

DEP SPECIFICATION

**GENERAL-PURPOSE GEAR UNITS
(AMENDMENTS/SUPPLEMENTS TO API 677)**

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DESIGN AND ENGINEERING PRACTICE



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PART I INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for general-purpose gear units. It covers basic requirements for design, materials, fabrication, inspection, testing, and preparation for shipment.

This DEP is based on API 677, 3rd edition April 2006; Part III of this DEP amends and supplements various clauses of that standard. Part III follows the clause numbering of API 677 for easy reference.

All clauses of API 677 not modified by this DEP remain valid as written.

This is a revision of the DEP of the same number dated December 2009; see (1.5) regarding the changes.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorised by Shell GSI, the distribution of this DEP is confined to Shell companies and, where necessary, to Contractors and Manufacturers/Suppliers nominated by them. Any authorised access to DEPs does not for that reason constitute an authorization to any documents, data or information to which the DEPs may refer.

This DEP is intended for use in facilities related to oil and gas production, gas handling, oil refining, chemical processing, gasification, distribution and supply/marketing. Application in other facilities may also apply.

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 may 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 regard 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

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 / Vendor** is the party that manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Owner**, as referenced in API 677, is understood to be the Principal in this DEP.

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

The lower case word **shall** indicates a requirement.

The word **should** indicates a recommendation.

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 (Part IV).

1.5 SUMMARY OF MAIN CHANGES

This DEP is a revision of DEP of the same number dated December 2009. The following table lists the more pertinent changes to the DEP. The column "Existing clause" identifies clause amendments or supplements that were present in the previous edition of the DEP, though not with the revised number. The column "New clause" lists clause amendments or supplements appearing for the first time.

Existing clause	New clause	Change
1.1		Second paragraph deleted as this does not add value since we have already decided to purchase a general purpose gear and thus there is no value added in making reference to high speed special purpose gears.
	1.5	Summary of main changes added.
	1.1.3	Added this paragraph to clarify gear manufacturer's role in coordination with the main equipment packager.
1.2.1	1.1.4	Moved the paragraph under the right heading. No change in content.
1.2.2	1.1.5	Moved the paragraph under the right heading. No change in content.
2.1.6		Deleted paragraph that gives a lot of DEP references regarding the noise requirements to minimize DEP cross-referencing.
2.4.3.5	2.4.3.5	Clarified to avoid confusion that only through-hardened gears are acceptable.
2.4.3.8	2.4.3.8	Rewritten to avoid confusion that precludes use of case-hardened gears.
2.7.2.1	2.7.2.1	Additional clarity on the requirement of tooth profile contact requirements.
	3.2.6	Added requirement regarding coupling guards.
3.3.1.2.4.g		Deleted the paragraph for simplification.
Part IV		Deleted DEP references to minimize DEP cross-referencing.

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.

1.7 DUAL UNITS

This DEP contains both the International System (SI) units, as well as the corresponding US Customary (USC) units, which are given following the SI units in brackets. When agreed by the Principal, the indicated USC values/units may be used.