

Guide for procurement of power station equipment —

Part 4: Boiler auxiliaries —

Section 1: Equipment for reduction of dust emissions

The European Standard EN 45510-4-1:1999 has the status of a
British Standard

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National foreword

This British Standard is the English language version of EN 45510-4-1:1999.
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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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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Guide for procurement of power station equipment —
Part 4: Boiler auxiliaries —
Section 1: Equipment for reduction of dust emissions

Guide pour l'acquisition d'équipements destinés aux
centrales de production d'électricité —
Partie 4: Auxiliaires de chaudière —
Section 1: Equipement de réduction des émissions
de poussières

Leitfaden für die Beschaffung von Ausrüstungen für
Kraftwerke — Teil 4: Nebenanlagen —
Hauptabschnitt 1: Anlagen zur
Staubemissionsminderung

This European Standard was approved by CEN/CENELEC on 1 April 1999.

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 European Standard has been prepared by Technical Committee CEN/CLC JTFPE, Joint Task Force Power Engineering, the Secretariat of which 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 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 European Standard takes the form of a recommendation and is therefore entitled a “guide”.

*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 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: Pipe work 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**.*

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

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 and sentences not in italics are specific to this guide and refer to the particular **equipment** covered.*

Contents

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

1 Scope

*This standard gives guidance on writing the technical **specification** for the procurement of **dust** emission reduction **equipment** 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:

- mechanical separators;
- bag filters;
- electrostatic precipitators.

The **performance** of **dust** collecting **equipment** depends on the physical and chemical properties of the flue gas and the particles in the flue gas. The choice of **equipment** is therefore dependent on these properties and the pollution regulations to be met.

Wet removal systems are not normally used to extract the large quantities of **dust** in electricity generating stations because of difficulties in the disposal of the sludge, treatment of the waste water and lowering of the flue gas discharge temperature. If they are offered, the extent of supply should normally include waste water treatment plant and proposals for reheating the flue gas.

*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 60050 (191), International electrotechnical vocabulary.

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***