DEP SPECIFICATION

PIPING CLASSES - CSA Z662

DEP 31.38.01.23-Gen

February 2017

DESIGN AND ENGINEERING PRACTICE

DEM1

© 2017 Shell Group of companies

All rights reserved. No part of this document may be reproduced, stored in a retrieval system, published or transmitted, in any form or by any means, without the prior written permission of the copyright owner or Shell Global Solutions International BV.

Copyright Shell Group of Companies. No reproduction or networking permitted without license from Shell. Not for resale

Documents
Document Sharing Hub

This document has been supplied under license by Shell to:
UOP Honeywell ted.fuger@honeywell.com 19/01/2018 08:09:01

Full document details: SHELL 31.38.01.23 2017

PREFACE

DEP (Design and Engineering Practice) publications reflect the views, at the time of publication, of Shell Global Solutions International B.V. (Shell GSI) and, in some cases, of other Shell Companies.

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.

The right to obtain and to use DEPs is restricted, and is typically granted by Shell GSI (and in some cases by other Shell Companies) under a Service Agreement or a License Agreement. This right is granted primarily to Shell companies and other companies receiving technical advice and services from Shell GSI or another Shell Company. Consequently, three categories of users of DEPs can be distinguished:

1) Operating Units having a Service Agreement with Shell GSI or another Shell Company. The use of DEPs by these Operating Units is subject in all respects to the terms and conditions of the relevant Service Agreement.

2) Other parties who are authorised to use DEPs subject to appropriate contractual arrangements (whether as part of a Service Agreement or otherwise).

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.

Subject to any particular terms and conditions as may be set forth in specific agreements with users, Shell GSI disclaims any liability of whatsoever nature for any damage (including injury or death) suffered by any company or person whomsoever as a result of or in connection with the use, application or implementation of any DEP, combination of DEPs or any part thereof, even if it is wholly or partly caused by negligence on the part of Shell GSI or other Shell Company. The benefit of this disclaimer shall inure in all respects to Shell GSI and/or any Shell Company, or companies affiliated to these companies, that may issue DEPs or advise or require the use of DEPs.

Without prejudice to any specific terms in respect of confidentiality under relevant contractual arrangements, DEPs shall not, without the prior written consent of Shell GSI, be disclosed by users to any company or person whomsoever and the DEPs shall be used exclusively for the purpose for which they have been provided to the user. They shall be returned after use, including any copies which shall only be made by users with the express prior written consent of Shell GSI. The copyright of DEPs vests in Shell Group of companies. Users shall arrange for DEPs to be held in safe custody and Shell GSI may at any time require information satisfactory to them in order to ascertain how users implement this requirement.

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

Documents
Document Sharing Hub
This document has been supplied under license by Shell to:
UOP Honeywell ted.fuger@honeywell.com 19/01/2018 08:09:01
Full document details: SHELL 31.38.01.23 2017

TABLE OF CONTENTS

1. INTRODUCTION 4
1.1 SCOPE 4
1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS 4
1.3 DEFINITIONS 5
1.4 CROSS-REFERENCES 5
1.5 SUMMARY OF MAIN CHANGES 5
1.6 COMMENTS ON THIS DEP 6
1.7 DUAL UNITS 6
1.8 NON NORMATIVE TEXT (COMMENTARY) 6
2. PIPING CLASSES – SERVICES AND MATERIALS SELECTION INDEX 7
3. PIPING CLASSES 7
4. REFERENCES 8

APPENDICES

APPENDIX A REQUEST FOR PIPING CLASS FORM 9

Documents
Document Sharing Hub
This document has been supplied under license by Shell to:
UOP Honeywell ted.fuger@honeywell.com 19/01/2018 08:09:01
Full document details: SHELL 31.38.01.23 2017

1. INTRODUCTION

1.1 SCOPE

This new DEP specifies requirements and gives recommendations for piping classes which have been developed for use in the oil, multi-phase, water and gas pipeline systems from a wellhead to a plant facility administered primarily to the CSA Z662 standard.

The basis of design of the piping classes is given in DEP 31.38.01.10-Gen.-Part-II.

The general requirements for piping systems are specified in DEP 31.38.01.11-Gen.

Piping classes developed primarily for exploration and production facilities are contained in DEP 31.38.01.15-Gen. Piping classes that are applicable to refinery and chemicals are contained in DEP 31.38.01.12-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 revision of the DEP of the same number dated February 2015; 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 authorization to any documents, data or information to which the DEPs may refer.

Energy Resources Conservation Board (ERCB) applies the basic technical requirements applicable to the design, construction, and operation of oil and gas pipelines in Alberta and adopts the most current edition of the Canadian Standards Association CSA Z662. This DEP is intended for use in well sites, Gas satellite or group gas gathering facilities, compressor stations, pump buildings, water collection, injection, and disposal wells, Heavy oil / in situ steam flood facilities and oil battery facilities where the licenced jurisdiction are pertaining to Oil and Gas Conservation Act and pipeline Act. Eleven simplified illustrations of example facilities are indicated in ERCB.

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.

Documents
Document Sharing Hub
This document has been supplied under license by Shell to:
UOP Honeywell ted.fuger@honeywell.com 19/01/2018 08:09:01
Full document details: SHELL 31.38.01.23 2017