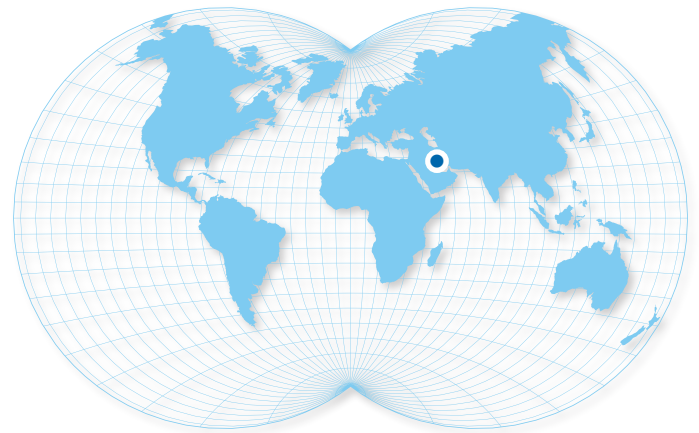


DAS ISLAND, UNITED ARAB EMIRATES: ADMA OPCO CALM



Scope of Work

SOFEC designed, constructed, and installed a CALM terminal for crude oil exports at the Tanker Berth No. 3, Das Island, Abu Dhabi, United Arab Emirates.

General Description

Client Name:	Abu Dhabi Marine Operating Co. (ADMA/OPCO)
Contract Award:	November 1990
Installation Date:	August 1991
Application:	Diesel, Gasoil and Naphtha Import

Project Specifications

Water Depth:	28m (92ft)
Tanker Size:	500,000 dwt
Dimension:	12.5mØ x 4.8m
Floating Hose:	2 x 20-in.
Underbuoy Hose:	2 x 20-in. Chinese Lantern
Hawser System:	21-in. Single grommet
Anchor Leg System:	6 x 3.75-in. Grade U3
Anchor System:	Unavailable

Design Environmental Criteria

Operational	
Significant Wave Height:	4.6m (15ft)
Wind Velocity:	16.8m/s (32.7 knots)
Surface Current:	0.5m/s (0.97 knots)

Survival	
Significant Wave Height:	10.8m (35.4ft)
Wind Velocity:	21.3m/s (41.4 knots)
Surface Current:	0.9m/s (1.7 knots)

Comments

This single product CALM is installed in 28m water depth. The ADMA-OPCO CALM features a double hull design that eliminates potential repair problems associated with foam filled compartments. Six 3.75-in. chain legs anchor the 12.5m diameter CALM.

The fluid swivel incorporates an electrical swivel, which relays SCADA signals to the internal accumulator powered hydraulic valve control system that permits the PLEM valves to be remotely operated. The CALM is equipped with a load monitoring system and dual 20-in. double carcass hoses.