EESTI STANDARD EVS-EN 45510-5-2:2001

Guides for procurement of power station equipment - Part 5-2: Gas turbines

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 45510-5-2:2001 sisaldab Euroopa standardi EN 45510-5-2:1998 ingliskeelset teksti. Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 45510-5-2:2001 consists of the English text of the European standard EN 45510-5-2:1998. This document is endorsed on 18.06.2001 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard gives guidance on writing the technical specification for the procurement of gas turbines, including gas turbines for combined-cycle systems, and their auxiliaries for use in electricity generating stations (power stations).	**Scope:** This standard gives guidance on writing the technical specification for the procurement of gas turbines, including gas turbines for combined-cycle systems, and their auxiliaries for use in electricity generating stations (power stations).

ICS 27.040, 27.100

Võtmesõnad: electric power stations, invitation of tenders, purchase, specifications, technical writing, turbines, user supplier relations

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Descriptors: Power stations, equipment, gas turbines.

English version

Guide for procurement of power station equipment
Part 5-2: Gas turbines

Guide pour l'acquisition d'équipements destinés aux centrales de production d'électricité – Partie 5-2: Turbines à combustion

Leitfaden für die Beschaffung von Ausrüstungen für Kraftwerke – Teil 5-2: Gasturbinen

This European Standard was approved by CEN/CENELEC on 1997-12-11.

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 and national electrotechnical committees, respectively, 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.

CEN/CENELEC

The Joint European Standards Organization
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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 BSI.

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 ***July 1998****, and conflicting national standards shall be withdrawn at the latest by* ***July 1998****.*

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
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Part 2-8: Electrical equipment - Power cables
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Part 3-1: Boilers - Water tube boilers
Part 3-2: Boilers - Shell boilers
Part 3-3: Boilers - Boilers with fluidized bed firing

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Part 4-6: Boiler auxiliaries - Flue gas desulphurization (De-SO_x) plant
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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
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Part 6-4: Turbine auxiliaries - Pumps
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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.

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.

1 Scope

*This standard gives guidance on writing the technical **specification** for the procurement of* gas turbines, including gas turbines for combined-cycle systems, 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.*

This Guide is applicable to open-cycle gas turbines using normal combustion systems, generally greater than 20 MW electrical output, and also includes closed-cycle, semi closed-cycle and combined-cycle gas turbine power plants and combined heat and power plants. In cases of turbines using free piston gas generators or special heat sources (for example, chemical process, nuclear reactors, furnace for a super-charged boiler), this Guide may be used as a basis but will need to be suitably modified.

This Guide excludes gas turbines for marine propulsion and those used to propel aircraft, locomotives, military vehicles, road construction and earth-moving machines, agricultural and industrial types of tractors and road vehicles.

This Guide for Procurement of Gas Turbines has been prepared to be used with the existing International Standard ISO 3977. It should, therefore, be read in addition and complementary to the International Standard.

*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.

EN ISO 9001	*Quality systems - Model for quality assurance in design, development, production, installation and servicing (ISO 9001:1994)*
EN ISO 9002	*Quality systems - Model for quality assurance in production, installation and servicing (ISO 9002:1994)*
IEC 50(191)	*International electrotechnical vocabulary, Chapter 191: Dependability and quality of service*
ISO 1999	Acoustics - Determination of occupational noise exposure and estimation of noise-induced hearing impairment
ISO 6190	Acoustics - Measurement of sound pressure levels of gas turbine installations for evaluating environmental noise - Survey method.
ISO 10494	Gas turbines and gas turbine sets - Measurement of emitted airborne noise - Engineering/survey method
ISO 2314	Gas turbines - Acceptance tests
ISO/DIS 3977-1	Gas turbines - Procurement - Part 1: General and definitions[1)]
ISO/DIS 3977-11	Gas Turbines - Procurement - Part 11: Reliability, availability, maintainability and safety[1)]

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****.*

3.1.6 ***tenderer****: Person or organisation submitting a* ***tender*** *for the* ***equipment*** *in response to the* ***enquiry****.*

[1)] This standard is under preparation by ISO/TC 192.