The Voice of the Networks

Energy Networks Association

ENA EREC G78 Issue 4 2018 Revision Summary

Version 1

ENA EREC G78 Issue 4 2017 Revision Summary

Recommendations for low voltage supplies to mobile phone base stations with antennae on high voltage structures

PURPOSE

Recommendations for the design of LV connections to MPBSs, whose antennae are supported by HV Structures. These recommendations mitigate, as far as reasonably practicable, the risks caused by Rise of Earth Potential (ROP). Some mitigation is necessary within the MPBS itself and so the recommendations also apply to some aspects of the MPBS design.

SCOPE

Guidance on the provision of LV connections to MPBSs where their rigging and antennae are supported by HV Structures operating at voltages up to 400 kV.

HISTORY

- 1st published 2003
- Revision 2005 – 3 Connection methods added
- Revision 2006 – 1 Connection method added
- Minor revision 2012
- Minor revision 2017

ENA EREC G78 Issue 4 2018 Revision Summary

Summary of Amendments

- Permissible step and touch voltages in ENA TS 41-24 to be used as the limits to assess danger due to EPR, replacing previous use of 650 V ROP contour.
- HV structure owner and DNO to provide ROP voltage contours to MPBS operator.
- Additional guidance on access or work in proximity to MPBS antennae.
- Exothermic welded added as an acceptable earthing connection method.
- New guidance added for a MPBS which may require a communication service (to ensure ROP export is prevented)
- Stay wire insulator requirements updated.
- Guidance added for earthing at sites vulnerable to theft.

Nature of Revision

Minor

Details of all amendments can be found in the accompanying 'Document Amendment Summary'

ENA EREC G78 Issue 4 2018 Revision Summary

Who is affected and why?

- Mobile Phone Base Station operators and designers
- ENA Member Companies who own HV Structures which providing the site and platform for mounting mobile phone antennae
- DNO Member Companies which provide LV supplies to a mobile phone base station

All parties need to be aware of the technical amendments in the document and the revised guidance.

Of particular note, is the requirement to use ENA TS 41-24 values of permissible step and touch voltages to assess danger due to ROP, replacing the previous use of the 650V ROP contour.

The LED design in the document makes use step and touch potentials that have been superseded by ENA TS 41-24. This does not necessarily invalidate the LED design but a site-specific study may be needed to confirm step/touch potentials are adequately controlled by this design and changes made, if necessary.

ENA EREC G78 Issue 4 2018 Revision Summary

Impact Assessment of Changes to G78

Rating Categories
Nil
Negligible
Minor
Moderate
Major

	Rating	Assessment
Safety	Minor	Requirement to use ENA TS 41-24 values of permissible step and touch voltages to assess danger due to ROP. New guidance to prevent export of ROP via a communication service.
Environment	Nil	
Financial (costs/benefits)	Minor	An LED design may require a site-specific study to confirm step/touch potentials are adequately controlled by the design provided n the document and changes to it made, if necessary.
Asset Quality & Performance	Nil	
Statutory/ Regulatory	Minor	Changes made to the values of permissible step and touch voltages
Reputation	Minor	Risk that the technical amendments are not implemented

The latest issue of the document is available from the ENA Engineering Catalogue via www.energynetworks.org. Further information can be obtained from ENA by emailing david.spillett@energynetworks.org