



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 45510-6-4:2000

ICS 23.080

27.040

27.100

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800

Tel: (01) 807 3838

**GUIDE FOR PROCUREMENT OF POWER
STATION EQUIPMENT - PART 6-4: TURBINE
AUXILIARIES - PUMPS**

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland
and comes into effect on*

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2000

Price Code K

Údarás um Chaighdeán Náisiúnta na hÉireann

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 45510-6-4

October 1999

ICS

English version

**Guide for procurement of power station equipment - Part 6-4:
Turbine auxiliaries - Pumps**

Guide pour l'acquisition d'équipements destinés aux
centrales de production d'électricité - Partie 6-4: Auxiliaires
de turbine - Pompes

Leitfaden für die Beschaffung von Ausrüstungen für
Kraftwerke - Teil 6-4: Turbinenhilfseinrichtungen - Pumpen

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

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.



CEN Central Secretariat:
rue de Stassart, 36 B-1050 Brussels

CENELEC Central Secretariat:
rue de Stassart, 35 B-1050 Brussels

| Contents | | Page |
|-----------------|---|-------------|
| Foreword | | 4 |
| 1 | Scope | 6 |
| 2 | Normative references | 7 |
| 3 | Definitions | 7 |
| 3.1 | Organisational terms | 7 |
| 3.2 | Technical terms | 7 |
| 3.3 | General terms | 8 |
| 4 | Brief overall project description | 8 |
| 4.1 | Role and organisation of purchaser | 8 |
| 4.2 | Site location | 8 |
| 4.3 | Equipment task | 9 |
| 4.4 | Equipment to be purchased | 9 |
| 4.5 | Control and instrumentation | 9 |
| 4.6 | Electrical supplies and other services | 9 |
| 4.7 | Other interfaces | 9 |
| 4.8 | Project programme | 10 |
| 4.9 | Equipment identification systems | 10 |
| 5 | Extent of supply | 10 |
| 6 | Terminal points | 11 |
| 7 | Operational requirements | 11 |
| 7.1 | Operating environment | 11 |
| 7.2 | Manning levels | 12 |
| 7.3 | Normal operation | 12 |
| 7.4 | Operating hours | 13 |
| 7.5 | Start-up and shut-down | 13 |
| 7.6 | Abnormal conditions | 13 |
| 7.7 | Further operational requirements | 13 |
| 8 | Life expectancy | 14 |
| 8.1 | Design life | 14 |
| 8.2 | Components requiring periodic maintenance | 14 |
| 9 | Performance requirements | 15 |
| 9.1 | Duty | 15 |
| 9.2 | Performance | 15 |
| 9.3 | Equipment margins | 16 |
| 9.4 | Availability | 17 |
| 9.5 | Levels of component redundancy | 17 |
| 9.6 | Further performance requirements | 17 |
| 10 | Design and fabrication | 17 |
| 10.1 | Specific equipment features | 17 |
| 10.2 | Design justification | 21 |
| 10.3 | Material selection | 21 |
| 10.4 | Safety | 22 |
| 10.5 | Interchangeability | 22 |
| 10.6 | Fabrication methods | 22 |
| 11 | Maintenance requirements | 22 |
| 11.1 | Planned maintenance | 22 |
| 11.2 | Personnel safety | 23 |
| 11.3 | Requirements for access | 23 |
| 11.4 | Lifting requirements | 23 |
| 11.5 | Special tools | 23 |
| 11.6 | Test equipment | 23 |
| 11.7 | Spare parts strategy | 23 |
| 11.8 | Special precautions | 24 |

| | | |
|---------------------|--|-----------|
| 12 | Technical documentation requirements | 24 |
| 12.1 | Tender documentation | 24 |
| 12.2 | Contract documentation | 24 |
| 13 | Applicable legislation, regulations, standards and further requirements | 24 |
| 13.1 | Legislation and regulations | 24 |
| 13.2 | Standards | 24 |
| 13.3 | Further requirements | 24 |
| 14 | Evaluation criteria | 25 |
| 14.1 | General | 25 |
| 14.2 | Technical criteria | 25 |
| 15 | Quality measures | 26 |
| 15.1 | General | 26 |
| 15.2 | Approvals procedure | 26 |
| 15.3 | Inspection requirements | 26 |
| 15.4 | Non-conformity | 26 |
| 16 | Site factors | 26 |
| 16.1 | Access | 26 |
| 16.2 | Facilities | 26 |
| 16.3 | Site specific requirements | 27 |
| 17 | Verification of specified performance | 27 |
| 17.1 | General | 27 |
| 17.2 | Works tests | 27 |
| 17.3 | Test during installation and commissioning | 28 |
| 17.4 | Technical conditions for trial run | 28 |
| 17.5 | Functional and performance tests | 28 |
| Bibliography | | 31 |

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 April 2000, and conflicting national standards shall be withdrawn at the latest by April 2000.

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".

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 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 desulphurisation (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

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-