

Modification proposal:	Amendment to EREC G12/4 – PME (protective multiple earthing) - Clarification on the use of earth electrodes when installing and connecting street lighting mini pillars		
Decision:	The Authority ¹ directs that the proposed modification to the Distribution Code be made		
Target audience:	Distribution Code users, and other interested parties		
Date of publication:	15 December 2015	Implementation Date:	1 January 2016

Background to the modification proposal

Electricity Distribution Licence holders are required by Standard Licence Condition (SLC) 20 of their licences to have in force, implement, and comply with the Distribution Code. SLC 21 imposes a duty on licence holders to review and, where appropriate, seek our approval for modification of the Distribution Code so as to better achieve the requirements of SLC 21. The Distribution Network Operators (DNOs) may propose changes to the Distribution Code and initiate work on a review of the Code through the Distribution Code Review Panel (DCRP).

The Energy Networks Association's (ENA) Engineering Recommendation G12 (ER G12) provides recommendations for the application of protective multiple earthing (PME) to low voltage networks. ER G12 is referenced in Annex 1 of the Distribution Code and is incorporated within the Distribution Code as part of the Code's technical requirements. Therefore any change to ER G12 constitutes a change to the Distribution Code and has to be approved by us. The current version, ER G12/4, came into effect in February 2014.

Drivers for the proposed changes to ER G12/4

ER G12/4 was published in February 2014. Prior to this date, an incident occurred (in August 2013) whereby a member of the public experienced a shock from a metallic street pillar connected to a PME network. As a result of the incident investigation, an issue with ER G12 was identified. The incident was not fully investigated and reported in time for modifications to be included in ER G12/4. However, the learnings from this incident have led to the modifications being proposed here.

The issue was that, whilst the intention of ER G12 is to require both an earth electrode at the pillar and a remote earth on the network for connections of this kind, the diagrams in the current version, G12/4, do not show this source earth (ie at the pillar) and the text is not sufficiently specific about the required earthing arrangement.

The ENA Earthing Co-ordination Group therefore proposed to the DCRP that a small amendment, consisting of two additional paragraphs, should be made to the text of sub-clause 6.2.14 of ER G12/4 to clarify the requirement regarding earthing arrangements. In

¹ References to the 'Authority', 'Ofgem', 'we' and 'our' are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work.

addition, the two associated drawings, figures 6.2.14a and 6.2.14b, should be amended to show the source earth electrode at the pillar.

Industry consultation process

At its meeting on 4 June 2015, the DCRP approved the draft modification to ER G12/4 subject to undertaking a short public consultation on the proposed changes. The DCRP consulted with stakeholders likely to be affected by the proposed changes to ER G12/4. The DCRP consultation opened on 15 June 2015 (closing on 10 July 2015) and a consultation pack was circulated to industry stakeholders and also published on the Distribution Code website.² The consultation paper explained the reasoning behind the proposed changes.

Comments were invited from all industry participants and stakeholders. In total, three responses were submitted by industry stakeholders. There were two responses from DNOs and one response from the Health and Safety Executive (HSE).

The proposals have not brought forward any comments from stakeholders that suggest any material detriment to any User or prospective User.

Both DNOs responded agreeing that the proposals clarified the issues. The HSE is content with the proposed modifications and had no comments to make.

The modification proposal

The modification proposal has a number of elements. The first is the addition of two paragraphs in section 6.2.14 to clarify in writing the inclusion of an earth electrode at street lighting pillars or supply points servicing more than one street lamp or road sign. The other two changes relate to associated drawings (figures 6.2.14a and 6.2.14b) where the figures now include an earth electrode at the source pillar, as explained in the additional paragraphs in 6.2.14.

DCRP recommendation

At its meeting on 3 September 2015, the DCRP agreed to the submission to us of the Final Modification Report (FMR) for decision. The FMR, incorporating the proposed legal text and supporting information, was submitted to us on 10 November 2015.

Our decision

We have considered the issues raised by the modification proposal and in the FMR dated 10 November 2015. We have considered and taken into account the responses to the consultation on the modification proposal included in the FMR. We have concluded that:

1. implementing the modification will better facilitate the achievement of the Objectives of the Distribution Code³; and
2. approving the modification is consistent with our principal objective and statutory duties.⁴

² <http://www.dcode.org.uk/consultations/>

³ As set out in SLC 21.4 of the Electricity Distribution Licence, see: <https://epr.ofgem.gov.uk//Content/Documents/Electricity%20Distribution%20Consolidated%20Standard%20Licence%20Conditions%20-%20Current%20Version.pdf>

Reasons for our decision

We set out below our views on which of the Applicable Distribution Code Objectives are better facilitated by the modification proposal. We consider that the modification has no impact on Applicable Distribution Code Objectives (b) and (c).

Objective (a): "permit the development, maintenance, and operation of an efficient, co-ordinated, and economical system for the distribution of electricity"

The reason for the proposed changes is to clarify the appropriate arrangements for earthing of street lighting source pillars in a PME system to improve system safety. Objective (a) encompasses "development, maintenance and operation" of the system. Therefore, highlighting and clarifying areas of protective earthing to enhance future installations permits the appropriate development, maintenance and operation of the distribution system and thereby meets the aims of the Objective.

Taking these factors into consideration, we consider that the proposal better facilitates Objective (a).

Decision notice

In accordance with paragraph 10 of SLC 21 of the Electricity Distribution Licence, we direct that modification proposal '*Amendment to EREC G12/4 – PME - Clarification on the use of earth electrodes when installing and connecting street lighting mini pillars*' be made. We note that the effect of our decision is that the revised document will be re-issued as ER G12/4 Amendment 1 and references to it in the Distribution Code will be updated accordingly.

We approve the modification proposal and direct that it is implemented on 1 January 2016.

This document is notice of the reasons for this decision as required by section 49A of the Electricity Act 1989.

Gareth Evans

Head of Profession - Engineering

Signed on behalf of the Authority and authorised for that purpose

⁴ The Authority's statutory duties are wider than matters which distribution licensees must take into consideration and are detailed mainly in the Electricity Act 1989 as amended.