

# P1453.1

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**Type of Project:** New IEEE Standard

**PAR Request Date:** 17-Feb-2011

**PAR Approval Date:** 31-Mar-2011

**PAR Expiration Date:** 31-Dec-2015

**Status:** PAR for the Adoption of a Non-IEEE Standard

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**\* Adoption of a Non-IEEE Standard \***

**1.1 Project Number:** P1453.1

**1.2 Type of Document:** Guide

**1.3 Life Cycle:** Full Use

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**2.1 Title:** Adoption of IEC/TR 61000-3-7:2008, Electromagnetic compatibility (EMC)-Limits-Assessment of emission limits for the connection of fluctuating installations to MV, HV and EHV power systems

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**3.1 Working Group:** Voltage Quality Working Group (PE/T&D/PQ-1250\_WG)

**Contact Information for Working Group Chair**

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None

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**3.2 Sponsoring Society and Committee:** IEEE Power and Energy Society/Transmission and Distribution (PE/T&D)

**Contact Information for Sponsor Chair**

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 10/2013

**4.3 Projected Completion Date for Submittal to RevCom:** 02/2015

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 15

**5.2 The Scope of this project is adoption of:** Guide for the Assessment of Flicker Emission Limits due to Voltage Fluctuation as an IEEE Guide

**5.3 Scope of the document being adopted:** This part of IEC 61000 provides guidance on principles which can be used as the basis for determining the requirements for the connection of fluctuating installations to MV, HV and EHV public power systems (LV installations are covered in other IEC documents). For the purposes of this report, a fluctuating installation means an installation (which may be a load or a generator) that produces voltage flicker and / or rapid voltage changes. The primary objective is to provide guidance to system operators or owners on engineering practices which will facilitate the provision of adequate service quality for all connected customers. In addressing installations, this document is not intended to replace equipment standards for emission limits.

This report addresses the allocation of the capacity of the system to absorb disturbances. It does not address how to mitigate disturbances, nor does it address how the capacity of the system can be increased.

Since the guidelines outlined in this report are necessarily based on certain simplifying assumptions, there is no guarantee that this approach will always provide the optimum solution for all flicker situations. The recommended approach should be used with flexibility and engineering judgment as far as engineering is concerned, when applying the given assessment procedures in full or in part.

The system operator or owner is responsible for specifying requirements for the connection of fluctuating installations to the system. The fluctuating installation is to be understood as the customer's complete installation (i.e. including fluctuating and non fluctuating parts).

Problems related to voltage fluctuations fall into two basic categories:

- \* Flicker effect from light sources as a result of voltage fluctuations;
- \* Rapid voltage changes even within the normal operational voltage tolerances are considered as a disturbing phenomenon.

The report gives guidance for the coordination of the flicker emissions between different voltage levels in order to meet the compatibility levels at the point of utilisation. This report primarily focuses on controlling or limiting flicker, but a clause is included to address the limitation of rapid voltage changes.

NOTE The boundaries between the various voltage levels may be different for different countries (see IEC 601-01-28) [16]. This report uses the following terms for system voltage:

- &#8722; low voltage (LV) refers to  $Un \leq 1 \text{ kV}$ ;
- &#8722; medium voltage (MV) refers to  $1 \text{ kV} < Un \leq 35 \text{ kV}$ ;
- &#8722; high voltage (HV) refers to  $35 \text{ kV} < Un \leq 230 \text{ kV}$ ;
- &#8722; extra high voltage (EHV) refers to  $230 \text{ kV} < Un$ .

In the context of this report, the function of the system is more important than its nominal voltage. For example, a HV system used for distribution may be given a "planning level" which is situated between those of MV and HV systems.

**5.4 Is the completion of this standard dependent upon the completion of another standard:** No

**5.5 Purpose of the document being adopted:** This document will not include a purpose clause.

**5.6 Need for the Project:** The need for the project is to provide the industry with a methodology of assessing and managing flicker emission limits.

**5.7 Stakeholders for the Standard:** The stakeholders for this standard are electric utilities, manufacturers and electric utility end-users.

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## Intellectual Property

**6.1.a. Has the IEEE-SA staff obtained the necessary permissions for the adoption of this document?:** Yes

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

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**7.1 Are there other standards or projects with a similar scope?:** No

## 7.2 Joint Development

**Is it the intent to develop this document jointly with another organization?:** No

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**8.1 Additional Explanatory Notes (Item Number and Explanation):** This guide is the adoption of IEC 61000-3-7, ed 2.