

DEP SPECIFICATION

PIPING CLASSES

DEP 31.38.01.14-Gen.

February 2019

DESIGN AND ENGINEERING PRACTICE

DEM1



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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for piping classes which have been developed for use in refineries, chemical plants, gas and LNG plants and exploration and production facilities.

For the basis of design of the piping classes refer to DEP 31.38.01.10-Gen.

The general requirements for piping systems are specified in Part II of DEP 31.38.01.24-Gen.

The Piping class Service and material Selection index is presented as a spreadsheet on Standard Form DEP 31.38.01.84-Gen. This spreadsheet will indicate whether a piping class is typical for Refining or Chemicals (R&C, previously DEP 31.38.01.12-Gen.) or Exploration and Production (E&P, previously DEP 31.38.01.15-Gen.) and which piping classes and service combinations are commonly used in all sectors (e.g. for steam service, plant air, or other utilities)

Excluded from the scope of this DEP are:

- oil and gas transmission pipeline systems;
- piping classes that are applicable to Canadian standard CSA Z662, which are contained in DEP 31.38.01.23-Gen.

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

This is a new DEP, which combines and is a revision of DEP 31.38.01.12-Gen (Refining & Chemicals) and DEP 31.38.01.15-Gen (Exploration & Production), dated February 2018. For an overview of the changes to the piping Code and the individual piping classes since the previous edition, see (1.5).

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 refineries, chemical plants, gas plants and supply/distribution installations, and, where applicable, onshore exploration and production facilities (all within the property limits as defined in ASME B31.3:2016, Section 300.1). 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 capitalised term **SHALL [PS]** indicates a process safety requirement.

The word **should** indicates a recommendation.

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

1.4 CROSS-REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section or clause number is shown in brackets (). Other documents referenced by this DEP are listed in (5).

1.5 SUMMARY OF MAIN CHANGES

This update reflects the merger of DEP 31.38.01.12-Gen. with DEP 31.38.01.15-Gen.

Piping class numbers that have been technically revised in the February 2019 issue will reflect the new DEP number (DEP 31.38.01.14-Gen., Piping classes) in the heading of the piping class document.

Piping class numbers that have not been technically revised in the February 2019 issue will still reflect the original DEP numbers (DEP 31.38.01.12-Gen., Piping classes - refining and chemicals, and DEP 31.38.01.15-Gen., Piping classes - exploration and production) in the heading of the piping class document.

The Request for Piping Class Form in Appendix C has been upgraded to make it cleaner.