

DEP SPECIFICATION

PREPARATION OF TECHNICAL DRAWINGS

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DESIGN AND ENGINEERING PRACTICE



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PREFACE

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These views are based on the experience acquired during involvement with the design, construction, operation and maintenance of processing units and facilities. Where deemed appropriate DEPs are based on, or reference international, regional, national and industry standards.

The objective is to set the standard for good design and engineering practice to be applied by Shell companies in oil and gas production, oil refining, gas handling, gasification, chemical processing, or any other such facility, and thereby to help achieve maximum technical and economic benefit from standardization.

The information set forth in these publications is provided to Shell companies for their consideration and decision to implement. This is of particular importance where DEPs may not cover every requirement or diversity of condition at each locality. The system of DEPs is expected to be sufficiently flexible to allow individual Operating Units to adapt the information set forth in DEPs to their own environment and requirements.

When Contractors or Manufacturers/Suppliers use DEPs, they shall be solely responsible for such use, including the quality of their work and the attainment of the required design and engineering standards. In particular, for those requirements not specifically covered, the Principal will typically expect them to follow those design and engineering practices that will achieve at least the same level of integrity as reflected in the DEPs. If in doubt, the Contractor or Manufacturer/Supplier shall, without detracting from his own responsibility, consult the Principal.

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- 3) Contractors/subcontractors and Manufacturers/Suppliers under a contract with users referred to under 1) or 2) which requires that tenders for projects, materials supplied or - generally - work performed on behalf of the said users comply with the relevant standards.

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All administrative queries should be directed to the DEP Administrator in Shell GSI.

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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for the preparation of technical drawings and related documents.

The preparation of DEP Standard Drawings is excluded from the scope of this DEP.

This is a revision of the DEP of the same number dated February 2013; 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 authorisation 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. This DEP may also be applied in other similar facilities.

When DEPs are applied, a Management of Change (MOC) process shall 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 equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party that initiates the project and ultimately pays for it. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.

The word **shall** indicates a requirement.

The word **should** indicates a recommendation.

The word **may** indicates a permitted option.

1.3.2 Specific definitions

Term	Definition
Archivist	The person responsible for keeping the master copies (transparency and electronic version) of the Technical Drawings and for ensuring, through proper measures for filing and safe storage, their undisturbed availability for use.
CAD Focal Point	The person designated by the Principal responsible for setting the standards for CAD technology.
Check Plot	A plot made on paper from the electronic file to allow the Designer to check the technical drawing.
Designer	The engineer responsible for producing a technical drawing (with or without the assistance of a draftsman). The Designer also acts as the focal point for questions relating to the content and meaning of a technical drawing.
Drawing registration number	An identification number allocated to a technical drawing.
Draftsman	The person who produces a new or revised technical drawing, based on the input from the Designer.
Registration code	A project code for classification and identification of contract documents and drawings in projects (see DEP 82.00.10.30-Gen.). This is in addition to the drawing registration number (e.g., the T-number). This code may be a project identification number or a requisition number, as applicable, as shown in the title block in (Appendix B) and (Appendix C).
Sheet Number	The number allocated to an individual sheet of a multi-sheet technical drawing.
Technical Drawing	Drawing which contains information about design, manufacturing, layout, schematics, installation, construction, operation, maintenance and repair of products. Technical drawings consisting of more than one sheet are referred to as multi-sheet technical drawings.
T-number	A drawing registration number allocated to a drawing developed and used by the Principal.

1.3.3 Abbreviations

Term	Definition
CAD	Computer Aided Drafting
DPI	Dots Per Inch
EDMS	Electronic Document Management System
EDW	Engineering Data Warehouse

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 (7).

1.5 SUMMARY OF MAIN CHANGES

This DEP is a revision of the DEP of the same number dated February 2013. The following are the main, non-editorial changes.

Section/Clause	Change
All	Restructured and clarified requirements, enforced use of shall/should/may for normative statements.

1.6 COMMENTS ON THIS DEP

Comments on this DEP may be submitted to the Administrator using one of the following options:

Shell DEPs Online (Users with access to Shell DEPs Online)	Enter the Shell DEPs Online system at https://www.shelldeps.com Select a DEP and then go to the details screen for that DEP. Click on the "Give feedback" link, fill in the online form and submit.
DEP Feedback System (Users with access to Shell Wide Web)	Enter comments directly in the DEP Feedback System which is accessible from the Technical Standards Portal http://sww.shell.com/standards . Select "Submit DEP Feedback", fill in the online form and submit.
DEP Standard Form (other users)	Use DEP Standard Form 00.00.05.80-Gen. to record feedback and email the form to the Administrator at standards@shell.com .

Feedback that has been registered in the DEP Feedback System by using one of the above options will be reviewed by the DEP Custodian for potential improvements to the DEP.

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.

1.8 NON NORMATIVE TEXT (COMMENTARY)

Text shown in italic style in this DEP indicates text that is non-normative and is provided as explanation or background information only.

Non-normative text is normally indented slightly to the right of the relevant DEP clause.

2. GENERAL

Computer Aided Drafting (CAD) is the preferred method for making and revising technical drawings.

1. All new and revised technical drawings should be produced electronically by means of CAD in accordance with this DEP.

3. COMPUTER AIDED DRAFTING (CAD)

3.1 COMPUTER SYSTEM

1. The 2D CAD package used to produce drawings is subject to approval by the Principal.
 - a. The 2D CAD package should align with a common industry standard application.
2. The selected CAD package shall comply with the exchange format specified in (3.2).

3.2 EXCHANGE FORMAT

1. The selected 2D CAD package should have the ability to open a range of different CAD formats as well as "save as" to other industry standard CAD applications.
 - a. However, as technology improves and new packages enter the market, due diligence should be applied to ensure new packages are ISO 10303 compliant.
 - b. When conversions have to be made, the basic graphic entities such as lines, arcs, ellipses, blocks and text strings shall be preserved.

3.3 PRINTING & PLOTTING

1. For acceptable prints, the printer should meet the following requirements:
 - a. minimum resolution: 300 DPI (Dots Per Inch);
 - b. media: report grade or premium grade paper.
2. The official plotted version of a technical drawing shall have the physical dimensions specified in (5.1.2), and (5.1.3) in conformity with ISO 5457.

For easy handling, plots produced for checking and commenting can be plotted at reduced sizes.
3. When a full size drawing is required (e.g., larger than A3 or B - Ledger) a large-format printer using Inkjet or laser technology should be used.

4. ADD-ON APPLICATION SOFTWARE FOR CAD

4.1 GENERAL

1. For recommended products in Shell, reference is made to report MF 94-0550 and MF 95-1165.

4.2 SOFTWARE IDENTIFICATION

1. The program name and release number of the application software used should be shown in the left-hand bottom corner of the drawing with a text height in accordance with Table 4.

This recommendation could be ignored if an electronic document management system maintains the relationship between the program name, release number of the application software and the drawing(s) produced.