

Guide for procurement of power station equipment - Part 2-2: Electrical equipment - Uninterruptible power supplies

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power supplies

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 45510-2-2:2001 sisaldab Euroopa standardi EN 45510-2-2:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 45510-2-2:2001 consists of the English text of the European standard EN 45510-2-2:1999.</p> <p>This document is endorsed on 18.06.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This standard gives guidance on writing the technical specification for the procurement of static a.c. uninterruptible power supplies (UPS's) for installation in electric power generation plants.</p>	<p>Scope:</p> <p>This standard gives guidance on writing the technical specification for the procurement of static a.c. uninterruptible power supplies (UPS's) for installation in electric power generation plants.</p>
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Võtmesõnad:

English version

Guide for procurement of power station equipment

Part 2-2: Electrical equipment – Uninterruptible power supplies

Guide pour l'acquisition d'équipements destinés aux centrales de production d'électricité – Partie 2-2: Equipements électriques – Alimentations sans interruption

Leitfaden für die Beschaffung von Ausrüstung für Kraftwerke – Teil 2-2: Elektrische Ausrüstung – Unterbrechungsfreie Stromversorgungen

This European Standard was approved by CEN/CENELEC on 1998-10-01.

CEN/CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN/CENELEC member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN/CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN/CENELEC members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.



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Foreword

This European Standard has been prepared by Technical Committee CEN/CLC JTFPE "Joint Task Force Power Engineering", the secretariat of which is held by CS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 1999, and conflicting national standards shall be withdrawn at the latest by October 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

This standard takes the form of a recommendation and is therefore entitled a "Guide".

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) 1999-11-01*
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1999-11-01*

*Annexes designated "informative" are given for information only.
In this standard, annex A is informative.*

This Guide for procurement has been prepared under mandates given to CEN and CENELEC by the European Commission and the European Free Trade Association.

This Guide for procurement is a part of a series of Guides mandated to cover the procurement of power station plant and equipment in conformity with European Procurement Directives. The Guides are:

EN 45510 Guide for procurement of power station equipment

Part 1 Common clauses

Part 2-1 Electrical equipment - Power transformers

Part 2-2 Electrical equipment - Uninterruptible power supplies

Part 2-3 Electrical equipment - Stationary batteries and chargers

Part 2-4 Electrical equipment - High power static convertors

Part 2-5 Electrical equipment - Motors

Part 2-6 Electrical equipment - Generators

Part 2-7 Electrical equipment - Switchgear and controlgear

Part 2-8 Electrical equipment - Power cables

Part 2-9 Electrical equipment - Cabling systems

Part 3-1 Boilers - Water tube boilers

Part 3-2 Boilers - Shell boilers

Part 3-3 Boilers - Boilers with fluidized bed firing

Part 4-1	Boiler auxiliaries - Equipment for reduction of dust emissions
Part 4-2	Boiler auxiliaries - Gas-air, steam-air and gas-gas heaters
Part 4-3	Boiler auxiliaries - Draught plant
Part 4-4	Boiler auxiliaries - Fuel preparation equipment
Part 4-5	Boiler auxiliaries - Coal handling and bulk storage plant
Part 4-6	Boiler auxiliaries - Flue gas desulphurization (De-SO _x) plant
Part 4-7	Boiler auxiliaries - Ash handling plant
Part 4-8	Boiler auxiliaries - Dust handling plant
Part 4-9	Boiler auxiliaries - Sootblowers
Part 4-10	Boiler auxiliaries - Flue gas denitrification (De-NO _x) plant
Part 5-1	Turbines - Steam turbines
Part 5-2	Turbines - Gas turbines
Part 5-3	Turbines - Wind turbines
Part 5-4	Turbines - Hydraulic turbines, storage pumps and pump-turbines
Part 6-1	Turbine auxiliaries - Deaerators
Part 6-2	Turbine auxiliaries - Feedwater heaters
Part 6-3	Turbine auxiliaries - Condenser plant
Part 6-4	Turbine auxiliaries - Pumps
Part 6-5	Turbine auxiliaries - Dry cooling systems
Part 6-6	Turbine auxiliaries - Wet and wet/dry cooling towers
Part 6-7	Turbine auxiliaries - Moisture separator reheaters
Part 6-8	Turbine auxiliaries - Cranes
Part 6-9	Turbine auxiliaries - Cooling water systems
Part 7-1	Pipework and valves - High pressure piping systems
Part 7-2	Pipework and valves - Boiler and high pressure piping valves
Part 8-1	Control and instrumentation

EN 45510 Part 1 contains those clauses common to all the above Guides giving the provisions of a non **equipment** specific nature for use in the procurement of power station plant. EN 45510 is the responsibility of JTFPE. The so called "common clauses", as appropriate, also appear in italics in the documents specific to particular **equipment**.

Where minor changes have been made to sentences in the "common clauses" these are marked by a vertical line in the left margin as shown here.

In this Guide, words in bold type indicate that they have the meaning given in the definitions, clause 3.

In this Guide, words and sentences not in italics are specific to this Guide and refer to the particular **equipment** covered.

1 Scope

*This standard gives guidance on writing the technical **specification** for the procurement of static a.c. uninterruptible power supplies (UPS's) for use in electricity generating stations (power stations). This Guide for procurement is not applicable to **equipment** for use in the nuclear reactor plant area of nuclear power stations. Other possible applications of such **equipment** have not been considered in the preparation of this Guide.*

This Guide covers UPS's consisting of rectifiers, batteries, inverters, transfer switches and bypass switches.

This equipment usually forms part of either a centralised or unit UPS system for duties such as computer, control and instrumentation, etc., supplies.

For additional, or specific, requirements for batteries and battery chargers refer to the relevant guides in this series.

*The **equipment** covered by this Guide is defined by its function rather than design type. Therefore, the guidance to the **specification** is stated in performance terms rather than being specified by a detailed description of the **equipment** to be supplied.*

*This Guide indicates to potential **purchasers** how their **specification** should be prepared so that:*

- *the **equipment** type and capacity interfaces correctly with other elements of the systems;*
- *predicted performance is achieved;*
- *ancillary **equipment** is properly sized;*
- ***reliability, availability** and safety requirements are achieved;*
- *proper consideration is given to the evaluation process and the quality measures to be applied.*

*This Guide does not determine the type of **specification** (e.g. detailed, performance, functional) or the extent of supply for any given contract which is normally decided on the basis of the **purchaser's** project strategy. It does not cover:*

- *any commercial, contractual or legal issues which are normally in separate parts of an **enquiry**;*
- *any allocation of responsibilities which are determined by the contract.*

*This Guide does not prescribe the arrangement of the documents in the **enquiry**.*

*NOTE: As a comprehensive European environmental policy is still under preparation, this Guide does not address the environmental implications of the **equipment**.*

2 Normative references

This Guide for Procurement incorporates by dated or undated reference, provisions from other publications. These normative references are cited in the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Guide only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

European Norms

EN ISO 8402 Quality management and quality assurance - Vocabulary

EN ISO 9001 Quality systems - Model for quality assurance in design, development, production, installation and servicing

EN ISO 9002 Quality systems - Model for quality assurance in production, installation and servicing

EN 45510 Guide for procurement of power station equipment
Part 2-7: Electrical equipment - Switchgear and controlgear
Part 2-9: Electrical equipment - Cabling systems

EN 50091 Uninterruptable Power Systems (UPS)
Part 1-1: General and safety requirements for UPS used in operator access areas
Part 2: EMC requirements

EN 60529 Degrees of protection provided by enclosures (IP Code) (IEC 60529)

International standards

IEC 60050 (191) International electrotechnical vocabulary
Chapter 191: Dependability and Quality of Services

IEC 60050 (486) International Electrotechnical Vocabulary (IEV)
Chapter 486: Secondary cells and batteries

IEC 60050 (551) International Electrotechnical Vocabulary (IEV)
Chapter 551: Power electronics

3 Definitions

For the purposes of this Guide, the following definitions apply:

3.1 Organisational terms

3.1.1 **purchaser**: Recipient of a product and/or a service provided by a **supplier**.

3.1.2 **supplier**: Person or organisation that provides a product and/or a service to the **purchaser**.

3.1.3 **specification**: Document stating technical requirements of the **purchaser**. It may form part of an **enquiry** issued by a **purchaser**.

3.1.4 **enquiry**: Invitation to **tender** issued by a **purchaser**. It will normally include a **specification** together with the necessary contractual and commercial conditions.

3.1.5 **tender**: Offer made by a **tenderer** in response to an **enquiry**.