

DEP SPECIFICATION

PIG SIGNALLERS – INTRUSIVE TYPE

DEP 31.40.21.33-Gen.

February 2017

DESIGN AND ENGINEERING PRACTICE



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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.

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

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1. INTRODUCTION

1.1 SCOPE

This DEP specifies requirements and gives recommendations for the design, fabrication and testing of shop fabricated intrusive type pig signallers for onshore and offshore carbon steel pipelines (except subsea) with a nominal diameter of DN 100 to DN 1400 (NPS 4 to NPS 56), design pressures not exceeding 250 barg (3,625 psig), and a temperature range of -20 °C to 120 °C (-4 °F to 248 °F).

This DEP is not applicable to non-intrusive types of pig signallers.

Pig signallers are used to indicate the passage of a pig. Intrusive types are normally mounted on pig trap systems but can also be installed at other locations along the pipeline. It is assumed that they will be installed permanently in an open environment.

The requirements of this DEP are based on the assumption that the intrusive type pig signallers are mounted on the pipeline via a DN 50 (NPS 2) branch connection into which the pipeline fluid will enter and pressurise the housing of the pig signaller.

Adherence to this DEP ensures compliance with the relevant requirements of ISO 13623 for the pressure containing components of the pig signaller.

This DEP is used in conjunction with Data/Requisition sheet DEP 31.40.21.95-Gen.

This is a revision of the DEP of the same number dated September 2011; 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 facilities related to pipelines in 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 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 word **should** indicates a recommendation.

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

1.3.2 Specific definitions

Term	Definition
Data/ Requisition Sheet	The Data/Requisition sheet DEP 31.40.21.95-Gen. which is used in conjunction with this DEP.
Pig	A device that can be propelled through a pipeline by fluid flow and is normally used for cleaning, batching, inspection or other activities.
Pig Signaller	A device installed on a pipeline or pig trap to give an indication of the passage of a pig. • Intrusive type: a pig signaller having a trigger penetrating into the bore of the pipeline, which is in direct contact with the transported fluid, pressurizing the housing of the pig signaller • Non-Intrusive type: a pig signaller that is externally mounted on the pipeline and therefore not in contact with the transported fluid and not exposed to the internal pressure in the pipeline.
Pig trap	An ancillary item of pipeline equipment, comprising a barrel, end closure and instruments, for introducing a pig into a pipeline or removing a pig from a pipeline. Pig traps are further described in DEP 31.40.10.13-Gen.
Pipeline	System of pipes and other components used for the transportation of fluids between (but not within) plants. A pipeline typically extends from pig trap to pig trap (including the pig traps and the pipe sections up to the first isolation valve within the plant boundaries). If no pig trap is fitted, the pipeline extends to the first isolation valve within the plant boundaries

1.3.3 Abbreviations

Term	Definition
ANSI	American National Standards Institute
DN	Diameter Nominal (mm)
ESD	Emergency Shut Down
HAZ	Heat Affected Zone
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
NPS	Nominal Pipe Size (in)

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 (15).

1.5 SUMMARY OF MAIN CHANGES

This DEP is a full revision of the DEP of the same number dated September 2011. The following are the main, non-editorial changes.

Section/Clause	Change
1.1	USC units included
1.3.2	More item definitions included
Data/Requisition Sheet	Modified to cover USC dimensions/units
1.9	Listing of actions for the Principal
3.1	Dimension is the schematics of pig signaller installations in SI and USC units
14.0	Packing for transportation and storage

1.6 COMMENTS ON THIS DEP

Comments on this DEP may be submitted to the Administrator using one of the following options:

Shell DEPs Online (Users with access to Shell DEPs Online)	Enter the Shell DEPs Online system at https://www.shelldeps.com Select a DEP and then go to the details screen for that DEP. Click on the "Give feedback" link, fill in the online form and submit.
DEP Feedback System (Users with access to Shell Wide Web)	Enter comments directly in the DEP Feedback System which is accessible from the Technical Standards Portal http://swwww.shell.com/standards . Select "Submit DEP Feedback", fill in the online form and submit.
DEP Standard Form (other users)	Use DEP Standard Form 00.00.05.80-Gen. to record feedback and email the form to the Administrator at standards@shell.com .

Feedback that has been registered in the DEP Feedback System by using one of the above options will be reviewed by the DEP Custodian for potential improvements to the DEP.

1.7 DUAL UNITS

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.