
Pregled zasnove (IEC 61160:2005)

(istoveten EN 61160:2005)

Design review (IEC 61160:2005)

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EUROPEAN STANDARD

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(IEC 61160:2005)

Revue de conception
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Formale Entwicklungsbewertung
(IEC 61160:2005)

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CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 56/1044/FDIS, future edition 2 of IEC 61160, prepared by IEC TC 56, Dependability, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61160 on 2005-11-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-11-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61160:2005 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60300-1	NOTE	Harmonized as EN 60300-1:2003 (not modified). https://standards.iteh.ai/catalog/standards/sist/45a103f4-61c3-49fc-8959-1e165d07022a/iec-60300-1-2003
IEC 60300-2	NOTE	Harmonized as EN 60300-2:2004 (not modified).
IEC 60721-2	NOTE	Harmonized in HD 478.2 series (not modified).
IEC 60721-3	NOTE	Harmonized in EN 60721-3 series (not modified).
IEC 61078	NOTE	Harmonized as EN 61078:1993 (not modified).
ISO 9000	NOTE	Harmonized as EN ISO 9000:2000 (not modified).
ISO 9001	NOTE	Harmonized as EN ISO 9001:2000 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-191	1990	International Electrotechnical Vocabulary (IEV) Chapter 191: Dependability and quality of service	-	-
IEC 62198	2001	Project risk management - Application guidelines	-	-

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DESIGN REVIEW

FOREWORD

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This International Standard has been prepared by IEC technical committee 56: Dependability.

This second edition cancels and replaces the first edition published in 1992 and its amendment 1(1994) and constitutes a technical revision.

The major changes with regard to the previous edition concern the inclusion of the previous amendment which dealt with environmental effects (10.2.7), human factors (10.2.9) and legal matters (10.2.10), as well as clarification of responsibilities for the design review process and the design review process itself.

This bilingual version (2006-02) replaces the English version.

The text of this standard is based on the following documents:

FDIS	Report on voting
56/1044/FDIS	56/1064/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

The dependability of a product is enhanced through implementation of necessary disciplines during the design and development phases of a product's life cycle. Like other technical and engineering disciplines, a design review needs to be properly managed in order to achieve its objectives.

Properly implemented, design reviews enhance the potential for delivering a product of the required dependability, quality, performance, safety and potential for reduction in costs and delivery schedule. Both supplier and customer can utilize it.

A design review is an advisory activity. It is intended primarily to provide verification of the work of the design development team, and to provide recommendations, where possible, to improve the product or process and its realization. Thus design reviews should be considered as a confirmation and refining procedure and not a creative one.

Design reviews, regardless of frequency or depth cannot replace good product definitions, design specifications, and management of the design and development process. Used as a control process, design reviews can provide the necessary verification of the successful outcome of the design effort at a given time.

Design reviews should not be confused with day-to-day management of a design project. The design manager carries the responsibility for the design and the final decisions for the response to a design review's actions and recommendations. Design reviews when properly conducted, increase confidence that design and development activities were carried out with due regard to all pertinent requirements for a product throughout its life cycle.

The application of this standard needs to be tailored to the needs of the design and development project or task in question and the organization preparing the design.

The objectives of a design review include:

- assessing whether the proposed solution meets the design input requirements that include, but are not limited to: specified general performance requirements, dependability, lifecycle costs, safety, endurance, environment, electromagnetic compatibility, human factors;
- assessing whether the proposed solution is the most robust, efficient and effective solution to achieve the product requirements;
- providing recommendations as required for achieving the design input requirements;
- assessing the status of the design in terms of the completeness of the drawings and specifications;
- assessing the evidence to support the verification of the design performance;
- proposing improvements.

Design review facilitates assessment of the status of the design against the input requirements, identification of opportunities for improvement and guides the design manager towards appropriate action. It accelerates maturing of the product by reducing the time needed to stabilize design details, and allows product realization to proceed without frequent interruptions. Design review can also stimulate early product improvement.

1.2 Application

The stage or stages at which a design review is to be performed should be determined in the design and development planning stage of a project or a design task. Influencing factors should include customer requirements, regulatory requirements, the size and complexity of the product, the use to which the product is to be put, and the consequences of failure.

The cost to correct deficiencies in a design and the potential consequences increase as the design nears completion. Also, as the design progresses towards completion, so the flexibility to implement a change to correct a deficiency or to optimize the design decreases.

Each organization undertaking design and development should adopt either a comprehensive design review programme as presented in this standard, or tailor a more limited one to meet specific product and/or process needs.

The design review should be incorporated into the organization's overall management system and, as applicable, each project's schedule.

Limitations of size and resources of the organization, project value, product benefits, risks and complexity, all influence the size and frequency of design reviews. In smaller organizations, it could be necessary to supplement staff with personnel from suppliers, consultants and other outside advisors.

1.3 Types of application

There are two types of application: either an in-house created requirement for a new design, or a design requirement from an external source. In the case of the latter, the risk of a misunderstanding is much greater. Any misunderstanding could become a contractual issue and design review meetings with the client will be of primary importance to ensure that the emerging design meets the client's requirements.