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*Guide for procurement of power station equipment –
Part 2-6: Electrical equipment –
Generators*

Som svensk standard gäller europastandarden EN 45510-2-6:2000. Den svenska standarden innehåller den officiella engelska språkversionen av EN 45510-2-6:2000.

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English version

**Guide for procurement of power station equipment
Part 2-6: Electrical equipment - Generators**

Guide pour l'acquisition d'équipements
destinés aux centrales de production
d'électricité
Partie 2-6: Equipements électriques -
Alternateurs

Leitfaden für die Beschaffung von
Ausrüstungen für Kraftwerke
Teil 2-6: Elektrische Ausrüstung -
Generatoren

This European Standard was approved by CEN and CENELEC on 2000-02-01.

CEN and 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 or 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 or CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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

This Guide for procurement has been prepared by the CEN/CENELEC Joint Task Force Power Engineering (JTFPE) of which the secretariat is held by the British Standards Institution.

The text of the draft was submitted to the formal vote and was approved by CEN and CENELEC as EN 45510-2-6 on 2000-02-01.

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) 2001-01-01*
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2003-01-01*

Annexes designated "informative" are given for information only. In this standard, annexes A, B and C are 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 converters

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 paragraphs of "common clauses" are omitted, each paragraph omitted is indicated by the symbol *****.

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 turbine-driven generators and their auxiliaries 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.*

The generators may be air, hydrogen, or liquid-cooled. The excitation system may be of the static or rotating rectifier type fed by a static or rotating power supply.

*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 Standards

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 60034-1	Rotating electrical machinery - Part 1 : Rating and performances
EN 60034-3	Rotating electrical machinery - Part 3: Specific requirements for turbine-type synchronous machines.