INDEX OF REVISIONS

REV.	DESCRIPTION AND/OR REVISED SHEETS
0	Original

	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E	REV. F	REV. G	REV. H
DATE	MAY/2017								
DESIGN	SUB/ES/DCT								
EXECUTION	BF6S/CJME								
CHECK	CSMP/UPOV								
APPROVAL	JGLV								

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1. PURPOSE

This document provides complementary information for the design of subsea power, control and injection umbilicals.

2. REFERENCES

NOTE: Unless otherwise stated, the latest revision of the following documents shall be considered.

[1] **I-ET-3010.00-1500-960-PPC-008**, *Structural Analysis of Umbilicals*

[2] **I-ET-3010.00-1500-960-PPC-002**, *Service Life – Fatigue Analysis*

[3] **I-ET-3A26.00-1500-960-PPC-001**, *Flexible Risers and Umbilicals – Fatigue Analysis*

[4] **I-ET-3000.00-1000-941-PPC-001**, *Metocean Data*

[5] **I-ET-3A26.00-1000-941-PPC-001**, *Metocean Data*

[6] **0280-SF20-80ST-0007**, *Vessel Motion RAO's for Riser Design*

[7] **I-ET-3010.90-1350-960-PPC-005**, *RAO Data*

[8] **I-ET-3000.00-6600-941-PMU-002 ,** *PLSV SUNRISE 2000 - Technical data and RAO curves*

3. SCENARIOS

The following two scenarios shall be considered by the MANUFACTURER for the design of the umbilical structures:

		Scenario I	Scenario II
Water Depth (m)		Up to 2000	Above 2000
Extreme Loading Analysis		as per [1]	as per [1]
Fatigue Analysis		as per [2]	as per [3]
Metocean Data		available at [4]	available at [5]
Vessel RAO		available at [6]	available at [7]
Vessel Heading(*) (deg)		190	190
Slot 1 Coordinates(**)	X (m)	107.25	81.00
	Y (m)	31.50	29.60
	Z (m)	2.68	3.60
Slot 2 Coordinates(**)	X (m)	229.75	227.70
	Y (m)	31.50	29.60
	Z (m)	2.68	3.60

(*) clockwise, relative to True North

(**) considering the following coordinate system:
X – origin at aft perpendicular, positive forward
Y – origin at centerline, positive portside
Z – origin at baseline, positive upwards

For installation analysis, MANUFACTURER shall consider reference [8].