

DEP SPECIFICATION

**FLARE DETAILS
(AMENDMENTS/SUPPLEMENTS TO ISO 25457)**

DEP 80.45.11.12-Gen.

February 2011

(DEP Circular 01/12 has been incorporated)

DESIGN AND ENGINEERING PRACTICE

DEM1



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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.

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PART I INTRODUCTION

1.1 SCOPE

This new DEP specifies requirements and provides guidance for the selection, design, specification, operation and maintenance of flares and related combustion and mechanical components used in pressure-relieving and vapour-depressurizing systems.

This DEP is based on ISO 25457:2008 / API Standard 537, Second Edition. Part II of this DEP amends, supplements and deletes various clauses of ISO 25457:2008 / API Standard 537, Second Edition.

NOTE: ISO 25457:2008 is identical to API Standard 537, Second Edition, December 2008. Further references in this technical specification will simply be stated as ISO 25457.

Part III follows the clause numbering of ISO 25457 for easy reference. All clauses of ISO 25457:2008 not modified by this DEP shall remain valid as written.

ISO 25457:2008 Annex E is intended to be used to communicate, record and update design specification information and serve as permanent record at the end of any new project work.

This DEP contains mandatory requirements to mitigate process safety risks in accordance with Design Engineering Manual DEM 1 – Application of Technical Standards.

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. This DEP may also be applied in other similar facilities.

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 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 capitalised term **SHALL [PS]** indicates a process safety requirement.

The word **should** indicates a recommendation.

1.3.2 Specific definitions

Design Class	is a categorization defining fit-for-purpose facilities developed through Value Improvement Processes (VIPs) during a project Front End Development (FED) phase.
Delegated Technical Authority	is a person who has received delegated authority to approve Derogations from the Process Safety requirements from the Head of Shell P&T.
Derogation	is an authorised variance or exemption from a Process Safety requirement, with specified conditions.
BDEP	Basic Design Engineering Package
DCS	Distributed Control System
EP	Exploration and Production
FFG	Flame Front Generator
PLC	Programmable Logic Controller
RAM	Risk Assessment Matrix
SCFH	Standard Cubic Feet per Hour
Wobbe Index	An Index which measures the combustion value of a fuel and interchangeability of fuels where Wobbe Index = gross heating value divided by the square root of the specific gravity of the fuel (relative to air)

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 (11).

1.5 SUMMARY OF MAIN CHANGES

This is a new DEP.

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

**Amended per
Circular 01/12**

Dual units have been incorporated throughout this DEP.

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.

PART II GENERAL

Part III of this DEP is written as amendments and supplements to ISO 25457:2008. Wherever reference is made to ISO 25457, it shall be understood to mean ISO 25457 as amended/supplemented by this DEP.

For ease of reference, the clause numbering of ISO 25457 has been used throughout Part III of this DEP. Where the clauses in ISO 25457 are unnumbered, they are considered to be identified numerically in sequence, i.e. 1, 2, 3 etc.

Clauses in ISO 25457, which are not mentioned in this DEP, shall remain valid as written.