

DEP SPECIFICATION

LINE PIPE INDUCTION BENDS (AMENDMENTS/SUPPLEMENTS TO ISO 15590-1)

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

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PART I INTRODUCTION AND GENERAL

1 INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for induction bends manufactured from seamless or welded pipe of unalloyed or low alloy steels for pipeline applications in oil and gas operations under both sour and non-sour service applications.

Part II of this DEP is written as amendments/supplements to ISO 15590-1:2009. For clarity, the section and paragraph numbering of ISO 15590-1 is used in Part II of this DEP. Clauses of ISO 15590-1 that are not amended by this DEP remain applicable as written.

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 September 2002 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.

This DEP is intended for use in pipeline facilities related to oil and gas production, gas handling, oil refining, chemical processing, gasification, and supply/distribution. 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 lower-case 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

Manufacturer	Term used in ISO 15590, which shall be taken to mean the Manufacturer/Supplier.
Purchaser	Term used in ISO 15590, which shall be taken to mean the Principal.

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 (Part III).

1.5 SUMMARY OF MAIN CHANGES

This DEP is a revision of the DEP of the same number dated September 2002, which was based on ISO 15590-1:2001. This DEP is now based on ISO 15590-1:2009.

Due to the fundamental change in overall scope and clause numbering in ISO 15590-1:2009, it is impractical to summarise the changes here.

1.6 PRINCIPAL'S ACCESS AND ACTIVITIES

The Principal's representatives shall be permitted to witness all chemical testing, mechanical testing, and equipment calibration, and to inspect all bends. Sufficient notice (at least 14 days) shall be given of the time at which the production run is to begin.

The Principal's representatives shall have free entry at all times to all parts of the Manufacturer's works that will concern the manufacture, testing, inspection, quality control and shipping of the bends ordered. This includes the steel mill and the pipe mill if the original material for bending is supplied by the Manufacturer and any sub-contract locations such as heat treatment facilities. The Manufacturer shall make available to the Principal's representatives, without charge, all reasonable facilities to inspect, measure, and test the pipe in all stages of production.

The Principal's representative shall have the option to examine all materials rejected for any reason. The Principal's representative shall be informed of any bend failures due to dimensions not meeting requirements and of any test specimen that fails to meet the requirements for any reason. All failed materials shall be retained until examined by the Principal's representative.

The Manufacturer shall allow the Principal's representative to inspect each pipe bend after manufacture and testing is completed but prior to loading for shipment.

1.7 DUAL UNITS

**Amended per
Circular 56/12**

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.

1.8 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://swwww.shell.com/standards> and on the main page of the DEPs DVD-ROM.

2. GENERAL

Part II of this DEP is written as amendments/supplements to ISO 15590-1:2009.

Wherever reference is made to ISO 15590-1, it shall be understood to mean ISO Standard 15590-1:2009 as amended/supplemented by this DEP.

For ease of reference, the section and clause numbering of ISO 15590-1 is used in Part II of this DEP.

Clauses of ISO 15590-1 that are not amended by this DEP shall remain applicable as written.