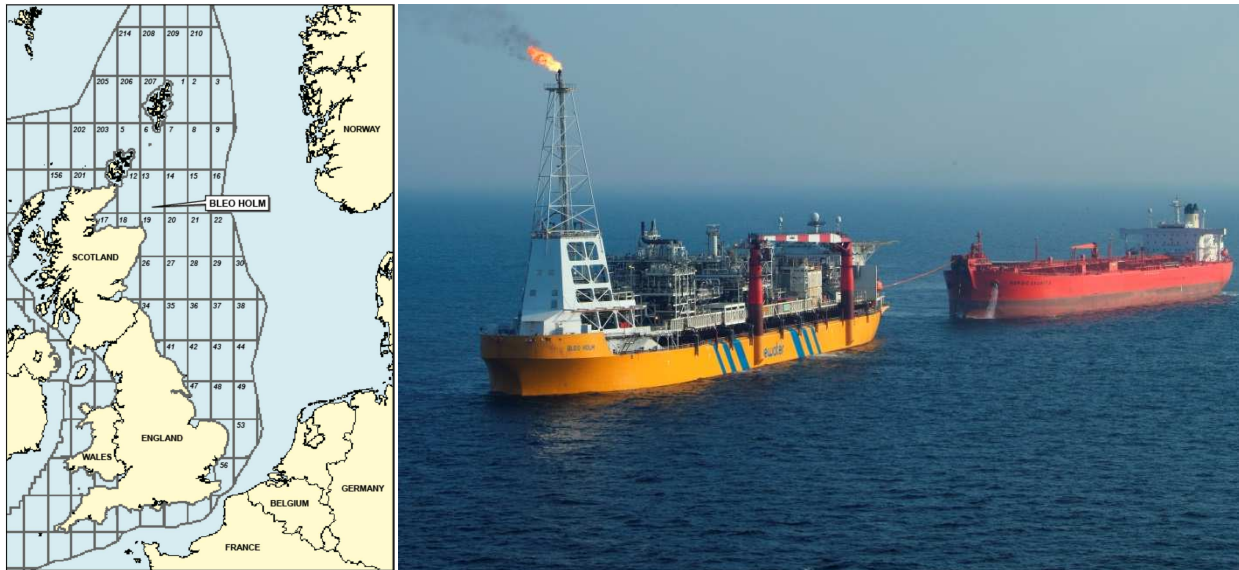


BLEO HOLM



Last Updated:

May 2017

The 'Bleo Holm' is a Floating Production, Storage and Offloading Facility ("FPSO") registered in Willemstad, The Dutch Antilles. It is considered to be a "fixed installation" and "production installation", as defined in Regulation 2 of the "Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015". The FPSO is based on a purpose build tanker mono hull, which was constructed at Hitachi Yard in Japan. The vessel has a double hull, double sides, double bottom, a bulbous bow and weighs 105,000 dead weight tonnes. Located in a water depth of 110m (360 ft) at coordinates 58°06'N, 01°26'W in block 13/28a on the UKCS, 72 miles (116km) North East of Aberdeen.

The FPSO processes oil and gas from the Repsol Sinopec Resources UK operated Ross and Blake fields. It is leased to and operated by Repsol Sinopec Resources UK Limited on behalf of the Ross Field Joint Venture Partners.

OPERATIONAL INFORMATION

Licence	P.297, P.973 and P.307
Licensees (Ross Joint Venture Partners)	Repsol Sinopec Resources UK Limited (Op) 56.180000% Repsol Sinopec Alpha Limited 13.000000% Idemitsu Petroleum UK Ltd 30.820000%
Dimensions	214m L x 42m B x 21.2m D
Owner	Bluewater (Floating Production) Limited
Weight	105,000 DWT
Storage	117,200 tonnes
Wells	Production: 13 Injection: 8

CAPACITY PROJECTION

The FPSO process system is nominally designed for the following quantities:

Description	Unit	Max. Cap.	Projected Ullage (% of maximum capacity)				
			2017	2018	2019	2020	2021
Test Separator	BPD	45,000*	●	●	●	●	●
Production Separator	BPD	138,000*	●	●	●	●	●
2 nd Stage Separator	BPD	74,000*	●	●	●	●	●
Oil Export	BPD	45,500	●	●	●	●	●
Produced Water Treatment	BPD	100,000	●	●	●	●	●
Water Injection	BPD	120,000	●	●	●	●	●
MP Compressor	MMscfd	60	●	●	●	●	●
HP Compressor	MMscfd	55	●	●	●	●	●
Dehydration	MMscfd	55	●	●	●	●	●

*Maximum capacities for crude train separators include both oil and produced water rates.

Available Capacities:	●	> 25%
	●	5% to 25%
	●	< 5%

PROCESSING

Well fluids arrive on the Bleo Holm through subsea manifolds, flowlines and risers, then the turret piping and swivel. They are then routed to the crude separation area for onward processing as stated below.

Wet oil from the first stage separators is passed to the second stage separator together with recovered condensate and oil reject oil from the produced water hydro-cyclones. The combination of temperature and pressure in the second stage separator ensures that the hydrocarbon liquids are stabilised to a low Reid Vapour Pressure (RVP) suitable for storage and shipment. The crude oil from this separator is then pumped to the storage tanks.

Produced water from the three separators is treated to reduce the oil-in water content before discharge overboard.

Gas from the production and test separators is cooled and fed to the 3-stage compression train. Before the inlet to the third stage, the gas is dehydrated by glycol contacting. Gas from the MP compressors (2nd stage discharge) can be used for fuel. Gas from the HP compressor is used for lift with any excess exported by pipeline.

PIPELINES

Oil Export	N/A (oil offloaded by shuttle tanker)
Gas Export	6" * 24 km hot tapped to Frigg UK system Onward transport to St. Fergus

ENTRY SPECIFICATION

Subject to discussion and negotiation

EXIT SPECIFICATION

Crude Oil Export	Tanker offload
Gas Export	Set by Frigg pipeline entry requirements
Produced Water	<30 ppm oil in water regulation <30 ppm oil in water design