

	CAD Drawing Standards		IP 1-1-2	
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SCOPE

- I 1.1 This practice contains requirements governing:
 - a. The type, content, and structure of all Computer Aided Drafting (CAD) Drawings to be supplied as part of the project documents.
 - b. The content of a Drawing Index listing all the CAD and other drawings supplied as part of the project documentation.
- I 1.2 **An asterisk (*)** indicates additional information is required. If a job is contracted this additional information is furnished in the Job Specification.

SUMMARY OF ADDITIONAL REQUIREMENTS

- I 2.1 This practice is to be used in conjunction with [IP 1-1-1](#) covering DRAWINGS, DIAGRAMS, AND LINE LISTS.

DEFINITION OF TERMS

- I 3.1 AutoCAD refers to the Computer Aided Drafting package by Autodesk Inc. AutoCAD is a registered trademark of Autodesk Inc.
- I 3.2 Layering refers specifically to the manner in which AutoCAD separates drawing information into separate groups. Properties can be defined for these groups and the groups can be manipulated in AutoCAD drawing files.

COMPUTER AIDED DRAFTING FILE FORMAT

- I 4.1 Drawings to be supplied in CAD format are listed in [Table 2](#).
- I * 4.2 Information to be supplied as part of the Job Specification is given in [Table 3](#).
- I * 4.3 Computer Aided Drafting files shall be provided in native AutoCAD DWG format, based on Release 12. Drawings may be provided based on later releases of the AutoCAD product or on a non-AutoCAD product with approval by the Owner's Engineer. In the case where CAD drawings originate in a non-AutoCAD system, the contractor shall demonstrate the conversion to AutoCAD DWG format is 100% effective in retaining the drawing content.
- I 4.4 Intermediate drawing formats such as DXF are not acceptable unless agreed as part of the Job Specification.

SYMBOL SETS

- I 5.1 Drawing Symbol sets are defined in [IP 1-1-1](#). Line weights not covered by [IP 1-1-1](#) shall be covered in this standard.

NAMING CONVENTIONS

- I * 6.1 The Naming Convention for Drawings, Equipment, and Instrumentation shall follow [IP 1-1-1](#). Specific naming conventions for Process Unit designations, etc., will be covered in the Job Specification.

LAYERING CONVENTIONS

- I 7.1 The Computer Aided Drafting files shall be prepared with the information layered according to the conventions given for the type of drawing in [Table 4](#).
- I * 7.2 Layer names shall follow the standard names given in [Table 4](#) or as amended by the Job Specification.
- I 7.3 The layering standard provides separate layers for standard text and titleblocks, and for most drawings standard line weights and types. These layers have default colors (using the 7 AutoCAD default colors) and default AutoCAD linetypes. Only standard AutoCAD linetypes shall be used.
- I 7.4 Where the original source drawing system is not AutoCAD then the contractor shall demonstrate that the conversion to AutoCAD DWG files will produce the correct layering as required by this IP.

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DRAWING INDEX

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|---|-------|---|
| I | 8.1 | Upon completion of the project, the contractor shall provide a Drawing Index of all the drawings supplied. |
| I | 8.2 | This Index shall contain the information given in Table 1 for each drawing (as appropriate). |
| I | * 8.3 | The Index shall be supplied in a form suitable for use in the Owner's indexing system. This format shall be specified as part of the Job Specification. |

Revision Memo

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Revision 0 - Original Issue of International Practice

Revision 1

This is a reaffirmation of previous revision with no editorial changes.

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**TABLE 1
DRAWING INDEX INFORMATION**

INFORMATION REQUIRED	TYPICAL VALUE	NOTES
Filename	PH012345.DWG	Computer File name
Drawing No.	0010-234-567-AB	Project Drawing No.
Drawing Title	Cat Light Ends - Debuanizer	
Drawing Type	P&ID	
Project Designation	Exxon- 1995-07	Contract no. or textual
Contractor Name	A. Builder Company Inc.	For Author
New or revised drawing	New or Revised	Is this a plant drawing that has been modified or a new drawing
Owners drawing no.		If applicable
Owners Unit Designation	FCLE	Plant Area
Drawing Format	DWG	DWG, DXF, raster, microfilm, etc.

**TABLE 2
DRAWINGS TO BE SUPPLIED IN CAD FORMAT**

DRAWING TYPE
Process & Instrument Diagram
Plot Plan
Equipment Drawings
General arrangement
Detailed drawings
Piping Isometrics
Electrical
Loop Diagrams
Logic Diagrams

**TABLE 3
INFORMATION TO BE SUPPLIED AS PART OF THE JOB SPECIFICATION**

INFORMATION	POSSIBLE OPTIONS
Drawing Size	Imperial or Metric Standards
Text Styles and Fonts	Standard AutoCAD fonts only
Minimum text height	0.1 inch or 2.5 mm
CAD Filetype	DOS, UNIX, etc.