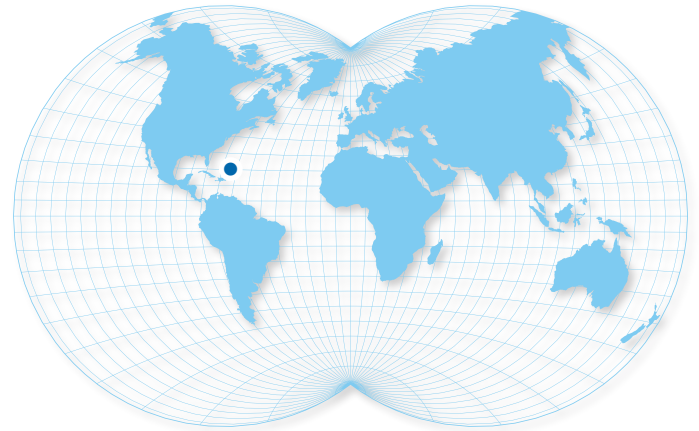


# ST.EUSTATIUS, NETHERLAND ANTILLES: St. Eustatius CALM



## Scope of Work

SOFEC designed, constructed, and installed a CALM system for crude oil import and product export as part of a trans-shipment terminal facility. St. Eustatius is in the Leeward Islands in the Netherland Antilles approximately 190 miles ESE of Puerto Rico.

## General Description

Client Name:	Chicago Bridge & Iron (CBI) / Statia Terminals
Contract Award:	October 1993
Installation Date:	September 1994
Application:	Crude Oil Import / Product Export Trans-shipment Facility

## Project Specifications

Water Depth:	65m (212ft)
Tanker Size:	520,000 dwt
Dimension:	12.5mØ x 5.8m
Floating Hose:	2 x 24-in., 1 x 20-in.
Underbuoy Hose:	2 x 24-in., 1 x 20-in. Lazy S
Hawser System:	15-in. Dual grommet

Anchor Leg System:	6 x 3.4375-in. ORQ stud link chain
Anchor System:	6 x 20mt Stevshark anchors

## Design Environmental Criteria

Operational	
Significant Wave Height:	3m (9.8ft)
Wind Velocity:	7.6m/s (14.7 knots)
Surface Current:	0.5m/s (0.97 knots)

Survival	
Significant Wave Height:	11.5m (37.8ft)
Wind Velocity:	58.2m/s (113 knots)
Surface Current:	0.9m/s (1.75 knots)

## Comments

As a partnering arrangement with Chicago Bridge and Iron (CBI), the parent of Statia Terminals, and Brown and Root, SOFEC designed, constructed and installed a dual product CALM system in 65m water depth. The system is designed to survive hurricane conditions and moor tankers up to 520,000 dwt in the operational conditions. It is equipped with a sophisticated SCADA system for remote load monitoring, valve control, leak detection, operating pressure monitoring and battery status. The crude is shipped through a 48-in. subsea pipeline to a temporary storage at a Statia tank farm, from where it is then re-loaded onto smaller tankers for delivery to Gulf of Mexico refineries.