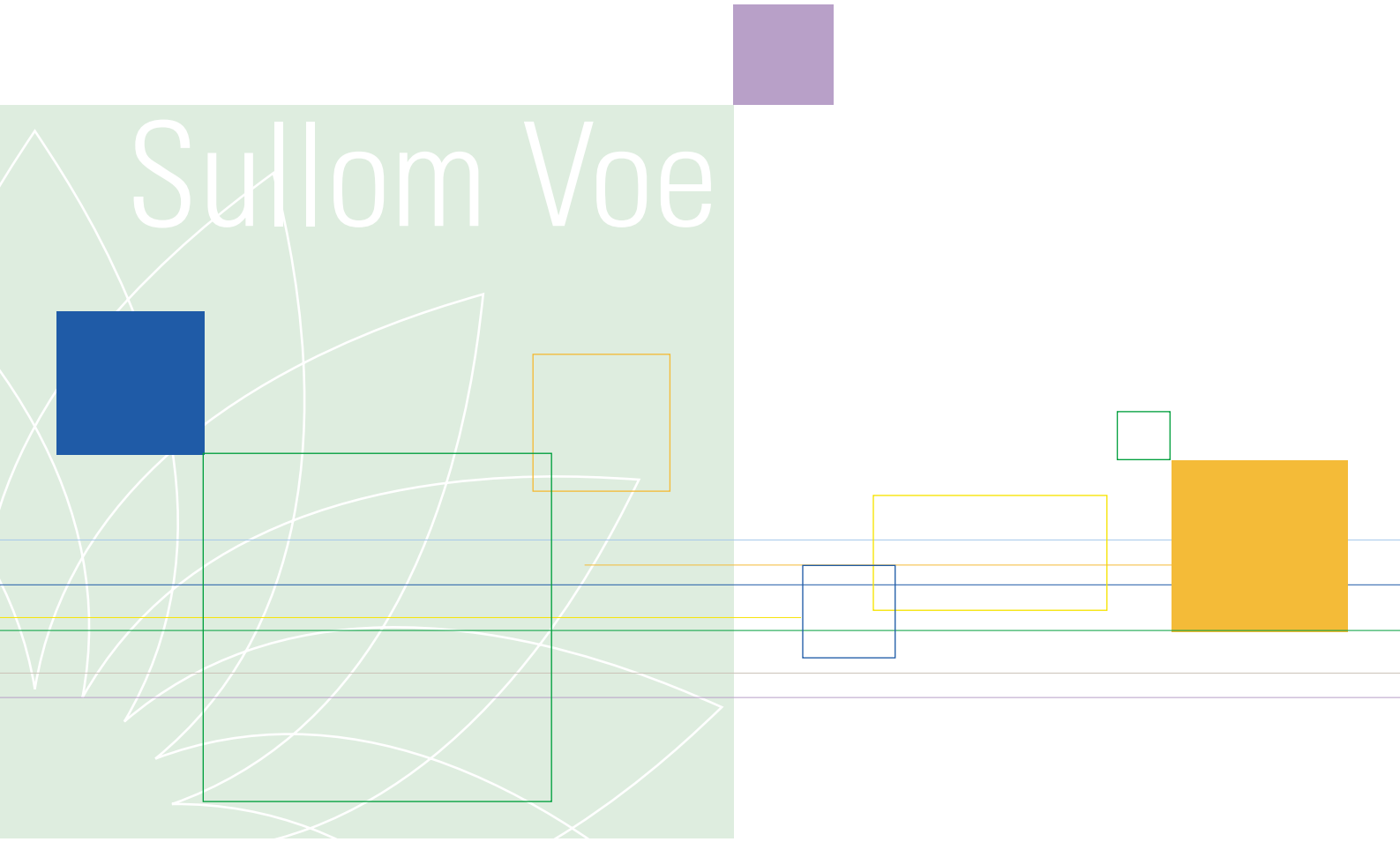
Asset Portfolio



Sullom Voe Terminal



MAIN FACILITIES

- Oil and gas process plant
- 16 crude oil storage tanks
- Four fixed-roof liquefied petroleum gas (LPG) storage tanks.
- Four jetties, each with a crude oil loading pump.
- Each jetty can accommodate crude tankers of between 18,000 and 120,000 deadweight tonnes.
- Jetty 1 has an LPG loading facility, and can accommodate LPG carriers.
- Four fixed-roof ballast water tanks fitted with oil skimmers
- A power station and steam generation plant
- A main flare and two ancillary surge flares
- An administration building
- A fire station

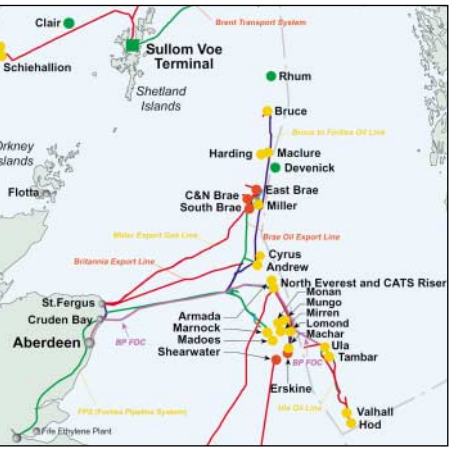
Import/export facilities for Schiehallion crude oil include:

- Four (of the 16) insulated tanks holding 600,000 barrels each
- Dedicated jetty 3
- Dedicated pumping and metering of crude import and export
- Heating circuit to keep the contents of the tanks warm

Sullom Voe's process and power facilities include:

- Stabilisation - two trains
- Compression - for gases removed by the stabilisation facilities, both low and high pressure trains
- Fractionation
- LPG chilling
- Effluent treatment
- Power station

Sullom Voe Terminal



The Sullom Voe Terminal is located at the northern end of the largest of the Shetland Islands. It is also one of the largest oil and liquefied gas terminals in Europe.

The terminal was built between 1975 and 1981 and covers 1000 acres. Its main purpose is to act as a buffer between the producing fields offshore and tankers waiting to ship oil to refineries worldwide. The terminal has been designed to allow continuous production offshore, even in bad weather.

The Sullom Voe Terminal is operated by BP and handles production from more than two-dozen oilfields in the east Shetland Basin, between Shetland and Norway. Approximately 20 different companies have interests in the terminal, which receives production through the Brent and Ninian pipeline systems.

Oil from BP's West of Shetland Schiehallion field, has been brought to Sullom Voe since August 1998 by shuttle tanker. At peak production an average of 142,000 barrels per day will be imported using a purpose built, double hulled shuttle tanker Loch Rannoch. Dedicated storage and pumping facilities were upgraded during 1997.

Gas is also imported from West of Shetland fields via a 20" pipeline. Some of this gas is dried, treated to remove H2S and used as fuel in the Power Station. The remainder is enriched with LPGs from the Processing Area before being exported to the Magnus platform via another 20" pipeline, where it is used for Enhanced Oil Recovery.

In 2003/04 a new 22" oil pipeline will be laid between Clair and Sullom Voe and terminal reception facilities will be built, including a receiver for pipeline cleaning pigs. The Clair oil field is expected to come on stream in 2004. The oil will be stored at Sullom Voe prior to loading onto export tankers. Gas from Clair will be imported to Sullom Voe via the existing 20" West of Shetland gas pipeline.

As a result of its remote location, the Sullom Voe Terminal has to be entirely self-sufficient, particularly where emergency services are concerned. On site there is a fire brigade and a pollution response team, both of which hold regular exercises to test their readiness to cope with emergencies.

Ninian Pipeline System

The 36-inch diameter, 175 kilometre long Ninian pipeline runs from CNR International's Ninian Central platform to Sullom Voe Terminal. The pipeline carries crude oil from: the Ninian Central, Ninian North and Ninian South, Magnus, South Magnus, Heather, Lyell, Columba and Strathspey Fields.

BP operates the pipeline, on behalf of the partner companies. It was laid in 1975/76 and received first oil in December 1978.

In September 1990, a subsea isolation valve was installed in the pipeline, located 90 metres from the Ninian Central platform. This provided additional security to the platform.

Standard production pigs are run at two-week intervals for wax and water removal. As part of the ongoing integrity management plan, the line has been internally inspected on three occasions using a Magnetic Flux Leakage intelligence pig, in addition to the annual external inspections at Ninian Central, the subsea and land sections, and at Sullom Voe Terminal.

Sullom Voe Terminal

Sullom Voe Terminal is one of the largest oil & liquified gas terminals in Europe. It's main purpose is to act as a buffer between the producing fields offshore and the tankers waiting to ship oil to the refineries world wide.

Operational Milestones over the Past 25 years

- First Oil to Sullom Voe Terminal arrived on the 25th November, 1978.
- The Shetland oil Terminal Environmental Advisory Group (SOTEAG), an independent body set up to monitor the environment around the terminal. Every year SOTEAG commissions and reviews a programme of monitoring that covers birds, rocky shores and the sea bed of Sullom Voe and the surrounding area.
- In April 1982, the fractionation plant comes on stream, producing SVT's first propane and butane.
- January 1985 - Highest crude throughput in one day 1,503,417 barrels.
- During September 1987, inspection work is carried out which leads to the major Corrosion Under Insulation (CUI) Project.
- In August 1990, Brent and Ninian stabilised crude oil is commingled to form a single export stream - called 'Brent Blend'.
- The Terminal Re-instrumentation and Control (TRAC) Projects takes place during 1991and 1992.
- In 1989 the Sullom Voe Terminal 10th anniversary scholarship trust is formed. The fund was established to promote and encourage the education of persons resident in Shetland who will be undertaking a course of study in a discipline likely to contribute to the social and/or economic development of Shetland.
- 3rd December 1997, the owners of the Brent and Ninian Pipeline Systems announce they had agreed a new set of principles for running the pipelines and the Sullom Voe Oil Terminal in Shetland well in to the next century.
- First shipment of oil from the Schiehallion field in the Atlantic Frontier, west of Shetland is off loaded on 8th August 1998 from the Nordic Savonita. The dedicated Shuttle Tanker Loch Rannoch arrived for the first time at Sullom Voe on 1st November 1998.
- 6th January 1999 largest cargo was the Hellespont Grand, 395,567 tonnes.
- 7 billionth barrel through SVT achieved in December 2001.
- Magnus Enhanced Oil Recovery Project: 2nd June 2002 fuel gas from West of Shetland pipeline is introduced to the SVT power station for power generation.
- On 7th June 2002 3 million manhours without Days Away From Work Case achieved.

The UK Upstream Asset Portfolio is published by BP Exploration
Farburn Industrial Estate, Dyce, Aberdeen AB21 7PB

Designed by Flintriver Design Strategies, Glenrothes Tel 01592 770877.