Specification – LV Power Cables

Standard Number: HPC-8DJ-03-0003-2012

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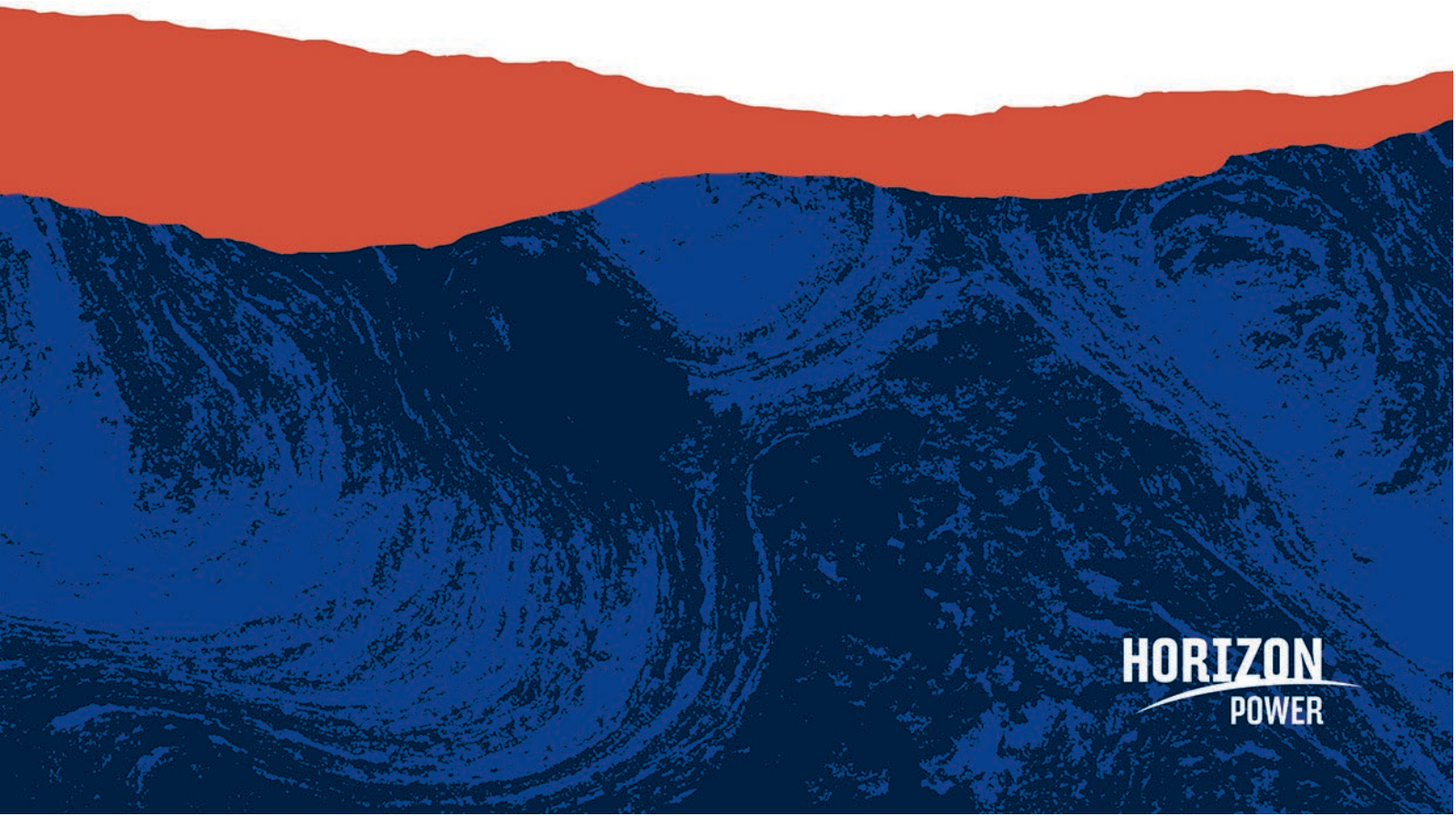

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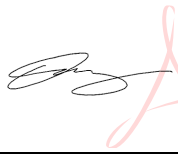
Revision 4 Author	**Name:** Oliver Blakeley **Position:** Intern Standards & Plant Engineer		Digitally signed by Paul Savig Date: 2026.02.13 08:19:25 +08'00'
Reviewed By	**Name:** Paul Savig **Position:** Senior Standards & Plant Engineer		Digitally signed by Paul Savig Date: 2026.02.13 08:19:38 +08'00'
Endorsed By	**Name:** Johnathan Choi **Position:** Standards and Plant Manager		Digitally signed by Johnathan Choi Date: 2026.02.13 10:33:03 +08'00'
Approved By *	**Name:** Victor Cheng **Position:** Senior Manager Engineering and Project Services		Digitally signed by Victor Cheng Date: 2026.02.13 16:27:25 +08'00'
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** Shall be the Process Owner and is the person assigned authority and responsibility for managing the whole process, end-to-end, which may extend across more than one division and/or functions, in order to deliver agreed business results.*

*** Frequency period is dependent upon circumstances– maximum is 5 years from last issue, review, or revision whichever is the latest. If left blank, the default shall be 1 year unless otherwise specified.*

Revision Control		
Revision	**Date**	**Description**
4	13/02/2026	Updated to new template and updated changes from standards.

STAKEHOLDERS *The following positions shall be consulted if an update or review is required:*	
Senior Manager – Engineering & Project Services	Senior Manager – Asset Services
Senior Manager – Energy Planning	Senior Manager – System Operations
Head of People and Safety	Senior Manager – Project Delivery

Table of Contents

1. Scope

This specification covers Horizon Power's requirements for the supply and testing of low-voltage distribution and service power cables used on AC systems up to and including 0.6/1(1.2) kV.

Tests prescribed will evaluate the performance of these cables and shall comply with this specification.

NOTE: Submersible cables are not included as part of this specification.

Approval in terms of this specification shall be obtained by one or a combination of the following:

a) successful completion of the appropriate tests required by this specification by an independent and accredited test authority.
b) provision of test certificates from an independent and accredited test authority based upon an alternative specification, with test requirements at least equivalent to this specification.

NOTE: Verification of accreditation of the test authority shall be provided by NATA (National Association of Testing Authorities) accredited test house or by a test house possessing accreditation from a NATA MRA (Mutual Recognition Agreement) partner.

2. Normative References

2.1 Standards

2.1.1 Horizon Power Standards

[1]. *Horizon Power Environmental Conditions*, standard number HPC-9EJ-01-0001-2013, available at http://horizonpower.com.au/contractors-suppliers/contractors/manuals-and-standards/ under the 'Standards' heading.

[2]. *Technical Rules HPC-9DJ-01-0001-2012, available at* http://horizonpower.com.au/contractors-suppliers/contractors/manuals-and-standards/*under the 'Technical Rules' heading.*

2.1.2 Australian Standards

The following standards are available at http://www.intertekinform.com/.

[3]. *AS/NZS 1125:2001 (Amdt 1:2004, R2017), Conductors in insulated electric cables and flexible cords, Standards Australia*

[4]. *AS/NZS 1660.2.1:1998 (Amdt 1:2001, R2017), Test methods for electric cables, cords and conductors. Method 2.1: Insulation, extruded semi-conductive screens and non-metalic-sheaths – Methods for general application*

[5]. *AS/NZS 2857:1996, Timber drums for insulated electric cables and bare conductors*

[6]. *AS/NZS 3808:2025, Insulating and sheathing materials for electric cables*

[7]. *AS/NZS 4961:2003, Electric Cables – Polymetric insulated – For distribution and service applications*

[8]. *AS/NZS 5000.1:2005 (Amdt 1:2006, R2017), Electric cables – Polymetric insulated. Part 1: For working voltages up to and including 0.6/1 (1.2) kV*

2.1.3 International Standards

The following standards are available at http://www.intertekinform.com/.

[9]. *IEC 60812:2018, Analysis techniques for system reliability—Procedure for failure mode and effects analysis (FMEA), International Electrotechnical Commission*

2.1.4 Compliance With Standards

Various Standards are referenced in this Specification. The Standards have reference to the year they were published. If over the life of the Tender the Standards change, the Vendor is required to conform to the new edition of the Standard.

Unless otherwise specified herein, the Equipment shall be designed, manufactured and type and routine tested in accordance with the referenced Australian Standards, including all amendments. Where there is no Australian Standard equivalent, International Standards or Codes as defined in this specification shall be used. The specified documents contain provisions that, through reference in the text, constitute requirements of this Specification. At the time of publication of this Specification, the editions indicated were valid. Information on currently valid national and international standards may be obtained from the Australian Standards website – http://www.intertekinform.com/.

2.2 Definitions and Abbreviations

For the purposes of this specification the following definitions apply:

2.2.1 Definitions

***Equipment*:** means cable in relation to this specification.

Nominal Voltage: according to AS/NZS 4961 [7] cables are specified as **U_0/U (U_m)** where:

a) **U_0** is the cable nominal voltage between the conductor and the metal covering or earth;

b) **U** is the cable nominal voltage between the phase conductors, for 3-phase $U = \sqrt{3}U_0$; and

c) **U_m** is the maximum permissible voltage.

This defines the voltages of cables and wires, by which the construction and the tests in respect of electrical characteristics are to be referred.

2.2.2 Abbreviations

AC: Alternating Current

AS: Australian Standard

LV: Low Voltage < 1000 volts

MRA: Mutual Recognition Agreement

NATA: National Association of Testing Authorities, Australia

PVC: Polyvinyl Chloride

XLPE: Cross-linked polyethylene

2.3 Drawings

The drawings listed below form part of this specification, See Appendix I:

1) HPA-SD-E-01011 (LV 1C Power Cable)
2) HPA-SD-E-01012 (LV 3C Power Cable)
3) HPA-SD-E-01013 (LV 1C Service Cable)
4) HPA-SD-E-01014 (LV 3C Service Cable)

3. Requirements

3.1 Power System Particulars

The *Equipment* shall be suitable for continuous connection to a power system with the characteristics covered by this Section.

3.1.1 Rated Voltages

The rated voltages U_o/U (U_m) of the cables considered in this specification shall be as specified in AS/NZS 4961 [7].

3.1.2 Design Fault Levels

The maximum design fault current is 31.5 kA rms / 1 second, as per the technical rules [2].

Please note that this not applicable to service connection cables.

3.1.3 Maximum Conductor Temperatures

The cables shall be suitable for use with conductor temperatures specified in AS/NZS 4961 [7] for normal operation and under fault conditions.

3.1.4 Nominal System Frequency

The nominal system frequency is 50 Hz.

3.1.5 System Insulation Levels

The system Basic Impulse Insulation Levels (BIL) are as follows:

Table 1: System Insulation Levels

Nominal System Voltage (kV $_{rms}$)	System Highest Voltage (kV $_{peak}$)	Lightning Impulse withstand Voltage (kV $_{peak}$)	Power Frequency withstand Voltage (kV $_{peak}$)
Up to 1 kV	1.0	6	2.5

3.2 Service Conditions

3.2.1 Environmental Conditions

The performance of the *Equipment* must meet the requirements set out in Section 4.1 of the *Horizon Power Environmental Conditions [1]*.

3.2.2 Operating Conditions

Table 2: Operating Conditions of Cables

Condition	Requirement
Soil Condition	Waterlogged with up to 2 m head of water
Depth of Laying	850 mm measured from ground surface to top of a cable/trefoil or duct.

3.3 Description of Cable

Cables shall have a method of identification for asset management purposes i.e. a means of capturing batch information for traceability of any future problems with the cables. Full details of the application of the identification marking and method to read or retrieve the information shall be provided with the submission. The identification marking shall be indelible and difficult to remove from the cable.

3.4 Materials and Construction

Cable sizes used by Horizon Power are captured in Appendix F.

3.4.1 General

Cables shall be in accordance with the following standards:

1) Distribution cables (excluding 400 mm^2) shall comply with AS/NZS 4961 [7], Section 3 – XLPE Insulated Waveform Concentric Wire Neutral Cables;
2) Distribution 400 mm^2 single core cables shall comply with AS/NZS 5000.1 [8]; and
3) Service cables shall comply with AS/NZS 4961 [7], Section 2 - XLPE Insulated Neutral Wire Screened Cables.

3.4.2 Cable Construction

Cable construction:

1) Distribution cables three-core shall have solid aluminium shaped conductor laid-up helically, XLPE insulated, wavewound stranded copper neutral screen, PVC/Insect Protection sheathed;
2) Distribution 400 mm^2 single-core cables shall have stranded copper shaped conductor, XLPE insulated, PVC/Insect Protection sheathed; and
3) Service cables shall have all stranded copper circular shaped conductor laid-up with fillers, XLPE insulated helical stranded copper neutral screen, PVC/Insect Protection sheathed.

3.4.3 Core Conductor

Core conductors shall be in accordance with AS/NZS 4961 [7] and AS/NZS 5000.1 [8], with:

1) Distribution cable consisting of three-core 120 mm^2 and 240 mm^2 and single-core 400 mm^2 conductor sizes as stated in Appendix F; or
2) Service cable consisting of single-core 16 mm^2 and three-core 25 mm^2 conductor sizes as stated in Appendix F.

3.4.4 Insulation

3.4.4.1 Material

The insulation material shall be X-90 in accordance with AS/NZS 3808 [6].

3.4.4.2 Thickness

The minimum thickness shall be determined in accordance with AS/NZS 1660.2.1 [4] where the minimum thickness at any point shall not be less than 10 percent of specified thickness in Table 3.

Table 3: Insulation Thickness

Cable	Insulation Thickness
Distribution cables (three-core)	AS/NZS 4961 [7], Table 3.2
Distribution cables (400 mm^2 single-core)	AS/NZS 5000.1 [8], Table 1
Service cable	AS/NZS 4961 [7], Table 2.3

3.4.4.3 Core Identification

Core identification of power cables shall be as indicated in Table 4, in accordance with AS/NZS 4691 [7].

Table 4: Core Identification

Cable	Colours of Cores
1 core	Red
3 core	Red, White (or uncoloured), Blue

3.4.5 Core Lay

Core lay of power cables shall be as indicated in Table 5, in accordance with AS/NZS 4691 [7].

Table 5: Core Lay

Cable	Lay
1 core distribution cable	Single core no lay/filler
3 core distribution cable	Three cores, laid up helically with right-hand direction of lay with bedding
1 core service cable	Single core no lay/filler
3 core service cable	Three cores, laid up helically with fillers

3.4.6 Binder Tape

Non-metallic binder tape shall be applied over laid-up cores with a gap and shall be compatible with other materials of the cable with which it is in contact, in accordance with AS/NZS 4691 [7].

3.4.7 Bedding/Fillers

The bedding/fillers where used, shall be appropriately applied to completely fill the space between the cores and ensure the cable is circular in cross section, in accordance with AS/NZS 4691 [7] and AZ/NZS 5000.1 [8].

3.4.8 Screen/Waveform Concentric Wire Neutral Conductor

The construction details for the screen and neutral conductor can be found in Table 6, whilst the material used for the wires be in accordance with AS/NZS 1125 [3].

Table 6: Construction

	Distribution Cable (excluding 400 mm^2 single-core)	**Service Cable**
Material	Annealed copper wires, diameter as per Table 3.2 of AS/NZS 4961 [7], waveform-lay applied and uniformly distributed see Section 3.8.2 of AS/NZS 4961 [7]	Annealed copper wire, helically applied and uniformly distributed over core/s see Section 2.7.1 of AS/NZS 4961 [7]
Resistance	As per Table 3.2 of AS/NZS 4961 [7]	≤ the maximum allowable resistance of largest conductor see Section 2.7.2 of AS/NZS 4961 [7]
Formation	See Section 3.8.2 of AS/NZS 4961 [7]	See Sections 2.7.3 and 2.7.4 of AS/NZS 4961 [7]

3.4.9 Sheath

3.4.9.1 Material

The insulation material shall be PVC, V-90 in accordance with AS/NZS 3808 [6].

3.4.9.2 Thickness

The average thickness shall be determined in accordance with AS/NZS 1660.2.1 [4] of specified thickness in Table 7 below:

Table 7: Sheath Thickness

Cable	**Sheath Thickness**
Distribution cables (three-core)	AS/NZS 4961 [7], Table 3.2
Distribution cables (single-core)	AS/NZS 5000.1 [8], Section 13
Service cable	AS/NZS 4961 [7], Table 2.3

The sheath shall contain a minimum of 2% carbon black for all cables, in accordance with AS/NZS 3808 [6].

The Vendor shall specify the:

1) resistance to corrosion; and
2) permeability to water

of the sheath.

NOTE: The colour orange shall be within the range of colours described by RAL colour standards 2003, 2004, 2005, 2007, 2008, 2009, 2011. Variations in colour intensity are expected and shall not be a reason for rejection.

3.4.10 Cable Markings

The outer sheath shall be indelibly marked:

1) By dual embossing (approximately diametrically opposed lines for distribution power cables) and single line embossing (for service cables) at intervals of not more than 500 mm showing:
   a) Manufacturer's name;
   b) Place of manufacture;
   c) Voltage rating;
   d) Phase conductor size and material;
   e) Designation of insulation (i.e. X-90);
   f) Batch Number; and
   g) The words "CWN ELECTRIC CABLE" (for Distribution Power) and "NS ELECTRIC CABLE" (for Service).
2) Additionally, in a single line, at intervals of one metre there shall be at least three sets of the following marking in a contrasting colour equally spaced as practicable within the one metre interval:
   a) Week and year of manufacture e.g. 07/2008 for the 7th week in year 2008; and
   b) Where relevant, a minimum of 3-letter identification for cable as having protection from insect attack i.e. DBT for double brass tape or TCD for termicide.
3) Metre marking, e.g. <018M> representing 18 -metres, shall be provided on the cable in a contrasting colour.

All of these sheath markings shall comply with the requirements of AS/NZS 4961 [7] except that the minimum height shall be 5 mm.

Example of cable marking on outer sheath of the cable with protection from insect attack (double brass tape) for a 1 m interval shall be as shown below, as appropriate:

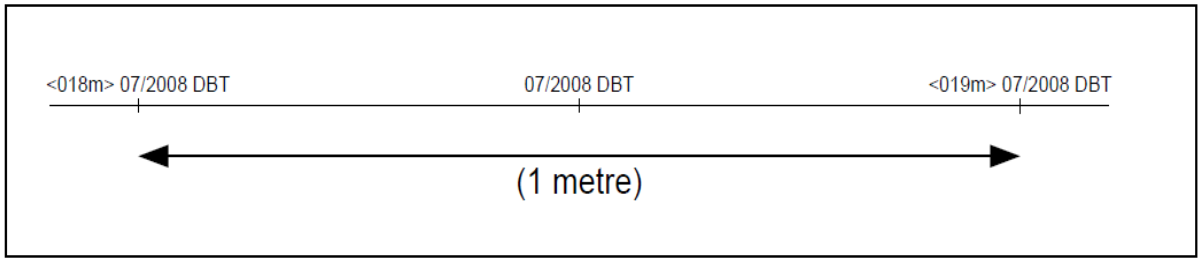


Figure 1: Cable Marking

3.4.11 Protection from Insect Attack

Protection from insect attack shall be provided in the form of one, or a combination of the following options:

1) Double Brass Tape (Preferable)

   Where double brass tape is provided, it shall consist of two overlapping layers of tape having the same width, helically applied. The layers shall be applied such that:

   a) A nominal design gap of 25% is maintained between consecutive helical windings on each of the layers;

   b) The top layer shall be centrally applied over the design gaps of the bottom layer;

   c) The double brass tape be applied directly over the X-90 insulating sheath and covered by an outer sheath of PVC material containing a minimum of 2% carbon black;

   d) For LV Distribution Power Cable - The minimum average thickness of PVC shall be 1.8 mm; and

   e) LV Service Cable - The minimum average thickness of PVC shall be 1.5 mm for two conductor cables and 1.8 mm for four conductor cables.

2) Chemical Protection

   Where chemical protection is offered, it shall be incorporated into an outer sheath comprising of PVC material which contains a minimum of 2% carbon black.

   Unless the use of the chemical has been approved at the time of issue of this specification, the Vendor shall provide the following information:

   a) Material safety data sheet;

   b) Test reports refer to Appendix H Schedule E;

   c) Letter of approval from an authorised environmental representative;

   d) Indication of the period the chemical will remain effective;

   e) Limits or restrictions imposed on the installation of chemically treated cables; and

f) Explanation in the manner/mechanism by which the chemical functions to protect the cable from insects.

3.5 Cable Length

Cables shall be supplied in drum lengths of 250 m as a minimum unless otherwise indicated in Appendix F.

3.6 Cable Bending Radius

The Vendor shall provide the minimum bending radius for the installing and setting of cables in Appendix C Schedule B.

3.7 Cable Pulling Tension

The Vendor shall provide the maximum pulling tension for cables offered in Appendix C Schedule B.

3.8 Cable-end Sealing

Cables shall be free of water or corrosion at the time of dispatch from the manufacturer's premises.

All cable ends shall be sealed to prevent moisture ingress. This shall seal the individual layers of the cable construction from one another to avoid water transfer to the conductor strands in the event of damage to the outer sheaths.

Vendors shall provide full details of the method used for sealing the cables ends with the tender documentation.

4. Cable Drums

4.1 Timber Drums

Cable drum reels shall be constructed generally in accordance with the requirements of AS/NZS 2857 [5].

Nominal drum dimensions shall be in accordance with Table 3.1 of AS/NZS 2857 [5] and as extended in range by the table in Appendix G (Note actual drum dimensions may vary slightly from those listed in Appendix G and in such cases the requirements of the closest nominal size shall prevail meeting the requirements of Appendix F). Maximum flange diameter acceptable is 2.45 m. Barrel supports shall be provided as per Section 3 of AS/NZS 2857 [5].

When lagging is required, battens shall be secured with steel tape banding adjacent to each flange and secured with nails or staples that will not protrude through the battens. Banding shall be painted or galvanized and shall be no less than 0.65 mm thick and 32 mm wide.

Cable drums shall be suitably lagged with timber for transportation, either by rail, road or ship. They shall give complete protection from damage to the cable during transit.

Cable ends shall be securely affixed to the drum flange to prevent them from being dislodged. Any cable ends that project from the drum flanges shall be adequately protected against mechanical damage during transport and storage.

4.2 Drum Marking

Drums shall be clearly stencilled with the following information:

1) Manufacturers name;
2) Manufacturers drum traceability number;
3) Week and Year of manufacture;
4) Appropriate identification/information of the cable in the form of:
    a) Number of cores, phase conductor size and material
    b) Designated voltage expressed in the form of U_o/U
    c) Insulation, sheath and other protective covering materials
    d) Where the cable is metre marked, the start and finish numbers of the cable's metre marking
5) Batch Number
6) Total gross weight of cable, drum and lagging;
7) Arrow to indicate direction of rotation of the drum marked with the words "ROLL THIS WAY";
8) Directions to indicate correct methods of lifting and transporting cable drums;
9) Specification Number;
10) Stock number;
11) Order number; and
12) Length of cable.

5. Storage

All drums shall be suitable for outdoor storage for a temperature range of -10 °C to + 45 °C for at least 24 months under the environmental conditions of Section 4.1 of the *Horizon Power Environmental Conditions* [1].

6. Reliability

Vendors shall comment on the reliability of the *Equipment* and the performance of the materials offered over an **operational life of 65 years** under the specified field of application and conditions of service.

Information provided shall evidence the claimed reliability and performance for the *Equipment* offered, including information on Failure Mode and Effect Analysis, carried out in accordance with IEC 60812 [9]. Failure modes should be described; taking cantilever mechanical failure as an example, the failure may be excessive deflection, or brittle fracture. Electrical failure may be material damage such as puncture, polymer degradation, carbonisation, loss of hydrophobicity, etc.

Vendors may offer their standard *Equipment* but any variation to the foregoing standards must be clearly stated in writing at the time of the proposal. The products offered in the standing offer should be equal to or better in quality and performance than the existing items as listed under this Specification.

7. Safety

Material Safety Data Sheets (MSDS) applicable for each different *Equipment* or chemical ingredient in the *Equipment* which is considered harmful to personnel or environment in any manner, shall be supplied with the Proposal.

8. Environmental Considerations

Vendors shall provide information on the environmental soundness of the design and the materials used in the manufacture of the *Equipment* offered. Vendors shall provide a detailed outline of the steps that have been put in place to fulfil any obligations that may be required pursuant to the *Waste Avoidance and Resource Recovery Act 2001* and any amendments. In particular:

1) Management of waste reduction
2) The use of re-usable packing
3) Extended producer responsibility for the safe disposal of materials at the end of their life

9. Tests

9.1 Test Requirements

The Vendor shall, prior to first Delivery, complete the type, routine, sample and special tests and inspections as required by the relevant Australian Standards including AS/NZS 4961 [7] and AS/NZS 5000.1 [8].

The passing of such tests shall not prejudice the right of Horizon Power to reject the cable if it does not comply with the Specification when installed.

The Vendor shall advise Horizon Power if there is any change in the composition of the material and/or processed used to manufacture the cables. Any cables supplied without changes being approved will be deemed as non-conforming.

9.2 Test Certificates

At the time of submitting the offer on the tender, single copies of test certificates, in English, shall be provided and shall be clearly marked and contain a reference number. If all the required test certificates are not submitted the tender will be rated incomplete and may not be considered.

Electronic copies of type test certificates shall be arranged in the order set out in this Specification and shall be marked clearly with the identifier and description in the contents Section. Any extra test certificates shall be marked with “extra tests” and kept separate from the required test certificates.

All test certificates shall be submitted in electronic form and Adobe Acrobat (.pdf) format.

9.3 Type Tests

A representative selection of cables shall be Type tested in accordance with this specification and the relevant Australian Standards. Horizon Power reserves the right to witness Type Tests and shall be given advance notice by the Vendor to be available to witness such tests.

Certified type test results shall be submitted with the Proposal, these type tests shall include those outlined in AS/NZS 4961 [7] and AS/NZS 5000.1 [8]. The Vendor shall, in their evaluation submission, state which tests the *Equipment* have passed.

9.4 Routine and Sample Tests

9.4.1 Routine

Routine tests are intended to eliminate defective *Equipment* and shall be carried out during the manufacturing process. Routine tests shall be carried out on every *Equipment* and should not consist of visual examination only, these routine tests shall include those outlined in AS/NZS 4961 [7] and AS/NZS 5000.1 [8].

The Vendor shall supply duly certified copies of the routine tests performed on the *Equipment* to Horizon Power, either prior to or upon delivery.

9.4.2 Sample

Sample tests must be carried out on every completed cable drum, these sample tests shall include those outlined in AS/NZS 4961 [7] and AS/NZS 5000.1 [8].

The Vendor shall supply duly certified copies of the routine tests performed on the *Equipment* to Horizon Power, either prior to or upon delivery.

10. Documentation and Samples

10.1 Documentation to be provided with Proposals

Submitted proposals shall provide all documentation and information as requested in this specification, including any further relevant information on the *Equipment* offered. The proposal must be complete in all respects. Failure to comply may cause the proposal to be considered incomplete and hence informal.

The vendor shall provide an electronic version of all documents in Adobe Acrobat (.pdf) format containing the information detailed below with their offer:

- Any non-compliance of the Specification shall be detailed in the Technical Deviation schedule;
- All information provided in Technical Requirements shall be in English and measurement units shall be in metric units;
- Material Safety Data Sheets;
- CAD drawings (Micro station preferred DGN format) of all *Equipment* showing all critical dimensions;
- *Equipment* data sheets showing the weight, material type, protective coatings, mechanical & electrical properties (Combined Load Charts shall be included);
- Installation instructions included in the packaging; and
- A copy of the Vendor's current Quality Assurance accreditation and category.

Should the preferred vendor submit drawings for approval by Horizon Power, this will in no way exonerate it from being responsible for the correct and proper function of the *Equipment*.

10.2 Service History

Vendors shall state:

- Other Australian electricity supply authorities who have a service history of the items offered; and
- Contact details of those supply authorities who can verify the service performance claimed.

10.3 Training Materials

Training material in the form of drawings, instructions and/or audio-visuals must be provided for the items accepted under the offer

Vendors shall state the availability of training materials which could include but is not limited to the following topics:

- Handling and storage;
- Application (particularly in areas of heavy coastal pollution);

- Installation;
- Maintenance;
- Environmental performance;
- Electrical performance;
- Mechanical performance;
- Disposal at the end of service life; and
- Production process and testing.

10.4 Samples

Samples of all proposed *Equipment* types are to be provided upon request of Horizon Power as part of the submitted proposals.

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.

A comment sheet found in **DM# 1792895**, can be used to record any errors or queries found in or pertaining to this standard. This comment sheet will be referred to each time the standard is updated.

Date	Rev No.	Notes
11/10/2013	1	Draft for peer review
17/02/2016	2	Changed technical requirements for 630 mm² cables: - Relevant Standard changed to AS/NZS 5000.1 - Cable construction without neutral screen - Table 5, Insulation Thickness - Table 9, Sheath thickness, - Clause 3.4.2, 3.4.9 and Appendix C – Sheath material changed to PVC Removed environmental conditions and referenced HP standard HPC-9EJ-01-0001-2013
12/08/2012	3	Updated to new template Updated standards Removed points that were repeated from AS/NZS 2857 Removed 10mm Cables Removed Nylon as termite protection
13/02/2026	4	Updated to new template and updated changes from standards. Removed 630mm^2 cables and replaced with 400mm^2 Removed 185mm^2 cables Removed specifications for steel cable drums Updated HPA-SD-E-01011-01 Drawing Updated HPA-SD-E-01012-01 Drawing Updated HPA-SD-E-01013-01 Drawing Updated HPA-SD-E-01014-01 Drawing

APPENDIX B. QUALITY ASSURANCE (TO BE COMPLETED BY STORES)

DOCUMENT NUMBER	HPC-8DJ-03-0003-2012			**QUALITY ASSURANCE**		**DM NUMBER**		
DEVICE DESCRIPTION	**LABEL MATERIAL NO.**			**LV POWER CABLE PURCHASE**		**ASSET OWNER**		
	ASSET ID/ STOCK NO							
MANUFACTURER		**DIMENSION**						

ITEM	OPERATION/EQUIPMENT/FACILITY	DOCUMENT REF.	WHO CHECKS	INITIAL	DATE/ TIME	QUALITY ASSURANCE CRITERIA	PASS Y/N	COMMENTS
1	DRUM LABELLING							
1.1	Name of Manufacturer					*******		
1.2	Week & Year of Manufacture					*******		
1.3	Manufacturer Drum Trace Number					*******		
1.4	Cable Information							
1.4.1	Number of Cores/Phase conductor size/Material					*******		
1.4.2	Rated Voltage					0.6/1 kV		
1.4.3	Insulation/Sheath/Protective Covering Materials					*******		
1.4.4	Cable Metre Mark/Start & Finish Numbers					*******		
1.4.5	Batch Number					*******		
1.4.6	Termite/Water Protection					*******		

1.5	Gross Weight Cable/Drum & Lagging					*******		
1.6	Arrow (ROLL THIS WAY)					*******		
1.7	Directions for Lifting and Transport					*******		
1.8	Specification Number					*******		
1.9	Stock Number					*******		
1.10	Order Number					*******		
1.11	Length of Cable					*******		
2	DOCUMENTATION							
2.1	Installation Instructions					Clear, Legible and in English		
2.2	Material Safety Data Sheets					Clear, Legible and in English of Chemical Protection		
2.3	Test and Inspection Reports					As per Standards referenced in the specification.		

SYMBOLS AND ABBREVIATIONS								
H = HOLD POINT	S = SUPERVISOR							
W = WITNESS POINT	T = TECHNICIAN, EL = ELECTRICIAN	REVISION						
V = VERIFICATION POINT	E = ENGINEER	DATE						
S/C = SUBCONTRACTOR	PM = PROJECT MANAGER	APPROVED BY						

APPENDIX C. SCHEDULES A & B: ENQUIRY DOCUMENT

HORIZON POWER	**SPECIFICATION ENQUIRY**	**HPC-8DJ-03-0003-2012**
	VENDOR'S NAME	
	DATE	

TECHNICAL SCHEDULES A & B

ITEM 1: Single Core Distribution Power Cable

VOLTAGE	0.6/1 kV						
ITEM	1.1						
Type	1 x 1C						
SIZE (mm^2)	400						

SCHEDULE A: Horizon Power's specific requirements

SCHEDULE B: Particulars of equipment to be supplied (to be completed by Vendor)

No.	Clause	Description		Schedule A	Schedule B
		Distribution Standard Buyers Guide drawing		HPA-SD-E-01011-01	xxxx
1	3.1.2	**Fault Ratings**			
1.1		Symmetrical fault level	kA		xxxx
1.2		Earth fault level	kA		xxxx
1.3		Max Sustained Current @ 20°C in			
		Ground (25°C and 35°C)		xxxx	
		Air		xxxx	
		Ducts		xxxx	
1.4		Resistance at max sustained operating temp.	Ω/km	xxxx	
		Reactance per Phase	Ω/km	xxxx	
		Capacitance per Phase	Ω/km	xxxx	
		Zero Sequence at max sustained operating temp	Ω/km	xxxx	
		Impedance per Phase	Ω/km	xxxx	
		Capacitance per Phase	Ω/km	xxxx	
2		**Cable Dimensions**			
2.1	3.4.2	Cable Construction			xxxxx
2.2	3.4.3	Core Conductor		Copper	xxxxx
		Size:	mm^2	xxxx	xxxxx
		Diameter:	mm	xxxx	xxxxx
2.3	3.4.4	Insulation			
		Material:		XLPE	xxxx
		Thickness:	mm	xxxx	
2.5	3.4.9	Sheath			
		Material		PVC	xxxx
		Thickness	mm	xxxx	
		Corrosion Resistance		xxxx	
		Permeability to water		xxxx	
2.6	3.4.10	Cable Marking	(Yes/No)		xxxx
2.7	3.4.11	Double Brass Tape:	(Yes/No)		xxxx
2.8	3.5	Cable Length	m	≥250	
		Cable mass	kg/m	xxxx	

No.	Clause	Description		Schedule A	Schedule B
2.9	3.6	Cable Bending Radius (Triplex / 1 core cable)			
		Installation	mm	xxxx	
		Setting	mm	xxxx	
2.10	3.7	Cable Pulling Tension	kN	xxxx	
2.11	3.8	Cable-end Sealing	(Yes/No)	xxxx	
3		**Drum Size**			
	4	Flange x Barrel x Width	mm	xxxx	
4		**Test certificate requirements**			
	9.2	Test certificate provided according to AS/NZS 5000.1, Table 6		xxxx	
5		**Manufacturer**		xxxx	
		Brand / Catalogue No. / Model		xxxx	
		Country of Manufacture		xxxx	

HORIZON POWER	**SPECIFICATION ENQUIRY**	**HPC-8DJ-03-0003-2012**
	VENDOR'S NAME	
	DATE	

TECHNICAL SCHEDULES A & B

ITEM 2: Three Core Distribution Power Cables

VOLTAGE	0.6/1 kV	0.6/1 kV					
ITEM	2.1	2.2					
Type	3 x 1C	3 x 1C					
SIZE (mm^2)	120	240					

SCHEDULE A: Horizon Power's specific requirements
SCHEDULE B: Particulars of equipment to be supplied (to be completed by Vendor)

No.	Clause	Description		Schedule A	Schedule B
		Distribution Standard Buyers Guide drawing		HPA-SD-E-01012-01	xxxx
1	3.1.2	**Fault Ratings**			
1.1		Symmetrical fault level	kA		xxxx
1.2		Earth fault level	kA		xxxx
1.3		Max Sustained Current @ 20°C in			
		Ground (25°C and 35°C)		xxxx	
		Air		xxxx	
		Ducts		xxxx	
1.4		Resistance at max sustained operating temp.	Ω/km	xxxx	
		Reactance per Phase	Ω/km	xxxx	
		Capacitance per Phase	Ω/km	xxxx	
		Zero Sequence at max sustained operating temp	Ω/km	xxxx	
		Impedance per Phase	Ω/km	xxxx	
		Capacitance per Phase	Ω/km	xxxx	
2		**Cable Dimensions**			
2.1	3.4.2	Cable Construction			xxxxx
2.2	3.4.3	Core Conductor		Aluminium	xxxxx
		Size:	mm^2		xxxxx
		Diameter:	mm	xxxx	
2.3	3.4.4	Insulation			
		Material:		XLPE	xxxx
		Thickness:	mm	xxxx	
2.4	3.4.5	Core Lay			xxxx
2.5	3.4.8	Neutral		Copper	xxxx
2.6	3.4.9	Sheath			
		Material		PVC	xxxx
		Thickness	mm	xxxx	
		Corrosion Resistance		xxxx	
		Permeability to water		xxxx	
2.7	3.4.10	Cable Marking	(Yes/No)		xxxx
2.8	3.4.11	Insect Protection:	(Yes/No)		xxxx
2.9	3.5	Cable Length	m	≥250	
		Cable mass	kg/m	xxxx	

No.	Clause	Description		Schedule A	Schedule B
2.10	3.6	Cable Bending Radius (Triplex / 1 core cable)			
		Installation	mm	xxxx	
		Setting	mm	xxxx	
2.11	3.7	Cable Pulling Tension	kN	xxxx	
2.12	3.8	Cable End Sealing	(Yes/No)	xxxx	
3		**Drum Size**			
	4	Flange x Barrel x Width	mm	xxxx	
4		**Test certificate requirements**			
	9.2	Test certificate provided according to AS/NZS 4961, Table 3.1		xxxx	
5		**Manufacturer**		xxxx	
		Brand / Catalogue No. / Model		xxxx	
		Country of Manufacture		xxxx	

HORIZON POWER	**SPECIFICATION ENQUIRY**	**HPC-8DJ-03-0003-2012**
	VENDOR'S NAME	
	DATE	

TECHNICAL SCHEDULES A & B

ITEM 3: Single Core Service Power Cables

VOLTAGE	0.6/1 kV						
ITEM	3.1						
Type	1 x 1C						
SIZE (mm^2)	16						

SCHEDULE A: Horizon Power's specific requirements
SCHEDULE B: Particulars of equipment to be supplied (to be completed by Vendor)

No.	Clause	Description		Schedule A	Schedule B
		Distribution Standard Buyers Guide drawing		HPA-SD-E-01013-01	xxxx
1	3.1.2	**Fault Ratings**			
1.1		Symmetrical fault level	kA		xxxx
1.2		Earth fault level	kA		xxxx
2		**Cable Dimensions**			
2.1	3.4.2	Cable Construction			xxxxx
2.2	3.4.3	Core Conductor		Copper	xxxxx
		Size:	mm^2		xxxxx
		Diameter:	mm	xxxx	
2.3	3.4.4	Insulation			
		Material:		XLPE	xxxx
		Thickness:	mm	xxxx	
2.4	3.4.5	Core Lay (only applicable to 2 or more cores)			xxxx
2.5	3.4.8	Neutral		Copper	xxxx
2.6	3.4.9	Sheath			
		Material		PVC	xxxx
		Thickness	mm	xxxx	
		Corrosion Resistance		xxxx	
		Permeability to water		xxxx	
2.7	3.4.10	Cable Marking	(Yes/No)		xxxx
2.8	3.4.11	Double Brass Tape:	(Yes/No)		xxxx
2.9	3.5	Cable Length	m	≥250	
		Cable mass	kg/m	xxxx	
2.10	3.6	Cable Bending Radius (Triplex / 1 core cable)			
		Installation	mm	xxxx	
		Setting	mm	xxxx	
2.11	3.7	Cable Pulling Tension	kN	xxxx	
2.12	3.8	Cable End Sealing	(Yes/No)	xxxx	
3		**Drum Size**			
	4	Flange x Barrel x Width	mm	xxxx	
4		**Test certificate requirements**			
	9.2	Test certificate provided according to AS/NZS 4961, Table 2.1		xxxx	

No.	Clause	Description	Schedule A	Schedule B
5		**Manufacturer**	xxxx	
		Brand / Catalogue No. / Model	xxxx	
		Country of Manufacture	xxxx	

HORIZON POWER	**SPECIFICATION ENQUIRY**	**HPC-8DJ-03-0003-2012**
	VENDOR'S NAME	
	DATE	

TECHNICAL SCHEDULES A & B

ITEM 4: Three Core Service Power Cable

VOLTAGE	0.6/1 kV						
ITEM	4.1						
Type	1 x 3C						
SIZE (mm^2)	25						

SCHEDULE A: Horizon Power's specific requirements
SCHEDULE B: Particulars of equipment to be supplied (to be completed by Vendor)

No.	Clause	Description		Schedule A	Schedule B
		Distribution Standard Buyers Guide drawing		HPA-SD-E-01014-01	xxxx
1	3.1.2	**Fault Ratings**			
1.1		Symmetrical fault level	kA		xxxx
1.2		Earth fault level	kA		xxxx
2		**Cable Dimensions**			
2.1	3.4.2	Cable Construction			xxxxx
2.2	3.4.3	Core Conductor		Copper	xxxxx
		Size:	mm^2		xxxxx
		Diameter:	mm	xxxx	
2.3	3.4.4	Insulation			
		Material:		XLPE	xxxx
		Thickness:	mm	xxxx	
2.4	3.4.5	Core Lay (only applicable to 2 or more cores)			xxxx
2.5	3.4.8	Neutral		Copper	xxxx
2.6	3.4.9	Sheath			
		Material		PVC	xxxx
		Thickness	mm	xxxx	
		Corrosion Resistance		xxxx	
		Permeability to water		xxxx	
2.7	3.4.10	Cable Marking	(Yes/No)		xxxx
2.8	3.4.11	Double Brass Tape:	(Yes/No)		xxxx
2.9	3.5	Cable Length	m	≥250	
		Cable mass	kg/m	xxxx	
2.10	3.6	Cable Bending Radius (Triplex / 1 core cable)			
		Installation	mm	xxxx	
		Setting	mm	xxxx	
2.11	3.7	Cable Pulling Tension	kN	xxxx	
2.12	3.8	Cable-end Sealing	(Yes/No)	xxxx	
3		**Drum Size**			
	4	Flange x Barrel x Width	mm	xxxx	
4		**Test certificate requirements**			
	9.2	Test certificate provided according to AS/NZS 4961, Table 2.1		xxxx	

No.	Clause	Description	Schedule A	Schedule B
5		**Manufacturer**	xxxx	
		Brand / Catalogue No. / Model	xxxx	
		Country of Manufacture	xxxx	

APPENDIX D. SCHEDULE C: COMPLIANCE DOCUMENT

The Vendor shall indicate below whether this offer is fully compliant with the nominated clause in this Specification. A YES shall ONLY be indicated if the offer is 100% compliant with the relevant Clause. If NO is indicated and supporting documents are submitted, then mark the ATT box with the attachment number. Details of departure shall be provided in Schedule D Appendix E

CLAUSE NUMBER		YES	NO	ATT.
3	REQUIREMENTS			
3.1	Power System Particulars			
3.1.1	*Rated Voltages*	☐	☐	
3.1.2	*Design Fault Levels*	☐	☐	
3.1.3	*Maximum Conductor Temperatures*	☐	☐	
3.1.4	*Nominal System Frequency*	☐	☐	
3.1.5	System Insulation Levels	☐	☐	
3.2	Service Conditions			
3.2.1	*Environmental Conditions*	☐	☐	
3.2.2	*Operating Conditions*	☐	☐	
3.3	Description of Cable	☐	☐	
3.4	Materials and Construction			
3.4.1	*General*	☐	☐	
3.4.2	*Cable Construction*	☐	☐	
3.4.3	*Core Conductor*	☐	☐	
3.4.4	*Insulation*			
3.4.4.1	*Material*	☐	☐	
3.4.4.2	*Thickness*	☐	☐	
3.4.4.3	*Core Identification*	☐	☐	
3.4.5	*Core Lay*	☐	☐	
3.4.6	*Binder Tape*	☐	☐	
3.4.7	*Bedding / Fillers*	☐	☐	
3.4.8	*Screen/Waveform Concentric Wire Neutral*	☐	☐	
3.4.9	*Sheath*			
3.4.9.1	*Material*	☐	☐	
3.4.9.2	*Thickness*	☐	☐	

CLAUSE NUMBER		YES	NO	ATT.
3.4.10	*Cable Markings*	☐	☐	
3.4.11	*Protection from Insect Attack*	☐	☐	
3.5	*Cable Length*	☐	☐	
3.6	Cable Bending Radius	☐	☐	
3.7	Cable Pulling Tension	☐	☐	
3.8	Cable-end Sealing	☐	☐	
4	CABLE DRUMS			
4.1	Timber Drums	☐	☐	
4.2	Drum Marking	☐	☐	
5.	STORAGE	☐	☐	
6.	RELIABILITY	☐	☐	
7.	SAFETY	☐	☐	
8.	ENVIRONMENTAL CONDITIONS	☐	☐	
9.	TESTS			
9.1	Test Requirements	☐	☐	
9.2	Test Certificates	☐	☐	
9.3	Type Tests	☐	☐	
9.4	Routine and Sample Tests	☐	☐	
9.4.1	*Routine*	☐	☐	
9.4.2	*Sample*	☐	☐	
10.	DOCUMENTATION AND SAMPLES	☐	☐	
10.1	Documentation to be provided with Proposals	☐	☐	
10.2	Service History			
10.3	*Training Materials*	☐	☐	
10.4	*Samples*	☐	☐	

APPENDIX E. SCHEDULE D: DEPARTURES FROM TECHNICAL SPECIFICATION

The Vendor shall nominate the Clause and describe the departure:

CLAUSE NO	DEPARTURE

APPENDIX F. CABLE DESCRIPTION

ITEM	DESCRIPTION	DISTRIBUTION STANDARD DRAWING
1	**Single-Core LV Distribution Power Cable**	
1.1	Short Description: CABLE POWER ELECT 1 x 1C CU 0.6/1 kV 400 SQ XLPE Technical Description: CABLE POWER ELECT; 400 mm SQ; 1C COPPER 0.6/1 kV XLPE INSULATED RED CORE; DBT Drum Size: (Flange x Barrel x Width) 900 mm x 500 mm x 600 mm	HPA-SD-E-01011
2	**Three-Core LV Distribution Power Cable**	
2.1	Short Description: CABLE POWER ELECT 1 x 3C AL 0.6/1 kV 120 SQ XLPE Technical Description: CABLE POWER ELECT; 120 mm SQ; 3C ALUMINIUM 0.6/1 kV XLPE INSULATED RED, WHITE, BLUE CORE; COPPER WAVEFORM CONCENTRIC NEUTRAL WIRE; TERMITE PROTECTION Drum Size: (Flange x Barrel x Width) 800 mm x 400 mm x 350 mm	HPA-SD-E-01012
2.2	Short Description: CABLE POWER ELECT 1 x 3C AL 0.6/1 kV 240 SQ XLPE Technical Description: CABLE POWER ELECT; 240 mm SQ; 3C ALUMINIUM 0.6/1 kV XLPE INSULATED RED, WHITE, BLUE CORE; COPPER WAVEFORM CONCENTRIC NEUTRAL WIRE; DBT Drum Size: (Flange x Barrel x Width) 900 mm x 500 mm x 600 mm	HPA-SD-E-01012
3	**Single-Core LV Service Power Cable**	
3.1	Short Description: CABLE POWER ELECT 1C CU 0.6/1 kV 16 SQ XLPE Technical Description: CABLE POWER ELECT; 16 mm SQ; 1C COPPER 0.6/1 kV XLPE INSULATED RED CORE; COPPER NEUTRAL SCREEN; DBT Drum Size: (Flange x Barrel x Width) 900 mm x 500 mm x 500 mm	HPA-SD-E-01013
4	**Three-Core LV Service Power Cable**	
4.1	Short Description: CABLE POWER ELECT 3C CU 0.6/1 kV 25 SQ XLPE Technical Description: CABLE POWER ELECT; 25 mm SQ; 3C COPPER 0.6/1 kV XLPE INSULATED RED, WHITE, BLUE CORE; COPPER NEUTRAL SCREEN; DBT Drum Size: (Flange x Barrel x Width) 1000 mm x 500 mm x 550 mm	HPA-SD-E-01014

APPENDIX G. STANDARD TIMBER DRUM DIMENSIONS

Construction Details for Standard Timber Drums with Barrel-end Supports (2 to 6 Ton)

Drum reference number (arranged in ascending order of barrel diameter)	Flange details		Barrel details											Overall drum width (excl. bolt projections) (mm)	Spindle hole diameter (mm)
	Diameter (mm)	Nominal thickness (mm)	Diameter (mm)	Internal width (mm)	End support minimum thickness (mm)	Stretchers		Number of diagonal crow braces	Bolts		Minimum boar thickness (mm)	Number of intermediate supports	Square washers (or equivalent round washers)		
						Number	Size		Number	Minimum					
700 / 400 / 300	700	35	400	300	25	3	100 × 35		3	8	19		40 × 4	370	60
700 / 400 / 400	700	35	400	400	25	3	100 × 35		3	8	19		40 × 4	470	60
800 / 400 / 350	800	35	400	350	25	3	100 × 35		3	8	19		40 × 4	420	60
800 / 400 / 450	800	35	400	450	25	3	100 × 35		3	8	19		40 × 4	520	60
900 / 500 / 500	900	45	500	500	35	4	100 × 35		4	12	32		50 × 4	590	60
900 / 500 / 600	900	45	500	600	35	4	100 × 35		4	12	32		50 × 4	690	60
1000 / 500 / 550	1000	45	500	550	35	4	100 × 35		4	12	32		50 × 4	640	95
1000 / 700 / 650	1000	45	700	650	35	4	100 × 35		4	12	32		50 × 4	740	95
1100 / 600 / 650	1100	45	600	650	35	4	100 × 35		4	12	32		50 × 4	740	95
1200 / 600 / 650	1200	60	600	650	35	4	100 × 35		4	12	32		50 × 4	770	95
1200 / 600 / 800	1200	60	600	800	35	4	100 × 35		4	12	32		50 × 4	920	95
1200 / 800 / 550	1200	60	800	550	35	5	100 × 35		5	12	32		50 × 4	670	95
1200 / 800 / 700	1200	60	800	700	35	5	100 × 35		5	12	32		50 × 4	820	95
1300 / 900 / 800	1300	70	900	800	35	5	100 × 35		5	12	32		75 × 6	940	95
1400 / 700 / 750	1400	70	700	750	35	4	200 × 35		4	12	32		75 × 6	890	95
1400 / 1000 / 900	1400	70	1000	900	35	6	200 × 35		6	16	32		75 × 6	1040	95
1600 / 800 / 750	1600	70	800	750	35	5	200 × 35		5	16	32		75 × 6	890	95
1600 / 1100 / 850	1600	70	1100	850	35	6	200 × 35		6	16	32		75 × 6	990	95
1600 / 1100 / 1100	1600	70	1100	1100	35	6	200 × 35		6	16	32	1	75 × 6	1240	95
1600 / 800 / 950	1600	70	800	800	35	5	200 × 35		5	16	32	1	75 × 6	1090	95
1800 / 900 / 950	1800	70	900	950	35	5	200 × 35		5	16	32	1	75 × 6	1090	110
1800 / 900 / 1200	1800	70	900	1200	35	5	200 × 35		5	12	32	2	75 × 6	1340	110
1800 / 1200 / 1000	1800	70	1200	1000	35	6	200 × 35		6	16	32	1	75 × 6	1140	110
2000 / 1000 / 950	2000	70	1000	950	35	6	200 × 35		6	16	32	1	75 × 6	1090	110
2000 / 1000 / 1200	2000	70	1000	1200	35	6	200 × 35		6	16	32	2	75 × 6	1340	110
2000 / 1400 / 1150	2000	70	1400	1150	35	8	200 × 35	4	8	16	32	1	75 × 6	1290	110
2200 / 1100 / 950	2200	70	1100	950	35	6	200 × 35	4	6	16	32	1	75 × 6	1090	110
2200 / 1100 / 1300	2200	70	1100	1300	35	6	200 × 35	4	6	16	32	2	75 × 6	1440	110
2200 / 1500 / 1300	2200	70	1500	1300	35	8	200 × 35	4	8	16	32	2	75 × 6	1440	110
2400 / 1200 / 1400	2400	95	1200	1400	35	6	200 × 35	4	6	16	32	2	75 × 6	1590	110
2400 / 1400 / 1200	2400	95	1400	1200	35	8	200 × 35	4	8	16	32	2	75 × 6	1390	110
2400 / 1400 / 1400	2400	95	1400	1400	35	8	200 × 35	4	8	16	32	2	75 × 6	1590	110
2600 / 1400 / 1300	2600	95	1400	1300	35	12	200 × 35	6	12	16	32	2	75 × 6	1490	110
2600 / 1600 / 1300	2600	95	1600	1300	35	12	200 × 35	6	12	16	32	2	75 × 6	1490	110
2800 / 1600 / 1200	2800	110	1600	1200	35	12	200 × 35	6	12	22	32	2	75 × 6	1420	110
2800 / 1800 / 1400	2800	110	1800	1400	35	12	200 × 35	6	12	22	32	2	75 × 6	1620	110
3000 / 1600 / 1200	3000	110	1600	1200	35	12	200 × 35	6	12	22	32	2	75 × 6	1420	110
3000 / 1800 / 1400	3000	110	1800	1400	35	12	200 × 35	6	12	22	32	2	75 × 6	1620	110

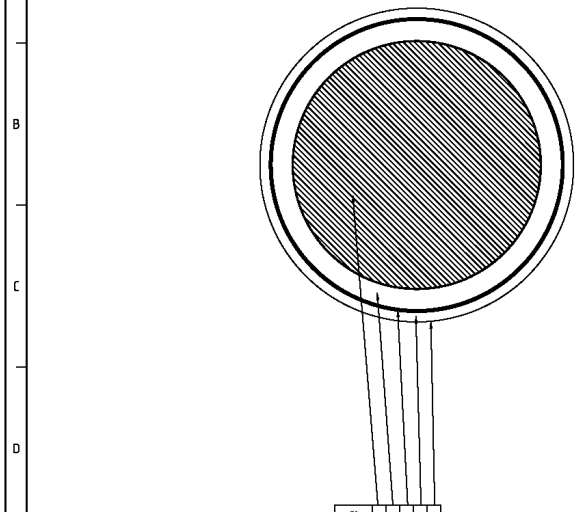
APPENDIX H. SCHEDULE E: TEST REPORT REQUIREMENTS FOR CHEMICAL PROTECTION

An investigation and test report shall be submitted for cables offered with chemical protection against insect attack. The report shall demonstrate and address (but not limited to) the items listed below, including any further testing undertaken on the chemically treated cable ONLY. Vendors shall state reasons and justifications for all comments made to qualify their response.

Horizon Power will evaluate to its satisfaction the information and make a determination to accept or reject the cables offered with chemical protection against insect attack. If rejected, the Vendor shall offer alternative cables with mechanical protection that may include (and not limited to) Polyamide coverings or metallic tapes to achieve the required protection from insect attack.

No	Criteria	Submitted (Y/N)
1	Process of Manufacture and Product Stability	
2	Quality assurance and consistency of chemical in cable	
3	Accelerated aging tests	
4	Surface blooming of chemical	
5	Tests to show how much chemical is absorbed by different types of soil particles (low and high pH) and the quantity of chemical that may flow into wetlands / rivers etc.	
6	Leachate tests with different pH fluids (leach rate per day) declaring the amount of dissolved chemical (free flowing in water) and what reaction the available chemical will have on aquatic organisms.	
7	Impact of chemical/vapour by-products during power cable failure	
8	Efficacy tests of the chemical in the cable against insect attack (differing chemical concentrations)	
9	Behaviour of the chemical and life-span whilst in the cable due to heat, UV, water of varying pH and other expected exposure factors	
10	Mechanism by which chemical protects cable from insect attack and any dependencies	
11	OH&S requirements for handling, installation, jointing (flame brushing), disposing and other related items	
12	Exposure mechanisms of chemical from cable, including quantitative impact on humans, land and aquatic organisms	
13	Dangerous goods classification and shipping requirements	
14	Impact on organic growers	
15	NICNAS (National Industrial Chemicals Notification and Assessment Scheme) and APVMA (Australian Pesticides and Veterinary Medicines Authority) approvals required	
16	Comparative studies with PVC and Polyamide techniques	
17	Any declared restrictions relating to use of the chemically treated cable	
	Additional Vendor Information	

APPENDIX I. SPECIFICATION DRAWINGS



No.	CONSTRUCTION	MATERIAL NAME	THICKNESS NOM (mm)	THICKNESS MIN. AVG (mm)	THICKNESS MIN (mm)	NOM. DIAMETER (mm)
1						
2						
3						
4						
5						

MAXIMUM SUSTAINED CURRENT RATING	GROUND	
	AIR	
	DUCTS	
SHORT-CIRCUIT RATINGS	SYMMETRICAL	
	EARTH	
CABLE MASS (kg/m)		
GROSS MASS PER STANDARD DRUM LENGTH (kg)		
THE 50Hz a.c. RESISTANCE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
REACTANCE PER PHASE (ohm/km)		
CAPACITANCE PER PHASE (nF/km)		
ZERO SEQUENCE IMPEDANCE AND CAPACITANCE PER PHASE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
MAX DIAMETER FOR 3 SINGLE CORE IN TRIPLEX		
PULLING TENSION		
BENDING RADIUS	INSTALL	
	SET	

HORIZON POWER ITEM :
MATERIAL SPECIFICATION :
CORROSION SPECIFICATION :
STANDARD SPECIFICATION : AS/NZS 4961
HORIZON POWER SPECIFICATION : HPC-8DJ-03-0003-2012
TEST & CERTIFICATION REQUIREMENTS : AS/NZS 4961 TABLE 2.1
INSPECTION | RELEASE NOTE
HORIZON POWER IDENTIFICATION : CABLE POWER ELECT

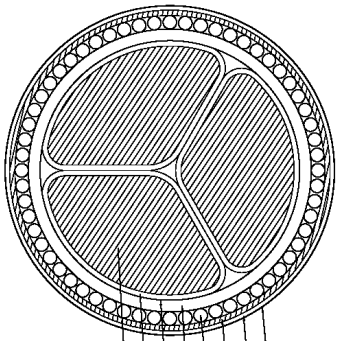
SCALE:	1.5:1
SHEET:	1 OF 1
DRN:	D. BLAKELEY
CHK'D:	P. SAVIG
APP'D:	J. CHOI

CABLE DETAILS
LV 1C POWER CABLES

HORIZON POWER

DRAWING NUMBER: HPA-SD-E-01011-01
REV: 1

FILEPATH:
DATE: 2/11/2026 8:14:07 AM BY: H087170



No.	CONSTRUCTION	MATERIAL NAME	THICKNESS NOM. (mm)	THICKNESS MIN. AVG (mm)	THICKNESS MIN (mm)	NOM. DIAMETER (mm)
1						
2						
3						
4						
5						
6						
7						
8						

MAXIMUM SUSTAINED CURRENT RATING	GROUND	
	AIR	
	DUCTS	
SHORT-CIRCUIT RATINGS	SYMMETRICAL	
	EARTH	
CABLE MASS (kg/m)		
GROSS MASS PER STANDARD DRUM LENGTH (kg)		
THE 50Hz a.c. RESISTANCE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
REACTANCE PER PHASE (ohm/km)		
CAPACITANCE PER PHASE (nF/km)		
ZERO SEQUENCE IMPEDANCE AND CAPACITANCE PER PHASE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
MAX DIAMETER FOR 3 SINGLE CORE IN TRIPLEX		
PULLING TENSION		
BENDING RADIUS	INSTALL	
	SET	

HORIZON POWER ITEM :
MATERIAL SPECIFICATION :
CORROSION SPECIFICATION :
STANDARD SPECIFICATION : AS/NZS 4961
HORIZON POWER SPECIFICATION : HPC-8DJ-03-0003-2012
TEST & CERTIFICATION REQUIREMENTS : AS/NZS 4961 TABLE 2.1
INSPECTION | RELEASE NOTE
HORIZON POWER IDENTIFICATION : CABLE POWER ELECT

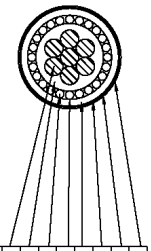
SCALE:	2:1
SHEET:	1 OF 1
DRN:	D. BLAKELEY
CHK'D:	P. SAVIG
APP'D:	J. CHOI

CABLE DETAILS
LV 3C POWER CABLES

HORIZON POWER

DRAWING NUMBER: HPA-SD-E-01012-01
REV: 1

FILEPATH:
DATE: 2/11/2026 8:10:48 AM BY: H087170



No.	CONSTRUCTION	MATERIAL NAME	THICKNESS NOM (mm)	THICKNESS MIN AVG (mm)	THICKNESS MIN (mm)	NOM DIAMETER (mm)
1						
2						
3						
4						
5						
6						
7						
8						

MAXIMUM SUSTAINED CURRENT RATING	GROUND	
	AIR	
	DUCTS	
SHORT-CIRCUIT RATINGS	SYMMETRICAL	N/A
	EARTH	
CABLE MASS (kg/m)		m
GROSS MASS PER STANDARD DRUM LENGTH (kg)		
THE 50Hz a.c. RESISTANCE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
REACTANCE PER PHASE (ohm/km)		
CAPACITANCE PER PHASE (nF/km)		
ZERO SEQUENCE IMPEDANCE AND CAPACITANCE PER PHASE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		

HORIZON POWER ITEM :
MATERIAL SPECIFICATION :
CORROSION SPECIFICATION :
STANDARD SPECIFICATION : AS/NZS 4961
HORIZON POWER SPECIFICATION : HPC-8DJ-03-0003-2012
TEST & CERTIFICATION REQUIREMENTS : AS/NZS 4961
INSPECTION | RELEASE NOTE
HORIZON POWER IDENTIFICATION : CABLE POWER ELECT

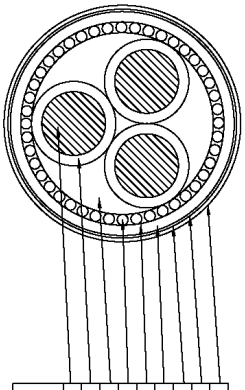
SCALE:	2:1
SHEET:	1 OF 1
DRN:	D. BLAKELEY
CHK'D:	P. SAVIG
APP'D:	J. CHOI

CABLE DETAILS
LV 1C SERVICE CABLES

HORIZON POWER

DRAWING NUMBER: HPA-SD-E-01013-01
REV: 1

FILEPATH:
DATE: 2/11/2026 8:13:52 AM BY: H087170



No.	CONSTRUCTION	MATERIAL NAME	THICKNESS NOM (mm)	THICKNESS MIN AVG (mm)	THICKNESS MIN (mm)	NOM DIAMETER (mm)
1						
2						
3						
4						
5						
6						
7						
8						
9						

MAXIMUM SUSTAINED CURRENT RATING	GROUND	
	AIR	
	DUCTS	
SHORT-CIRCUIT RATINGS	SYMMETRICAL	
	EARTH	
CABLE MASS (kg/m)		m
GROSS MASS PER STANDARD DRUM LENGTH (kg)		
THE 50Hz a.c. RESISTANCE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		
REACTANCE PER PHASE (ohm/km)		
CAPACITANCE PER PHASE (nF/km)		
ZERO SEQUENCE IMPEDANCE AND CAPACITANCE PER PHASE AT MAXIMUM SUSTAINED CONDUCTOR OPERATING TEMPERATURE (ohm/km)		

HORIZON POWER ITEM :
MATERIAL SPECIFICATION :
CORROSION SPECIFICATION :
STANDARD SPECIFICATION : AS/NZS 4961
HORIZON POWER SPECIFICATION : HPC-8DJ-03-0003-2012
TEST & CERTIFICATION REQUIREMENTS : AS/NZS 4961
INSPECTION | RELEASE NOTE
HORIZON POWER IDENTIFICATION : CABLE POWER ELECT

SCALE:	2:1
SHEET:	1 OF 1
DRN:	D. BLAKELEY
CHK'D:	P. SAVIG
APP'D:	J. CHOI

CABLE DETAILS
LV 3C SERVICE CABLES

HORIZON POWER

DRAWING NUMBER: HPA-SD-E-01014-01
REV: 1

FILEPATH:
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