



**NSAI**  
Standards

Irish Standard  
I.S. EN 45510-2-2:1999

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

**I.S. EN 45510-2-2:1999**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

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## National Foreword

I.S. EN 45510-2-2:1999 is the adopted Irish version of the European Document EN 45510-2-2:1999, Guide for procurement of power station equipment - Part 2-2: Electrical equipment - Uninterruptible power supplies

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

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EUROPEAN STANDARD

**EN 45510-2-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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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 1 October 1998.

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.

This European Standard exists 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 and national electrotechnical committees, respectively, of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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<sub>x</sub>) 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<sub>x</sub>) 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**.*

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