

<b>Document Reference:-</b>		NPS/002/007	<b>Document Type:-</b>		Code of Practice			
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# NPS/002/007 – Technical Specification for Outdoor Meter Cupboards, Meter Boards, Replacement Outdoor Meter Cupboard Frames and Doors

## 1. Purpose

The purpose of this document is to detail the specific requirements of Northern Powergrid (the Company) in relation to outdoor meter cupboards, meter boards, replacement outdoor meter cupboard frames and doors as detailed within this document.

This document supersedes the following documents, all copies of which should be destroyed.

Document Reference	Document Title	Version	Published Date
NPS/002/007	Technical Specification for Meter Boards and Outdoor Meter Cabinets	4.0	Dec 2018

## 2. Scope

This document applies to the supply of a range of outdoor meter cupboards, meter boards, replacement outdoor meter cupboard frames and doors intended for use on the companies' distribution network for the housing of service termination equipment and suppliers metering equipment.

Outdoor meter cupboards in accordance with BS 8567:2012 Specification for outdoor electricity meter cupboards has and continues to be used extensively for the installation and housing of the electricity service termination equipment and metering equipment on the exterior of premises.

Outdoor meter cupboards can suffer minor damage to doors, hinges and frames necessitating repair, and where replacement parts are no longer available the preferred solution is the installation of a replacement unit comprising a new frame and door. This specification details the requirements, size and manufacturer type of outdoor meter cupboards for which replacement frames and doors are required.

The following appendices form part of this technical specification.

- Appendix 1 – Schedule of Product requirements,
- Appendix 2 – Logistical requirements,
- Appendix 3 – Self certification conformance declaration,
- Appendix 4 - Addendum to supplier requirements,
- Appendix 5 – Routine inspection and maintenance requirements, and,
- Appendix 6 – Technical information check list.

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### 3. Requirements

#### 3.1. Meter boards - General

Meter boards shall be manufactured from 12mm thick class “O”, non-combustible, resin-bonded particle board of minimum density 600kg/m<sup>3</sup> and conforming to any of type P2 to P7 as detailed in BS EN 312.

##### 3.1.1. Fixings

On a type 1 meter board (as detailed in Appendix 1), 6mm diameter fixing hole shall be so drilled to suit the fixing positions as shown in figure 2 (2) of BS 8567:2012 for a built-in meter cupboard and figure 7 of BS 8567:2012 for a surface mounted meter cupboard.

On type 2, 3 and 4 meter boards, 6mm diameter fixing hole are required 25mm from the edge of each board.

##### 3.1.2. Meter Board Stand-Off Insulators

Stand-off insulators shall be manufactured from a suitable insulating material. Each insulator shall be 19mm long x 19mm diameter with 8mm bore hole.

#### 3.2. Meter Cupboards and Replacement Frames and Doors – General

Meter cupboards covered by this specification shall be in accordance with the latest version of BS 8567:2012. This specification supplements or varies BS 8567:2012 only where necessary to ensure the equipment is fit for purpose for use on the company’s distribution network.

##### 3.2.1. Meter Cupboards and Replacement Frames and Doors - Construction

All meter cupboards and replacement doors and frames shall be constructed as detailed in clause 5 of BS 8567:2012, shall be:

- constructed generally in glass reinforced thermoset plastic material,
- substantially a non-hygroscopic material,
- resistant to normal environmental conditions, including ultraviolet radiation, dampness and abrasion, and,
- capable of being painted without special preparation.

Metal parts incorporated in the cupboard shall be manufactured from non-ferrous materials or suitably protected to prevent corrosion.

##### 3.2.2. Cupboard Door

The cupboard door shall comply generally with the shape and dimensions as shown in figure 2 (1) of BS 8567:2012 and include the logo as defined in clause 7.2 of BS 8567:2012. The door which shall be hinged on the left shall incorporate a “slam” type locking mechanism and be supplied with a key for a ‘tri head’ lock which shall comply generally with the shape and dimensions as shown in figure 1 of BS 8567:2012.

Where removable hinge pins are used, these shall be held captive and concealed with the door in the closed position.

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### 3.2.3. Cable Entry

Service cable entry is via a 38mm service duct which shall be surface mounted entering the cupboard architrave at the bottom left corner, as shown in figure 2 (2) of BS 8567:2012 for a built-in meter cupboard and figure 7 of BS 8567:2012 for a surface mounted meter cupboard.

### 3.2.4. Dimensions

The meter cupboard shall comply generally with the shape and dimensions as shown in figure 2 (2) of BS 8567:2012 for a built-in meter cupboard and figure 7 of BS 8567:2012 for a surface mounted meter cupboard.

### 3.2.5. Meter Board (pre-installed in cupboard)

Both the built in and surface mounted meter cupboards shall be supplied complete with a fixed meter board. See section for further details.

## 3.3. Replacement Outdoor Meter Cupboard Frames and Doors (Additional) – General

The following information specifies additional requirements to that detailed in section 3.2 - Meter cupboards and replacement frames and doors – General, including all associated subsections.

### 3.3.1. Basic Requirements

Replacement outdoor meter cupboard frames and doors shall as far as reasonably practicable compliment and match the sizes and types of cupboards in BS 8567:2012 - Specification for outdoor electricity meter cupboards, detailed below in 3.3.2 and Appendix 1.

Replacement frames and doors should meet or exceed the mechanical and security requirements of the original cupboard.

Frames and doors shall be supplied with the necessary fittings and fixings and shall be easy to install by a competent person with a basic tool kit. No specialist tooling shall be required.

### 3.3.2. Dimensions

Cupboard Replacement Frame and Door - Size	Dimensions (mm)	Suitable for Manufacturer
Slimline	640 x 230 x 33	Mitras Composites
	830 x 280 x 60	Hampton Mouldings
Small	595 x 410 x 60	Mitras Composites
	595 x 410 x 60	Hampton Mouldings
	612 x 426 x 33	Gloucester
Medium	685 x 485 x 30	Mitras Composites
	682 x 487 x 35	Hampton Mouldings
	690 x 493 x 45	Gloucester
Large	795 x 565 x 33	Hampton Mouldings

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## 4. References

### 4.1. External Documentation

Meter boards and Meter cupboards shall comply with the latest version of relevant International Standards, British Standard Specifications current at the time of tendering, except where varied by this standard. In this respect the following documents are particularly relevant.

Reference	Version/Date	Title
BS 8567- 2012	2012	Specification for outdoor electricity meter cupboards
BS EN 312 - 2010	2010	Particleboards. Specifications

### 4.2. Internal Documentation

Reference	Title
None	

### 4.3. Amendments from Previous Version

Reference	Amendments
Appendix 1 table – <b>‘Meter Cupboards &amp; Doors’</b>	# Added 2 x current contract items not previously listed - 181418 & 181367 # Added <b>‘&amp; Doors’</b> to capture new items # Added two items(Large meter cabinets for 3-phase installations)
Appendix 1 table – <b>‘Protector Frames’</b>	# Added Dimensions & “Approximate”
General covering whole document	# Removed ENATS specification references throughout documents and use latest spec reference - BS 8567:2012 which supersedes ENATS

## 5. Definitions

Term	Definition
Particleboard	Chipboard
The Company	Northern Powergrid

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## 6. Authority for Issue

### 6.1. CDS Assurance

I sign to confirm that I have completed and checked this document and I am satisfied with its content and submit it for approval and authorisation.

		<b>Date</b>
Liz Beat	Governance Administrator	19/05/2022

### 6.2. Author

I sign to confirm that I have completed and checked this document and I am satisfied with its content and submit it for approval and authorisation.

**Review Period** - This document should be reviewed within the following time period.

<b>Standard CDS review of 3 years?</b>	<b>Non Standard Review Period &amp; Reason</b>	
No	Period: 5 Years	Reason: Update will be dictated by contract renewal date or any significant changes in the specification or documents referenced.
<b>Should this document be displayed on the Northern Powergrid external website?</b>		Yes
		<b>Date</b>
Paul Hanrahan	Engineering – Asset Management	20/05/2022

### 6.3. Technical Assurance

I sign to confirm that I am satisfied with all aspects of the content and preparation of this document and submit it for approval and authorisation.

		<b>Date</b>
Steve Salkeld	Policy & Standards Engineer	20/05/2022
Joe Helm	Policy & Standards Manager	24/05/2022

### 6.4. Authorisation

Authorisation is granted for publication of this document.

		<b>Date</b>
Paul Black	System Engineering Manager	25/05/2022

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## Appendix 1 – Schedule of Product Requirements

Description	Size (mm)(H x W x D)	Northern Powergrid Commodity Code
<b>Meter Boards</b>		
Standard Meter Board (Internal Meter Positions & outdoor cupboard replacement)	490 x 330 x 12	188135
Large Meter Board (Internal 3-Phase Supplies)	560 x 450 x 12	188690
Chamfered Meter Board (Three-Phase Supplies in Outdoor Meter Cupboards)	282 x 180 x 12	181545
Small Meter Board	450 x 250 x 12	290734
Stand-off Insulators	19mm Dia x 19mm L x M8 Bore	188703
<b>Meter Cupboards &amp; Doors</b>		
External Meter Cupboard - Small Recess Type	595 x 409 x 210 (Approximate)	188027
External Meter Cupboard- Small Surface Type	600 x 400 x 220 (Approximate)	181672
Meter Cupboard Door - Small	550 x 385 x 15 (Approximate)	181418
Meter Cupboard Door - Small (Fire Resistant)	550 x 385 x 15 (Approximate)	181367
External Meter Cupboard - Large Recess Type	750 x 520 x 210 (Approximate)	180285
External Meter Cupboard - Large Surface Type	780 x 550 x 225 (Approximate)	180286
<b>Protector Frames</b>		
Slimline cupboard replacement frame and door: Suitable for Mitras Composites and Hampton Mouldings type cupboards.	645 x 385 x 34 (Approximate)	180275
Small cupboard replacement frame and door: Suitable for Mitras Composites and Hampton Mouldings type cupboards. (BG Compatible)	623 x 447 x 59 (Approximate)	098046
Small cupboard replacement frame and door: Suitable for Gloucester type cupboards.	600 x 412 x 69 (Approximate)	098012
Medium cupboard replacement frame and door: Suitable for Mitras Composites, Hampton Mouldings and Gloucester type cupboards.	698 x 502 x 69 (Approximate)	098020
Large cupboard replacement frame and door: Suitable for Hampton Mouldings type cupboards.	795 x 567 x 69 (Approximate)	098038

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## Appendix 2 – Logistical Requirements

To enable the Company to store the product(s) in accordance with the manufacturer's recommendations the Tenderer shall provide details of the recommended storage environment with respect to each tendered product.

Details shall be provided where relevant, in respect of the minimum and maximum exposure levels, frequency of exposure and duration of exposure of the packaged item with respect to;

- Ambient temperature
- Humidity
- Water
- Dust
- Atmospheric corrosion
- Impact
- Vibration
- Solar radiation

The Tenderer shall ensure that each item is suitably packaged and protected to enable storage in an outdoor environment whilst maintaining the product and packaging as "fit for service" prior to installation.

All packaging shall be sufficiently durable giving regard to the function, reasonable use and contents of the packaging. Where product packages tendered are made up of sub packages all the sub packages shall unless varied by this specification, be supplied securely packaged together. Where items are provided in bagged/boxed form the material from which the bags are manufactured shall be capable of sustaining the package weight and resisting puncture by the materials within.

Tenderer shall submit at the time of tendering the details of the proposed packaging (i.e. materials composition and structure) to be used for each product. Where the Tenderer is unable to provide packaging suitable for outdoor storage then this should be stated at the time of tender.

In order to maximise storage space all palletised goods shall be supplied in standard returnable box pallets with the following specification. Where applicable, suppliers shall also indicate the maximum number of units of each product that are storable per box pallet.

- Size - 1200mm (w) x 1000mm (d) x 750mm (h)
- Weight (empty) – Up to 33kg
- Load Capacity – Up to 450kg
- Maximum Stacking Capacity – 10 High

Suppliers shall also include details of the type of material used to manufacture the box pallets.

The Company will give consideration to innovative alternatives to this specification.

Clearly legible, easily identifiable, durable and unambiguous labelling shall be applied to each individual and where relevant, multiple packages of like products. Where products packages tendered are made up of sub packages each sub packages shall be marked. As a minimum requirement the following shall be included;

- Manufacturer's trademark or name
- Description of item
- Northern Powergrid product code
- Shelf life
- Supplier's trademark or name
- Date of packaging and/or batch number
- Weight

Tenderer shall submit at the time of tendering a sample of the proposed labelling for each product package type.



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## Appendix 3 - Self Certification Conformance Declaration

The Technical Specification for the replacement outdoor meter cupboards, meter boards, replacement outdoor meter cupboard frames and doors shall comply with the latest issue of BS 8567:2012. Additionally, this technical specification is intended to amplify and/or clarify requirements relating to these Standards.

This self-declaration sheet identifies the clauses of the aforementioned standards relevant to the Technical Specification for Meter Boards and Outdoor Meter Cupboards, Meter Boards, Replacement Outdoor Meter Cupboard Frames and Doors for use on the Northern Powergrid distribution network. The manufacturer shall declare conformance or otherwise, clause by clause, using the following levels of conformance declaration codes.

### Conformance Declaration Codes

N/A = Clause is not applicable/ appropriate to the product

Cs1 = The product conforms fully with the requirements of this clause

Cs2 = The product conforms partially with the requirements of this clause

Cs3 = The product does not conform to the requirements of this clause

Cs4 = The product does not currently conform to the requirements of this clause, but the manufacturer proposes to modify and test the product in order to conform.

### Instructions for Completion

- When Cs1 code is entered the supplier shall provide evidence to confirm conformance
- When any other code is entered the reason and supporting evidence for non- conformance shall be entered
- Prefix each remark with the relevant 'BS EN' 'IEC' or 'ENATS' as appropriate.
- Provide technical data sheets and associated drawings for each product.

**Manufacturer / Supplier:**

**Manufacturer / Supplier Product Reference:**

**Northern Powergrid Product Reference (Commodity Code):**

**Details of the Product Type: (e.g. Voltage, Conductor Type and Size)**

**Name:**

**Signature:**

**Date:**

**NOTE:** One sheet shall be completed for each item or variant submitted.

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**NPS/002/007 – Technical Specification for Meter Boards and Outdoor Meter Cupboards, Meter Boards, Replacement Outdoor Meter Cupboard Frames and Doors**

**Meter boards**

Clause/Sub-clause	Clause/ Requirement	Conformance Code	Evidence Reference	Remarks / Comments
3.1 – Meter boards - General	To meet requirements of section 3.1 and all associated sub sections to BS EN 312.			
3.1.1 - Fixings	To meet requirements of section 3.1.1.			
3.1.2 – Meter board stand-off insulators	To meet requirements of section 3.1.2.			

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**Meter cupboards and replacement frames and doors**

Clause/Sub-clause	Clause/ Requirement	Conformance Code	Evidence Reference	Remarks / Comments
3.2 – Meter cupboards - General	Meets the requirements of 3.2 and all associated subsections to BS 8567:2012			
3.2.1 – Meter cupboards and replacement frames and doors - Construction	Resistant to atmospheric corrosion/deterioration.			
	Provided with a durable white protective finish.			
	Suitable for painting.			
	Supplied with fixings.			
3.2.2 – Cupboard door	Logo included.			
	Hinged on the left side.			
	‘Slam’ type locking mechanism.			
	‘Tri head’ key			

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	Concealed (when closed) removable door hinge pins to assist door replacement.			
	Door locks, hinges and pins installed in order to aid easy replacement.			
3.2.3 – Cable entry	Bottom left corner to BS 8567:2012			
3.2.4 - Dimensions	To meet requirements of section 3.2.4.			
3.2.5 Meter board (pre-installed in cupboard)	To meet requirements of section 3.2.5.			

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Replacement frames and doors (additional)				
Clause/Sub-clause	Clause/ Requirement	Conformance Code	Evidence Reference	Remarks / Comments
3.3 – Replacement outdoor meter cupboard frames and doors - General	To meet requirements of section 3.3 and all associated sub sections to BS 8567:2012			
3.3.1 – Basic requirements	Meet or exceed mechanical and security requirements of original cupboard.			
	Supplied with all fixings and fittings.			
	Requires no specialist tooling.			
3.3.2 Dimensions	Frames and doors to compliment and meet sizes and types of cupboards specified in section 3.3.2.			

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BS 8567:2012 – Specification for outdoor electricity meter cupboards				
Clause/Sub-clause	Clause/ Requirement	Conformance Code	Evidence Reference	Remarks / Comments
4.1 – Dimensions and features - General	To meet requirements of Clause 4.1 and all associated sub sections to BS 8567:2012			
4.2 – Security and weather resistance	To meet requirements of Clause 4.2 and all associated sub sections to BS 8567:2012			
5 - Materials	To meet requirements of Clause 4.1 and all associated sub sections to BS 8567:2012			
5.3.1 - Flammability	To meet requirements of Clause 5.3.1 and all associated sub sections to BS 8567:2012			
5.3.2 - Mechanical	To meet requirements of Clause 5.3.1 and all associated sub sections to BS 8567:2012			

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## Appendix 4 – Addendum to Supplier Requirements

To enable Northern Powergrid to install the product(s) in accordance with the manufacturer's recommendations, if appropriate, the supplier shall provide a single copy of drawings, descriptive leaflets and instruction manuals appropriate to the goods being offered, which shall incorporate details of the recommended installation procedures required in order to provide optimal performance of the goods during their operational life.

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## **Appendix 5 – Routine Inspection and Maintenance Requirements**

Suppliers shall provide details of the recommended pre-commission testing and inspection required.

They shall also provide information regarding periodic inspection and maintenance requirements to be undertaken during the lifetime of their product.

Detailed inspection and maintenance instructions shall also be provided.

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## Appendix 6 - Technical Information Check List

The following information shall be provided by the supplier for review by Northern Powergrid. Additional information shall be provided if requested.

Requirement	Provided (Y/N)
Full product descriptions and part number/reference	
Appendix 3 – completed self-certification conformance declaration	
Complete set of drawings for each variant	
Type test evidence	
Routine test plan (example)	
Pre-commissioning testing/inspection requirements	
Recommended periodical inspection and maintenance requirements	
Packaging/delivery information	