

DEP SPECIFICATION

STEAM TURBINES - SELECTION, TESTING AND INSTALLATION

DEP 31.29.60.10-Gen.

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DESIGN AND ENGINEERING PRACTICE



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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for the type selection, testing and installation of steam turbines.

This DEP is a revision of the DEP of the same title and number dated April 2003. A summary of changes from the previous edition is listed in (1.5).

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

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This DEP is intended for use in oil refineries, chemical plants, gas plants and, where applicable, exploration and production facilities and supply/marketing installations.

When DEPs are applied, a Management of Change (MOC) process should be implemented. This is of particular importance when existing facilities are to be modified.

If national and/or local regulations exist in which some of the requirements could be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable with regards to the safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this DEP as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

The **Contractor** is the party that carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project or operation of a facility. The Principal may undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party that manufactures or supplies the turbine and provides associated back-up services to perform the duties specified by the Contractor.

The **Principal** is the party that initiates, and ultimately pays for, the project. The Principal will generally specify the technical requirements. The Principal may also include an agent or consultant, authorised to act for the Principal.

The **Purchaser** is the party that buys the turbine and its auxiliaries for its own use or as agent for the owner. The Purchaser may be either the Principal or the Contractor.

The word **shall** indicates a requirement.

The word **should** indicates a recommendation.

1.3.2 Specific definitions

Continuous service: A service in which it is not expected that the turbine will have to be started/stopped during normal plant operation.

Intermittent service: A service in which it is expected that the turbine will be started/stopped at unspecified intervals, e.g.,

- automatic starts and stops at intervals by process operated controls;
- manual starts and stops at intervals by manual control for batch processes.

NOTE: The above two definitions are independent of the requirements for service life, which shall be in accordance with DEP 31.29.60.30-Gen. (for general-purpose turbines) and DEP 31.29.60.31-Gen. (for special-purpose turbines).

Essential service A service in which failure of equipment renders a plant inoperable or reduces performance to an unacceptable level.

1.4 CROSS-REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section number is shown in brackets. Other documents referenced by this DEP are listed in (10).

1.5 CHANGES FROM PREVIOUS EDITION

The previous edition of this DEP was dated April 2003. There have been editorial changes, and information added to retain knowledge from OU standards.

Old section	New Section	Change
1.3.2 Specific definitions	1.3.2 Specific definitions	Added definition for essential service
3.3 Special Purpose Steam Turbines	3.3 Special Purpose Steam Turbines	Added "Shall be specified as horizontal"
3.5 Selection	3.5 Selection	Added paragraphs that provide guidance on the design decisions that effect efficiency, from 11 EG 612.
4.0 Installation and Configuration	4.0 Installation and Configuration	Added paragraphs that guide instrumentation and water wash decisions, from 11 EG 611.
7.1 General Purpose Steam Turbines	7.1 General Purpose Steam Turbines	Removed note.
8.3 Lubrication	8.3 Lubrication	Removed comments and note regarding dry gas seals.
none	8.4 Maintenance	Added paragraph describing recommendations to facilitate Maintenance.
10.0 References	10.0 References	Updated references

1.6 COMMENTS ON THIS DEP

Comments on this DEP may be sent to the Administrator at standards@shell.com, using the DEP Feedback Form. The DEP Feedback Form can be found on the main page of “DEPs on the Web”, available through the Global Technical Standards web portal <http://www.shell.com/standards> and on the main page of the DEPs DVD-ROM.