

PREPARATION AND MICROFILMING OF TECHNICAL DRAWINGS

DEP 02.00.00.10-Gen.

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(DEP Circulars 15/99, 64/01 and 56/03 have been incorporated)

DESIGN AND ENGINEERING PRACTICE



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1 INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and recommendations for the preparation and microfilming of technical drawings and related documents. This DEP is a revision of the previous publication of the same number dated August 1982.

The preparation of SIOP/SIEP Standard Drawings is excluded from the scope of this DEP and is covered by report MF 93-1510.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorised by SIOP and SIEP, the distribution of this DEP is confined to companies forming part of the Royal Dutch/Shell Group or managed by a Group company, and to Contractors nominated by them (i.e. the distribution code is "C", as described in DEP 00.00.05.05-Gen.).

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

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 as regards 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 with the object of obtaining agreement to follow this DEP as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

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

The **Manufacturer/Supplier** is the party which manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party which 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 word **shall** indicates a requirement.

The word **should** indicates a recommendation.

1.3.2 Specific definitions

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 of 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. For SIOP, the Draftsman is normally a contractor.

Registration code - a project code for classification and identification of contract documents and drawings in projects (see DEP 40.10.01.11-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 2 and Appendix 3.

Sheet Number - The number allocated to an individual sheet of a multi-sheet technical drawing.

Technical Drawing - Drawings which contain 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 SIOP/SIC.

2 GENERAL

Computer Aided Drafting (CAD) is the preferred method for making and revising technical drawings. After the date of publication of this DEP all new and revised SIOP/SIC technical drawings should be produced electronically by means of CAD in accordance with this DEP.

3 COMPUTER AIDED DRAFTING (CAD)

3.1 COMPUTER SYSTEM

The product AutoCAD[®] from Autodesk Inc. is the SIOP standard for CAD. Hardware and software shall be in accordance with the Interface and Installation Guides of AutoCAD[®].

If other CAD systems are applied, they shall comply with the exchange format specified in (3.2).

3.2 EXCHANGE FORMAT

The short term standard for CAD data exchange is the AutoCAD.DXF file format. In the longer term, ISO 10303 will become the standard for product data exchange.

When conversions have to be made, the basic graphic entities such as lines, arcs, ellipses, blocks and text strings shall be preserved. To preclude difficulties related to a conversion process, the AutoCAD.DWG file format should be used instead of the AutoCAD.DXF file format, and the specific AutoCAD release should also be specified.

3.3 PLOTTER

A monochrome raster plotter should be used.

The plotter shall meet the following requirements:

- Minimum resolution: 300 DPI (Dots Per Inch),
- Media: report grade/premium grade paper, transparent matte or clear film (5.11.3).
- Shelf life of the transparent film: 2 years minimum.
- Plot size: the official plotted version of a technical drawing shall have physical dimensions (5.1.1) in conformity with ISO 5457. For easy handling, plots produced for checking and commenting may be plotted at reduced sizes.

4 ADD-ON APPLICATION SOFTWARE FOR CAD

**Amended per
Circular 56/03**

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

4.1 INDICATION OF USED APPLICATION SOFTWARE

The program name and release number of the application software used shall be shown in the left-hand bottom corner of the Drawing with a text height in accordance with the table in (5.4.2). This requirement can be ignored if an electronic document management system maintains the relation between the program name, release number of the application software and the drawing(s) produced.