NPS/003/045 – Technical Specification for Ground Mounted Remote Terminal Unit (RTU) Battery Monobloc Cells

1. Purpose

This document is to detail the technical requirements for Remote Control RTU replacement battery monobloc cells for use by Northern Powergrid (the Company) at Ground Mounted Distribution substations.

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

Document Reference	Document Title	Version	Published Date
n/a			

2. Scope

This specification details the technical requirement for DC battery monobloc cells which are used for Remote-control supplies in a range of Northern Powergrid Ground Mounted Remote Terminal Units (RTUs) on Distribution networks enabling Remote-control communication and operation. It specifies secondary sealed Lead-acid cells as replacements in battery/charger systems originally supplied by the manufacturer of the RTUs based on the originally performance specification for a full Remote-Control system conforming to Northern Powergrid Technical specification NPS/003/017 - TECHNICAL SPECIFICATION FOR A GROUND MOUNTED DISTRIBUTION SWITCHGEAR REMOTE CONTROL SYSTEM.

For that reason, the requirements are for specific makes, models and types of battery monobloc cell or *an acceptable equivalent* with the same critical characteristics in terms of technical performance, connectivity, expected lifespan and dimensions since they must be suitable for existing systems.

The expectation is that Northern Powergrid will order a quantity of replacement battery monobloc cells on a frequent, planned usage basis in order to regulate supply and usage within a managed, planned regulated replacement program to limit excessive peaks and troughs in product demand.

The following appendices form part of this technical specification:

- Appendix 1: Schedule of Requirements
- Appendix 2: Pre-Commission Testing, Routine Inspection, Test and Maintenance Requirements
- Appendix 3 : Technical Information List

2.1. Table of Contents

3. Technical Requirements

3.1. Compliance with other Specifications and Standards

Where reference is made within this specification to any International Standard, British Standard, Energy Networks Association Technical Specification (ENA TS) or any other standard, this shall be to the latest version of that standard current at the time of supply.

3.2. General

The requirement is for Secondary Lead acid Battery cells of a Valve regulated and Sealed type. These are rechargeable battery cells and therefore will be used with a battery charger unit within the RTU.

All Battery cells shall be low maintenance 12VDC nominal output with a design life of 10 Years.

Appendix 1. Schedule of Requirements provides a list of required battery types for use in the specific RTU types.

4. References

4.1. External Documentation

Reference	Title
BS EN 60896-21	Stationary lead-acid batteries Part 21: Valve regulated types – Methods of test
BS EN 60896-22	Stationary lead-acid batteries Part 22: Valve regulated types – Requirements

4.2. Internal Documentation

Reference	Title
NPS/003/017	Technical Specification for a Ground Mounted Distribution Switchgear Remote Control System

4.3. Amendments from Previous Version

Reference	Description
None	First version

5. Definitions

Term	Definition
The Company	Northern Powergrid

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.

		Date
Joe McAndrew	Co-Ordinator - Finance	26/10/2023

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:

Standard CDS review of 3 years?	Non-Standard Review Period & Reason	
No	**Period: 5 Years**	**Reason:** Update will be dictated by contract renewal date or any significant changes in the specification or documents referenced
Should this document be displayed on the Northern Powergrid external website?		Yes

		Date
Alan MacDonald	Policy & Standards Engineer	02/11/2023

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.

		Date
Simon McGeary	Technical Services Engineer	30/10/2023
Gary Bartholomew	Work Programme Manager	31/10/2023
Joseph Helm	Lead Policy & Standards Engineer	01/11/2023

6.4. Authorisation

Authorisation is granted for publication of this document.

		Date
Paul Black	Head of System Engineering	02/11/2023

Appendix 1 – Schedule of Requirements

NPS/003/045 Item Identifier	Commodity Code	Remote Control Product	Battery (Make/model)	Battery type	Equipment Config
REMBAT#1	301117	REMSDAQ NX F5023 RTU REMSDAQ Callisto IES RTU	Yuasa NPL 24-12 or, Enersys Datasafe 12HX105FR, *OR EQUIVALENT*	Valve regulated Lead-Acid (VRLA)	2 x 12VDC monobloc cells
GEMBAT#2	301119	LUCY GEMINI III - 3 Bay RTU LUCY GEMINI III - 6 Bay RTU	Exide Marathon L12V24 *OR EQUIVALENT*	Valve regulated Lead-Acid (VRLA)	2 x 12VDC monobloc cells
SCHN100BAT#3	301121	SCHNEIDER T100 RTU	Enersysy Odyssey PC950 or, Enersys Power Safe SBS30 *OR EQUIVALENT*	Sealed Lead-Acid (SLA)	2 x 12VDC monobloc cells

Appendix 2 – Pre-Commission Testing, Routine Inspection, Test and Maintenance Requirements

Tenderers shall provide details of the recommended pre-commission testing and inspection required.
Details of the Test Voltage Levels, duration, pass/fail criteria, etc. shall be provided.
Tenderers shall state any maximum voltage that may be applied or any other limitations that may apply.

Tenderers shall provide information regarding detailed and periodic inspection and maintenance requirements to be undertaken during the lifetime of their product. This shall include detailed instruction and guidance on any specific testing requirements, equipment and/or procedures to reliably ascertain the products service condition and suitability during the expected lifetime.

Appendix 3 – Technical Information Check List

Provided (Y/N)	Requirement
	Full product descriptions and part number/reference / datasheets
	Appendix 2 - Recommended periodical inspection, test, and maintenance requirements
	Appendix 3 – This table
	Packaging/transport/delivery/handling/storage information