Fast Facts

Triton FPSO and Area Fields

Overview

- Triton FPSO producing oil and gas from the Bittern, Guillemot West & North West fields, Gannet E, Clapham, Pict and Saxon fields
- Location UK Central North Sea, Block 21/30, approximately 193km (120 miles) east of Aberdeen
- Fields tied back to FPSO via subsea facilities comprising a series of pipelines and manifolds:
- Export Oil via shuttle tanker
- Gas via Fulmar gas line to St Fergus
- Drilling carried out by mobile drilling units over the respective fields
- Pipeline intervention and inspection completed by DSV and ROV inspection vessels at respective fields.

Triton owners	Bittern	Guillemot	Triton
Dana Petroleum	32.95%	90%	51.96%
Tailwind	64.63%	10%	46.42%
Endeavour	2.42%	-	1.61%

Technical Data

Construction

- New-build double hull tanker, built in Korea
- Modified in the Sembawang shipyard, Singapore
- Turret, cranes and topsides pallets installed and onshore commissioning Tees Offshore Base, UK.

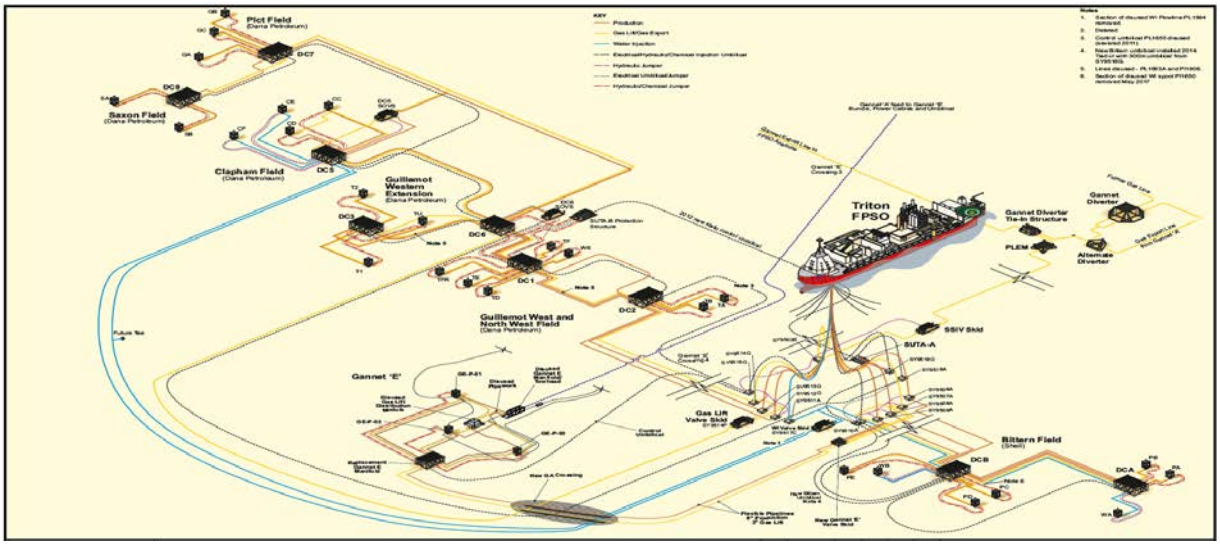
Mooring/Riser System

Design:	Passive system using an internal bow turret 4.4m dia. Design by Bluewater
Mooring Lines:	3 x 3 lines, each 1,250m long, chain/wire/chain system
Riser System:	9 Flexible risers and 4 umbilical's 15 riser slots installed, allowing additional risers to be added

Dimensions

Length overall:	244m (800ft)
Moulded breadth:	42m (138ft)
Moulded depth:	21.3m (70ft)
Deadweight:	105,000 tonnes
Water Depth:	300ft (90m)
Power generation:	42 MW from 2 x LM6000 dual-fuelled gas turbines
Storage capacity:	630,000 barrels
Process capacity:	Oil 105,000 bopd, Gas 140 mmcfd, Water injection 125,000 b/d.

Field Data	Bittern	Guillemot West	Guillemot North-West	Clapham	Pict	Saxon	Gannet E
Location	UK Central North Sea, UK 29/1a and 29/1b Approx 20km SE of Triton	UK Central North Sea, UK Blocks 21/29a, 21/25, 21/30, 21/29b Approx 14km NW of Triton	UK Central North Sea, UK Block 21/24 Approx 14 km NW of Triton	UK Central North Sea, UK Block 21/24 Approx 22 km NW of Triton	UK Central North Sea, UK Block 21/23b Approx 34 km NW of Triton	UK Central North Sea, UK Block 21/23b Approx 35 km NW of Triton	UK Central North Sea UK Block 21/30 Approx 3.5km NW of Triton
Water depth	300ft (90m)	290ft (87m)	290ft (87m)	276ft (85m)	275ft (84m)	281ft (85.65m)	305ft (93m)
First Production	March 2000	March 2000	March 2000	October 2003	June 2005	November 2007	
Recovery	Waterflood	Natural depletion	Natural depletion	Water Injection	Natural depletion	Natural depletion	Natural depletion
Field Life	13 years	10 years	10 years	12 years	15 years	13 years	
Wells	5 production and 2 water injection wells	3 production wells	7 production wells	2 production wells 2 water injection wells	3 production wells	2 production wells	3 production wells
Drill Sites	2	2	2	1	1	1	1
Manifolds	2 x 7 slot manifolds	2 x 6 slot manifolds					
Pipelines	2 x 10in Production 2 x 10in Production 1 x 12in Water Injection 1 x 4in Gas Lift Approx. 20km long + 2km long back to FPSO	2 x 12in Production 1 x 4in Gas Lift Approx 12km + 3km long back to FPSO	Part of Guillemot West Infrastructure	Part of Guillemot West Infrastructure	Part of Guillemot West Infrastructure	Part of Guillemot West Infrastructure	1 x 7.6in Production 1 x 3in Gas Lift Approx 3.8km



Safety Systems

Evacuation preferred option:
1 via helicopter
2 Lifeboat
3 Liferaft or lifebuoy

Temporary Refuge Accommodation containing control room, communications

Lifeboats: 2 x TEMPSC
1 port (59-man), 1 starboard (62-man) aft

Liferafts: 8 x 15-man aft, 2 x 12 man
emergency shelter forward

Lifebuoys: 10 located around vessel

Escape Routes: Walkways protected by firewalls running past process equipment on either side of vessel.

Firefighting

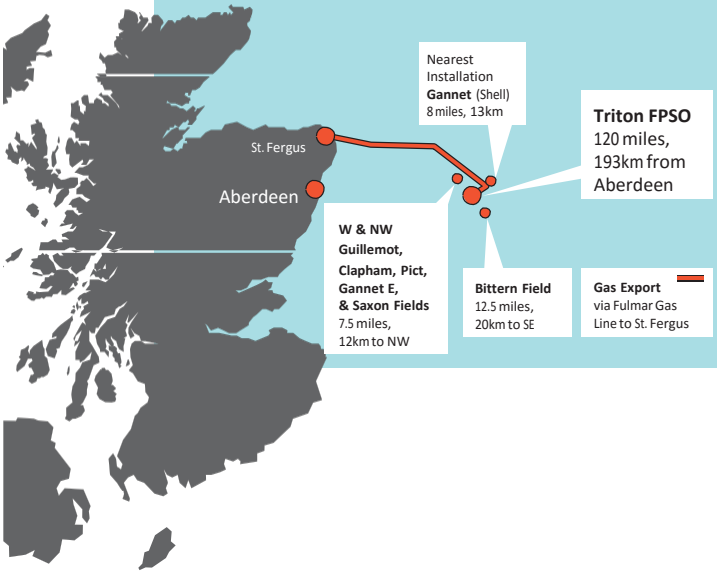
- Firepumps – 2 x 1950m^3/hr of firewater
- Extensive water deluge and water curtains throughout facility
- Helideck – foam monitors delivering 6mm coverage of foam.

Emergency response

- Fully trained response teams
- Regular exercises/drills.

Environment

- FPSO double-hulled
- Process and vessel design plus storage procedures to minimise VOC emissions
- High efficiency turbines and waste heat recovery systems for high energy efficiency and reduced exhaust gas emissions
- Initial response and monitoring of any spill carried out via FPSO management and Dana
- If necessary these would be escalated to respective field operators if additional external resources are required
- Procedures to minimise discharges
- Oil pollution emergency plans to deal with significant incidents
- Key factors to response:
  – Weather
  – Amount of spill
  – Location of spill
  – Local sensitivities
- Member of Oil Spill Response with extensive expertise and equipment and dispersants.



People

Normal crew: Approximately 70.

Accommodation: For up to 80.

Shift pattern: Generally 2 x 12-hour shifts/14 days on, 21 days off (contractor conditions determined by employer).

Management Structure

- Offshore Installation Manager (akin to ship's captain)
- Team Supervisors

Travel offshore

- Full inventory of people maintained at each stage
- Baggage and body search at heliport
- Full safety briefing before all flights
- Immersion suits/lifejackets/EBS worn at all times
- Survival training and full offshore medical examination required
- Minimum Industry Safety Training (MIST) required

Induction

New personnel – comprehensive induction on arrival covering safety, welfare, and other familiarisation aspects

Medical Facilities

- Qualified Medic (SRN + specialist training)
- Qualified first-aiders
- 2-bed, well-equipped sickbay
- Onshore medical support – IQARUS – Aberdeen-based doctors on 24-hour call-out.

Standby Vessel

Ocean Osprey

Shared with Gannet and Anasuria Assets

Owner/Operator: Atlantic – Offshore

Built/Converted: Zanakona 2014

Type of vessel: Emergency Rescue, Recovery and Tanker Assist Vessel

Vessel Data

Length/ Breadth: 66.80/16.00 meters

Speed: 14 knots
2 x 1935kW MAN engines
1 x transverse bow thruster
1x bow azimuth thruster

Fast rescue craft: 1 x WEEDO 800 FRC

Daughter craft: 2 x MP 1000

Launching device: 3 x heave compensated systems for FRC and DC Rescue basket: DACON

Rescue Zones: Fitted port and starboard plus Dacon Scoop Recovery System

Survivor facilities: Fully compliant with class A SBV requirements capacity for 400 survivors, with survivor seating, bunks, hospital treatment area, showers and toilets.

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