Summarised here for reference, Horizon Power interim standard



Slot 1:

Location number (as per the current scheme)

Slot 2:

File numbers, which have the following designations for 6 and 132 kV:

- 1 civil drawings
- 2 structures and buildings
- 3 substation electrical arrangements and earthing drawings
- 4 relay room equipment, layouts and material lists
- 5 schematic diagrams, key diagrams
- 6 termination and wiring diagrams
- 7 fire protection and alarms
- 8 cable schedules
- 9 ePlan drawings (CAE package combining 4,5,6 and 8)

File numbers are offset for voltages other than 132 and 66 kV:

- 11 – 19 330 kV
- 21 – 29 33, 22, 11 and 6.6 kV
- 31 – 39 220 kV
- 10 Across all Voltages

Slot 3:

Indicates the drawing number allocated to the particular drawing within the file. Civil Defined Drawings are located in File Number 1

Structural Defined Drawing Numbers are located in File Number 2. Primary Defined Drawing Numbers are located in File Number 3. Secondary Defined Drawing Numbers are located in File Number 4,5,6 and 8.

Slot 4:

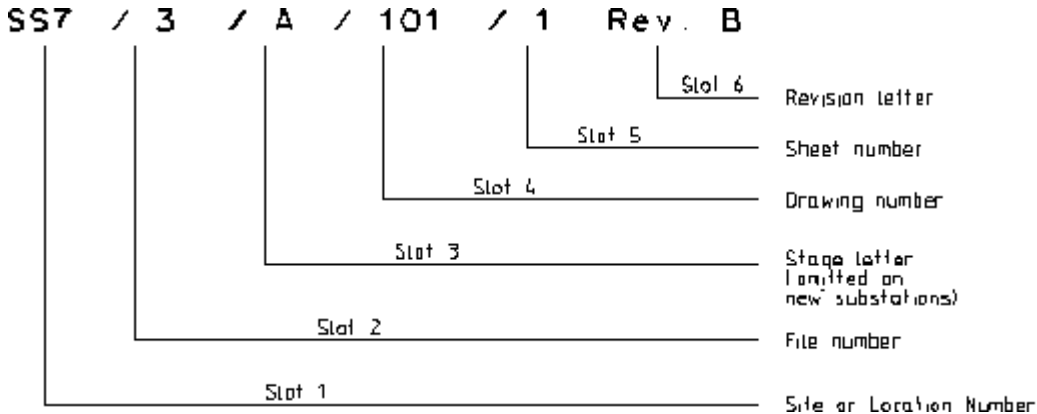
Indicates the sheet number of the drawing where the drawing consists of more than one sheet. The digit 1 is shown even if the drawing consists of only 1 sheet.

Revision letter:

All new Approved for Construction drawings are to take on an 'A' Revision for first issue, while for existing drawings the next available alphanumeric revision is to be used. Note: As per Australian Drafting standards, I and O Revisions are not permitted for use

WESTERN POWER LEGACY NUMBERING

This numbering scheme was used by Western Power prior to August 2007.



Slot 1:

Site or Location number (as per the current scheme)

Slot 2:

The file number for that site

1 - 10 132kV & 66kV

11 - 20 330kV

21 - 30 33kV, 22kV, 11kV & 6.6kV

31 - 40 220kV

Within those files:

- 1) Site Plans, Foundations, Roads, Fencing and Landscaping (excluding Building Foundations).
- 2) Structures and Buildings (includes Building Foundations).
- 3) Substation Electrical Arrangement and Earthing Drawings and Details.
- 4) Relay Room Equipment, Layouts and Material Lists.
- 5) Schematic Diagrams, Key Diagrams.
- 6) Wiring Diagrams.
- 7) Supervisory and Telemetry Schematic and Wiring Diagrams (for equipment other than covered by the appropriate TTS./ drawings)
- 8) Cable Schedules
- 9) Design and Construction Programs and Site Drawing Index Sheets.
- 10) Site Utilisation and Planning (All Voltage Levels)

Slot 3:

The stage letter for the project. This is normally A but in the case of redevelopment of an existing substation or in the case of developing a further substation of the same voltage on the same site a subsequent stage letter may be used. Note: As the stage letter is now redundant it shall be omitted for new substations.

Slot 4:

The sequential drawing number allocated to the particular drawing within the file.

Slot 5:

The sheet number of the drawing where the drawing consists of more than one sheet. The digit 1 is shown even if the drawing consists of only 1 sheet.

Slot 6:

The revision letter of the particular drawing sheet.