

ER P29 Working Group
Terms of Reference (ToR)

1 Introduction

Engineering Recommendation (ER) P29 was last revised in 1990 and provides planning limits for voltage unbalance in the United Kingdom. ER P29 is listed as a Qualifying Standard (Annex 1) document in the Distribution Code.

A review of ER P29 conducted in 2016 found that much of the technical content of ER P29 is still relevant. Although the document appears to have served the industry well since it was published, the technical content needs to consider any changes resulting from unbalanced demand/generation in single-phase connections that are known to cause voltage unbalance issues.

National Grid carried out a review of voltage unbalance limits in the Grid Code (see Review of Voltage Unbalance Limit in The GB Grid Code CC.6.1.5 (b), F Ghassemi and M Perry, October 2014). These recommendations formed the basis of Grid Code Modification GC0088, which was approved by Ofgem on 7 January 2016. The Grid Code was modified to state a voltage unbalance limit of 2% for system voltages lower than 150 kV across GB under planned outage conditions, where the limit is based on weekly 95 percentile of voltage unbalance. There is a need to consider the changes to the limits and requirements for voltage unbalance in the Grid Code and to align ER P29 and the associated requirements of the Distribution Code, where appropriate.

In light of the changes to the limits for voltage unbalance in the Grid Code, Network Rail believes that alignment of limits and requirements in ER P29 and the associated legal text in the Distribution Code with that of the Grid Code would allow for a wider range of traction power design options with the potential for significant savings.

A Working Group review of ER P29 and the associated legal text in the Grid Code has been sanctioned by the Energy Networks Association (ENA) on behalf of the Distribution Code Review Panel (DCRP).

This document sets out the Terms of Reference for the ER P29 Working Group (subsequently referred to as the 'Working Group').

2 Objectives

The objectives of the ER P29 Working Group are as follows.

1. Propose modifications to the limits and requirements for voltage unbalance in ER P29 in light of changes to the Grid Code and current National and International Standards for Electromagnetic Compatibility (EMC).
2. Consider how ER P29 can be modified to better facilitate the objectives of the Distribution Code.
3. Propose associated legal text changes to the Distribution Code and any other code documents affected.

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3 Membership

Membership will be open to nominated representatives from key stakeholders including DNOs, TSOs, Independent Distribution Network Operators (IDNOs), ENA, generators, equipment manufacturer trade associations, disturbing load connectees, independent technical experts, government, regulators and other third parties.

Membership will take the form of 'Sitting Members' and/or 'Corresponding Members'.

It is proposed to form a Working Group consisting of a small number of key stakeholder representatives, who will be Sitting Members and will attend meetings (see table below).

Stakeholder	Representative
Transmission System Operator & Grid Code Review Panel	Forooz Ghassemi – National Grid
Distribution Network Operator	Wayne Oxborough - WPD
Distribution Network Operator	Cornel Brozio - SPEN
Distribution Network Operator	Nebeel Sulaiman – Northern Powergrid
Network Rail	Dave Hewings
Specialist Consultant	Davor Vujatovic – VandA Engineering
Specialist Consultant	Mustafa Kayikci - TNEI
Generator	Vacant
Motor Manufacturer	Vacant
BEAMA	Vacant
ENA	Darwin Aseka
ENA Facilitator	Gary Eastwood – Threepwood Consulting

Corresponding Members will participate in Working Group activities remotely via email.

Changes to Membership of the Working Group will be sanctioned jointly by the DCRP.

4 Scope of Review

See proposals in ENA Paper_Proposed Mod of ER P29_v1 Issued.

5 Facilitation

Facilitation and secretariat support for the Working Group will be provided by the ENA and their nominated representative.

The Facilitator will ensure that the Working Group follows governance procedures as set down by the DCRP. This includes general compliance with the principles set out in the Code Administrators Code of Practice (CACOP) to facilitate transparency in Code Modification processes and help protect the interests of small market participants and consumers.

6 Meetings

Meetings of the Working Group will be held as notified in the project plan.

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Meetings of the Working Group will be chaired by a DCRP appointed representative, nominally the ENA Facilitator. The Chair shall ensure the Working Group operates effectively and efficiently.

Sitting Members will be invited to attend meetings of the Working Group; Corresponding Members will not normally be invited to attend meetings but will be invited to comment on all other aspects under consideration by the Working Group. External parties, such as technical specialists, may be invited to attend and contribute to meetings on an exceptional basis; stakeholders will be able to object to attendance by any external party.

Sitting Members will be expected to attend meetings of the Working Group. A stakeholder, who has 'Sitting Membership' of the Working Group will be allowed to send a substitute representative to meetings of the Working Group, where the nominated representative is unable to attend. The substitute representative will be appropriately qualified and experienced to contribute to the meeting(s) of the Working Group. Where attendance at a meeting is not possible, the Sitting Member will send their apologies sufficiently in advance together with details of their substitute representative for acceptability by the Facilitator.

An agenda and arrangements for each meeting will be notified, generally one month, in advance by the Facilitator of the Working Group together with details of any proposal to invite external parties to the meeting. Additional meetings may be held when the majority of Members agree there is an essential requirement.

7 Liaison with Other Panels and ENA Working Groups

It is essential that the review of ER P29 is coordinated with the work of the DCRP, GCRP and other ENA Working Groups.

Minutes from meetings and regular updates on the progress of the Working Group will be prepared and circulated by the Working Group Facilitator to other Panels and ENA Working Groups, as appropriate.