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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16856.1-2008

Replacing GB/T 16856.2-2008

**Safety of machinery -- Risk assessment -- Practical guidance
and examples of methods**
(English Translation)

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 16856.2-2008 "Mechanical safety risk assessment Part 2. Examples of implementation guidelines and methods", and GB/T 16856.2-2008 compared to the editorial changes in the main technical changes are as follows.

--- GB/T 16856 "mechanical safety risk assessment" originally composed of two parts, of which the first part of GB/T 16856.1-2008 "Safety assessment of mechanical safety Part 1. Principles" has been GB/T 15706-2012 "Mechanical safety design general wind Risk assessment and risk reduction" instead, so GB/T 16856 part 2 GB/T 16856.2-2008 this revision from the original to the part of the standard number to a separate standard number;

--- modified the standard name;

--- Amend the terms and guidelines in line with GB/T 15706-2012;

- Reduced examples of relevant methods and tools that are described in describing hazard identification and risk estimation (see 5.3, 5.4 and 6, 2008 Chapter 4.2.3, Chapter 5, Chapter 6 and Appendix A);

--- adjust the standard structure.

1) The contents of the "Risk Assessment Tool" are compiled into chapters at the level of the chapter and raised to the level of the chapter (see Chapter 6, 5.4.4 for the 2008 edition);

2) the addition of the examples listed in Appendix A of GB/T 16856.2-2008 and its previous examples and the quantitative risk estimates description;

3) The numbering of the data entry Appendix "Application Examples for Risk Assessment and Risk Reduction Process" is adjusted from Appendix B to Appendix A (see Appendix A, Appendix B of the 2008 edition).

This standard uses the re-drafting method to modify ISO/T R14121-2..2012 "Mechanical Safety Risk Assessment Part 2. Implementation South and method examples. " the technical differences between this and ISO/T R14121-2..2012 and the reasons are as follows.

- the use of a separate standard to modify the use of a separate part of the published ISO technical report;

--- deleted the ISO/T R14121-2..2012 preface, re-prepared the preamble;

--- use the date of reference to the use of the corresponding international standards of our standard instead of ISO/T R14121-2..2012 Note the date cited with the international standards;

- consistent with the standard structure of GB/T 15706-2012, the ISO/T R14121-2..2012 8.3 "security" and 8.4 "Supplementary protection and/or risk mitigation measures" are incorporated into this standard 8.3 "Safety and/or supplementary protection measures Shi "in the terms;

- the terms of discussion discussed in ISO/T R14121-2..2012 6.2.2.6, 6.3.3 and 6.4.3;

For the international standards listed in the list of international and foreign documents listed in the references, if there is a national standard, with the equivalent or modified use of international standards instead of our standard.

In order to facilitate the use of this standard also ISO/T R14121-2..2012 made the following editorial changes.

Replace this document with "this standard";

--- changed the standard name.

There are technical differences between this and ISO/T R14121-2..2012, and the terms involved in these differences have passed through the margin the vertical single line (|) of the position is marked.

Introduction

The purpose of risk assessment is to identify hazards, estimate and evaluate risks in order to reduce risk. There are many ways and tools available to implement this for a purpose, this standard describes several of these methods and tools. Which method or tool to choose depends mainly on the industry, company or individual Preferences. Choosing a specific method or tool is no more important than the risk assessment process itself. As long as the risk of identification to reduce the risk of the Department Method, you can consider all the risk elements. The risk assessment pays more attention to the rigor of the process than the accuracy of its results.

If, after the completion of the mechanical design or the machinery has been made additional protection and/or risk reduction measures, the design, the additional of the protective measures will increase the cost and may limit the ease of use of machinery. Changing the machine at the design stage is usually more economical and there is Therefore, it is very useful to conduct a risk assessment at the mechanical design stage.

This standard evaluates the risk assessment of the completed mechanical design and the risk assessment of the prototype and the experience of the use of the machine.

Face has a practical significance.

In addition to risk assessment during the design phase, during manufacturing and during commissioning, the principles and methods given in this standard apply to the assessment of existing machinery or improvements is also applicable to the assessment of service

machinery at any time, for example, in the event of an accident or failure.

Mechanical safety risk assessment Examples of implementation guidelines and methods

1 Scope

This standard gives an implementation guide for risk assessment of machinery according to GB/T 15706-2012 and describes each step in the process Related to various methods and tools.

This standard is intended for risk assessment of the complexity and potential hazards of various machines and gives a different risk reduction Examples of insurance measures.

The intended users of this standard are those who are involved in the design, installation or improvement of the safety into the machinery (eg, the designer, Technician, security expert).

Appendix A gives specific examples of applying risk assessment and risk reduction processes.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, the only dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 15706-2012 General principles of mechanical safety design Risk assessment and risk reduction (ISO 12100.:2010, IDT)

3 Terms and definitions

GB/T 15706-2012 Definitions and the following terms and definitions apply to this document.

Manufacturer Supplier an entity that provides equipment or services related to a machine or machine component (eg, designer, manufacturer, contractor, installer, integrated by).

Note: Users can also be their own suppliers.

4.1 General

The objectives and scope of the risk assessment should be clearly defined.

The supplier shall carry out the risk assessment of the machine including the machine control system according to GB/T 15706-2012.

Note: Refer to Chapter 1 for the purpose of the proposed risk assessment and/or the user.