

DEP SPECIFICATION

DESIGN, FABRICATION AND TESTING REQUIREMENTS OF PERMANENT VIV SUPPRESSION FAIRING SYSTEMS FOR OFFSHORE STRUCTURES

DEP 37.81.10.38-Gen.

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DESIGN AND ENGINEERING PRACTICE



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PREFACE

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1. INTRODUCTION

1.1 SCOPE

This new DEP specifies requirements and gives recommendations for the design, fabrication, installation and testing of fairing type Vortex Induced Vibration (VIV) suppression systems to be deployed worldwide. This DEP is intended for use on offshore tubular structures with a circular cross-section. The most common applications in the offshore marine environment include risers, tendons, umbilicals, and flowline/pipeline spans.

The custodianship of this DEP resides with the Civil, Structures and Offshore discipline.

This is a new DEP-Gen. which supersedes the former DEP 37.81.10.38-EPP dated May 2007. See (1.5) regarding the changes.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorized 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 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 authorized 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
CP	Cathodic Protection
CRA	Corrosion Resistant Alloy
OD	Outer diameter of bare tubular including coating and insulation
Fairing	A device that suppresses VIV by: (a) making the flow streamlined around a tubular, or (b) delaying flow separation points from those of bare tubular.
Fairing System	Fairing with its latching system and the supporting thrust collar.
Galloping	Instability of non-circular structures in winds and currents
Latching System	Fastening system and supporting hardware used to maintain intended fairing shape on tubular.
MG	Marine Growth
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.
Ovality	Out-of-roundness
Post-install (Retrofit)	To install a fairing after tubular installation
Pre-install	To install a fairing during tubular construction or tubular installation
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 3 rd 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.
Riser	Typically constructed by joining several tubular sections. The term is used to describe a suspended span that is supported between a surface facility and seabed.
Re	Reynolds number
ROV	Remotely Operated Vehicle
TSA	Thermal Sprayed Aluminum
Tubular	This term is used instead of riser, tendon and flowline/pipeline span when the application applies uniformly to all system.
UV	Ultraviolet
VIV	Vortex-Induced Vibration

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 (10).

1.5 SUMMARY OF MAIN CHANGES

This new DEP supersedes the former DEP 37.781.10.38-EPP dated May 2007.