DEP SPECIFICATION

MANUFACTURE, TESTING, AND INSPECTION OF PERMANENT MOORING SYSTEM CHAIN AND ACCESSORIES FOR FLOATING STRUCTURES (BASED ON DNV-OS-E302)

DEP 37.81.21.30-Gen.

February 2012

ECCN EAR99

DESIGN AND ENGINEERING PRACTICE

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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.

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1. INTRODUCTION

1.1 SCOPE

This new DEP specifies minimum requirements and gives recommendations for manufacture, testing, and inspection of permanent mooring system chain and accessories for deepwater structures. This DEP is based on DNV-OS-E302, Offshore Mooring Chain.

This DEP supersedes the former local Deepwater standard of the same number (DEP 37.81.21.31-EPP) dated August 2007; 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 authorized 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 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 regard 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.

1.3.2 Specific definitions

Term	Definition
CTOD	Crack Tip Opening Displacement
DAC	Distance Amplitude Correction
DNV	Det Norske Veritas
FBH	Flat-Bottomed Hole
LAST	Lowest Anticipated Service Temperature

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Term	Definition
MPS	Manufacturing Procedure Specification. Reference ISO 9000 Paragraphs 2.7.2.c, 2.7.2.e, 3.4.5 and 3.7.3. The MPS shall clearly define the sequence of operations and process controls to be implemented at each manufacturing step as well as specifically annotate any procedures, processing parameters, or requirements that deviate from this DEP. It is required that the MPS be approved by the Principal.
MT	Magnetic Particle Testing
MTR	Material Test Report, a.k.a. mill certificate. Includes results of chemical analyses, mechanical properties test, visual and non-destructive tests and dimensional inspections
NDT	Non-Destructive Testing
PMI	Positive Material Identification
QP	Quality Plan. Reference ISO 9000 Paragraphs 2.7.2.b and 3.7.5. The QP shall include inspection and test requirements and provide columns or spaces for the Principal, to indicate 3rd party inspection activities, e.g., witness, monitor, hold points, etc., for the operations to be undertaken. It is required that the QP be approved by the Principal.
UT	Ultrasonic Testing
VI	Visual Inspection

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 (7).

1.5 SUMMARY OF MAIN CHANGES

This DEP supersedes the former local Deepwater standard of the same number (DEP 37.81.21.31-EPP) dated August 2007. The following are the main, non-editorial changes.

Old section	New section	Change
9	2.8, 4.2, 5.2	Updated specification for studless chain.
	2.8, 3.2.4, 5.2.1, 5.2.3	Added requirements for grade R4S and grade R5 chain included.
5	5.3	Updated the requirements of mechanical tests of test coupons taken from full scale accessories.
7, 8		Removed approval scheme for chain Manufactures/Suppliers, and steel mills.

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

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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.

1.8 PROJECT DOCUMENTATION REQUIREMENTS

For projects to ensure compliance with this DEP, proper documentation is required in the Definition and Execution phases of the project.

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