

Guide for procurement of power station equipment —

Part 6-3: Turbine auxiliaries — Condenser plant

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British Standard

ICS 27.040; 27.100

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee E/-20, Power engineering steering committee, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

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English version

Guide for procurement of power station equipment — Part 6-3: Turbine auxiliaries — Condenser plant

Guide pour l'acquisition d'équipements destinés aux
centrales de production d'électricité —
Partie 6-3: Auxiliaries de turbine — Installation de
condensation

Leitfaden für die Beschaffung von Ausrüstungen für
Kraftwerke —
Teil 6-3: Turbinenhilfseinrichtungen —
Kondensationsanlage

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

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.

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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

Part 2-5: Electrical equipment — Motors

Part 2-6: Electrical equipment — Generators

Part 2-7: Electrical equipment — Switchgear and control gear

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 desulfurization (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.*

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.

Contents

	Page		Page
Foreword	2	10.4 Safety	12
1 Scope	4	10.5 Interchangeability	12
2 Normative references	4	10.6 Fabrication methods	12
3 Definitions	4	11 Maintenance requirements	13
3.1 Organizational terms	4	11.1 Planned maintenance	13
3.2 Technical terms	5	11.2 Personnel safety	13
3.3 General terms	6	11.3 Requirements for access	13
4 Brief overall project description	7	11.4 Lifting requirements	13
4.1 Role and organization of purchaser	7	11.5 Special tools	13
4.2 Site location	7	11.6 Test equipment	13
4.3 Equipment task	7	11.7 Spare parts strategy	13
4.4 Equipment to be purchased	7	11.8 Special precautions	13
4.5 Control and instrumentation	7	12 Technical documentation requirements	13
4.6 Electrical supplies and other services	7	12.1 Tender documentation	13
4.7 Other interfaces	8	12.2 Contract documentation	13
4.8 Project programme	8	13 Applicable legislation, regulations, standards and further requirements	14
4.9 Equipment identification systems	8	13.1 Legislation and regulations	14
5 Extent of supply	8	13.2 Standards	14
6 Terminal points	9	13.3 Further requirements	14
7 Operational requirements	9	14 Evaluation criteria	14
7.1 Operating environment	9	14.1 General	14
7.2 Manning levels	9	14.2 Technical criteria	14
7.3 Normal operation	9	15 Quality measures	14
7.4 Operating hours	9	15.1 General	14
7.5 Start-up and shut-down	9	15.2 Approvals procedure	15
7.6 Abnormal conditions	9	15.3 Inspection requirements	15
7.7 Further operational requirements	9	15.4 Non-conformity	15
8 Life expectancy	10	16 Site factors	15
8.1 Design life	10	16.1 Access	15
8.2 Components requiring periodic maintenance	10	16.2 Facilities	15
9 Performance requirements	10	16.3 Site specific requirements	15
9.1 Duty	10	17 Verification of specified performance	15
9.2 Performance	11	17.1 General	15
9.3 Equipment margins	11	17.2 Works tests	15
9.4 Availability	11	17.3 Test during installation and commissioning	16
9.5 Levels of component redundancy	11	17.4 Technical conditions for trial run	16
9.6 Further performance requirements	11	17.5 Functional and performance tests	16
10 Design and fabrication	11	Annex A (informative) Bibliography	17
10.1 Specific equipment features	11		
10.2 Design justification	12		
10.3 Material selection	12		

1 Scope

*This standard gives guidance on writing the technical **specification** for the procurement of **condenser plants** 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:

- water cooled surface and direct contact **condensers** acting as a steam sink for main or auxiliary turbines in power stations (parts in brackets marked with * apply to direct contact **condensers** only);
- **condenser auxiliary equipment**.

Air blast or air-cooled type **condensers** (ACCs) are not covered by this guide.

*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 such as the turbine, **cooling water** system, regenerating feed heating system, district heating and steam generating plant;
- 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

3 Definitions

For the purposes of this guide, the following definitions apply.

3.1 organizational terms

3.1.1

purchaser

recipient of a product and/or a service provided by a **supplier**

3.1.2

supplier

person or organization 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 organization submitting a **tender** for the **equipment** in response to the **enquiry**