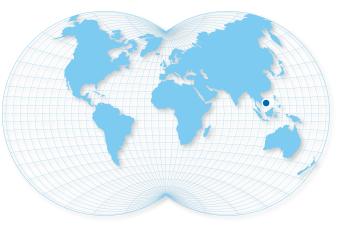


SU TU DEN (BLACK LION) FIELD, VIETNAM:

FPSO Cuulong MV9 External Turret





Scope of Work

SOFEC designed and constructed an external turret mooring system to moor the 149,500 dwt MODEC purpose-built FPSO. The FPSO receives produced oil and reinjects both produced gas and water. The SOFEC turret is designed to support a single production platform in Phase I, with space to accept additional production from a second future production platform in Phase II of the project.

General Description

Client Name: CUU Long Joint Operating

Company (CLJOC)

Contract Award: May 2002
Installation Date: October 2003
First Oil: October 2003
Vessel Size: 149,500 dwt
Storage Capacity: 1,000,000 bbls
Water Depth: 48m (157ft)
Fabrication: Turret - Malayasia

Vessel – Korea Topsides – Korea

Design Environmental Criteria (100-year storm)

Significant Wave Height: 8.0m (26.2ft)
Wind Velocity: 28m/s (54.4 knots)
Surface Current: 1.4m/s (2.7 knots)

Mooring System

9-leg 3 x 3 chain catenary mooring

Turret

External Cantilevered Bow

Fluid Swivel Assembly

Oil / Water: 1 x 12-in. toroid

(1,480 psi design)

Gas Lift: 1 x 8-in. toroid

(2,220 psi design)

Gas Production: 1 x 10-in. toroid

(2,220 psi design)

Water Injection: 1 x 12-in. toroid

(3,705 psi design)



FPSO Cuulong MV9

(Continued)

Spare: 1 x 12-in. toroid

(3,705 psi design)

Future Gas Production Swivels: 2 x 12-in. toroid

(2,220 psi design)

Riser System

3 x 11-in. Flexible riser

1 x 7-in. Flexible riser

2 - Electrical control umbilicals

Comments

First oil was achieved 18 months after contract award. The SOFEC external turret mooring system is ABS classed.