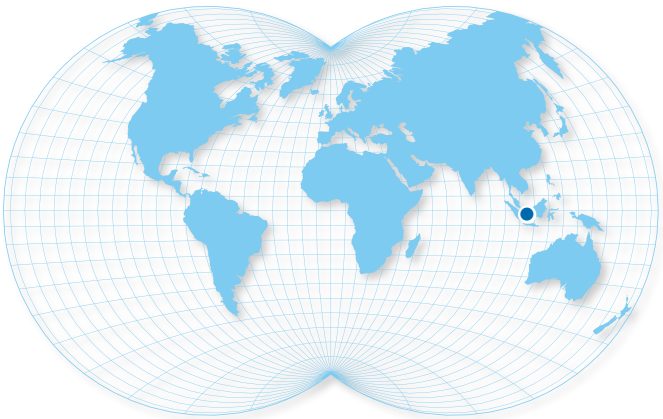
ANOA FIELD, INDONESIA:

FPSO Anoa Natuna External Turret



Scope of Work

SOFEC designed and constructed an external turret-type SPM system for the Anoa Natuna, which was MODEC's first purpose-built FPSO system.

The project required complete vessel motion analysis considering all linear and angular responses and accelerations for process equipment layout and design. Complete analysis was performed for one and two legs damaged mooring conditions and process vessel with tandem moored export vessel. A fatigue analysis was also performed which considered the total range of vessel operating conditions from fully loaded to light.

General Description

Client Name:	Chevron Texaco (Amoseas Indonesia, Inc.)
Contract Award:	October 1988
Installation Date:	April 1990
Vessel Size:	76,200 dwt
Storage Capacity:	550,000 bbls
Water Depth:	77m (253ft)
Fabrication:	Turret - Japan Vessel - Japan Topsides - Japan

Design Environmental Criteria (100-year storm)

Significant Wave Height:	11.9m (38.9ft)
Wind Velocity:	26.5m/s (49 knots)
Current:	1.2m/s (2.2 knots)

Mooring System

6-leg Asymmetric catenary:
4.5-in. Grade 3 chain

Turret

External Cantilevered Bow

Fluid Swivel Assembly

Crude Oil:	2 x 8-in. piggable toroids (740 psi operating/ 1,125 psi test)

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Fuel Gas:	1 x 6-in. in-line (740 psi operating/ 1,125 psi test)

Riser System

1 x 8-in. Flexible riser

1 x 6-in. Flexible riser

Comments

The Anoa Natuna was the first FPSO designed, constructed and installed jointly with MODEC to enable Amoseas to produce a remote field in the Natuna Sea. The cargo transfer system for this purpose built FPSO barge consists of two piggable crude oil swivels and one high pressure gas swivel.

This SOFEC external turret mooring system is ABS classed.