TOTAL E&P UK PLC

ST FERGUS

Environmental Statement 2003

TOTAL

St Fergus North Sea Gas Terminal Environmental Statement

Index

Introduction

I am pleased to launch the 2003 Environmental Statement for the Total E&P UK PLC North Sea Gas Terminal at St Fergus. This document is the first interim report of the 2002 full Environmental Statement, validated on 19th June 2003.

Environmental Statements form part of our voluntary commitment to achieve Eco-Management and Audit Scheme (EMAS) accreditation and ISO 14001 certification, which represent the highest and most prestigious international standards of environmental management. This report:

- Describes the facilities we operate and the main activities carried out on site
- Details the emissions from the plant to the environment in 2003
- Outlines the 2003 objectives, goals and performance against them
- Outlines the objectives and goals for 2004

The ultimate responsibility for safety, health and environmental protection at the terminal rests with the Terminal Manager. Safety, health and environmental duties are delegated to our employees and contractors as we believe that by sharing these responsibilities we can deliver improvements in our environmental performance. To help achieve our goals, everyone on site is actively encouraged to raise suggestions for improvement.

Respect for the environment has been a key consideration for the terminal for many years. Our environmental performance is a clear demonstration of our commitment to reduce the impact of our operations on the environment. The enthusiasm and creativity of all our personnel have been vital in our progress towards the achievement of these standards.

I hope that you will find the report both informative and interesting and I look forward to any queries or comments that you may have.

Pierre-Alexandre Rives
St Fergus and MCP-01 Manager

St Fergus North Sea Gas Terminal
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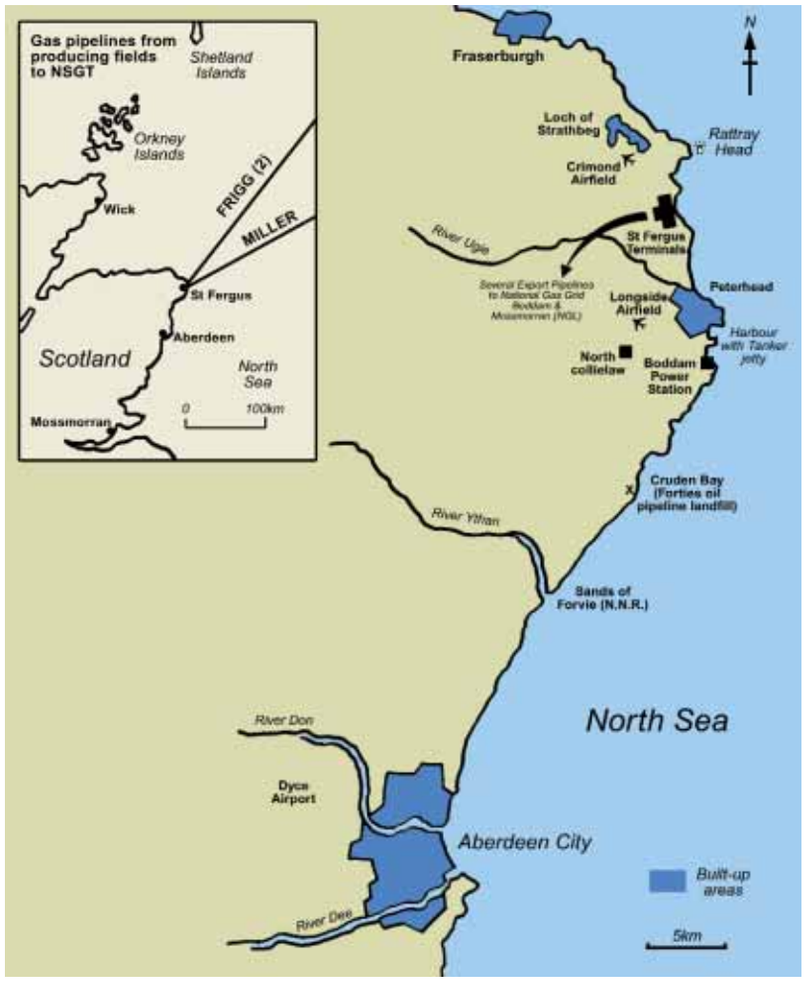
Site Activities

The TOTAL North Sea Gas Terminal operated by Total E&P UK PLC, part of the TOTAL Group, is situated at St Fergus on the north east coast of Scotland, 7km north of Peterhead.

The Terminal has been operating since 1977 receiving natural gas from a number of offshore fields and processing it to meet national gas network specifications. The gas is transported to the terminal via two offshore pipeline systems – the Frigg Transportation System, comprising two pipelines and the Miller gas system.

The Frigg Transportation System is a major supplier to the Transco National Transportation System. A 10 year record was achieved in 2003 with terminal throughput at above 63 MCMD (million cubic metres of gas per day). This represents up to 20% of the total gas imports to the UK. Processed gas from the Miller Receiving Facilities (MRF) supplies Peterhead Power Station at Boddam, near Peterhead.



Process Description

Pipelines

The incoming natural gas consists mainly of methane with heavier hydrocarbons, carbon dioxide, nitrogen and small amounts of water and hydrogen sulphide.

The two incoming pipelines of the Frigg Transportation System serve Phase II (via Pipeline No. 2) and Phase III treatment trains (via Pipeline No. 1) and are inter-linked on the terminal site. Incoming gas from the Miller Field travels via a separate line and is conditioned in separate facilities.

On entry to the terminal, each line has a dedicated 'slug catcher' where any liquid hydrocarbons (condensates) can settle out before entering the main process. The inlet facilities serving each pipeline also contain 'pig traps' for the removal of 'pigs' (devices fitted with sophisticated instruments to remove any deposits and monitor the condition of the pipelines). Pigs are driven along the sub-sea pipelines by the gas flow.

Processed gas from the Phase II and Phase III refining trains is exported via the Transco terminal. Condensates from Phase II and natural gas liquids (NGLs) from Phase III are also recovered during the treatment process for export to BP's facilities at Cruden Bay and Shell U.K. Exploration and Production's NGL Plant at Mossmorran in Fife.

Phase II Process Description

Following the separation of condensate from gas within the slugcatcher, the gas enters the inlet facilities where it is heated, or chilled, depending upon the plant mode of operation. After heat exchange, the gas pressure and temperature is reduced and the gas is filtered and remaining condensate removed. The resulting gas is metered and exported via a land line to Transco.

The separated liquids (condensates) are passed to the condensate collection system where any recovered gas is compressed and returned to the treatment facilities. The residual liquid condensate is metered and exported via a land line to BP at Cruden Bay.

Phase III Process Description

The Phase III facilities contain three gas treatment trains and two liquid treatment trains. On arrival at the facilities, the gas is dried, then chilled by pressure expansion to allow removal of NGLs. Following NGL separation, the gas is re-compressed, reheated and metered, before being exported to Transco. NGL can be exported by land pipeline to the neighbouring Shell Expro St Fergus gas plant or BP's facilities at Cruden Bay.

Miller Receiving Facilities (MRF) Process Description

The Miller facilities receive sour gas, which contains hydrogen sulphide, from the BP Miller field. The incoming gas is heated to prevent liquid condensation after pressure reduction. Miller gas is then metered and exported by land pipeline to Peterhead Power Station.

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2003 Annual Input(s)	2003 Annual Output(s)
Gas: 15,502,332 tonnes	Sales Gas: 14,328,056 tonnes
Electricity: 35.9 Gigawatt hours	Natural Gas liquids: 864,325 tonnes
	Condensate: 6,599 tonnes
	Flare Gas: 7,670 tonnes
	Fuel Gas: 31,804 tonnes
	Difference due to phase changes: 263,878 tonnes
	Flare Gas: 0.05% of input

Environmental Protection and Significant Environmental Effects

In 1993, St Fergus was authorised under Integrated Pollution Control (IPC); a revised authorisation was given in August 2001 (IPC/N/20024). IPC was introduced by the Environmental Protection Act in 1990 and under it, the site's discharges and emissions to the environment are regulated. To ensure compliance, we regularly monitor our discharges and emissions and report our results to the Scottish Environment Protection Agency (SEPA).

A key requirement of our Environmental Management System (EMS) is the identification of significant effects resulting from, or associated with, our activities and management of the subsequent impacts. For the St Fergus Gas Terminal we consider the significant environmental effects to be emissions to air and water, waste management and the use of resources.

Goals

The environmental objectives, goals and performance in 2003 were as follows:

Objectives	Goals	Performance
Manage and aim to reduce atmospheric emissions	• To start up nitrogen injection in Miller flare • To start up nitrogen injection in SALT flare	• Nitrogen purging was successfully implemented on Miller in August 2003 • The feasibility study of nitrogen purging on Phase 2 SALT flare was completed
Increase electrical efficiency of the site	Progress site study into reducing electrical consumption	• Electrical efficiency study was concluded (2 studies completed – options being considered) • Movement sensors were located on lights in all buildings • Progressed waste heat recovery project – study completed, way forward being determined
Continue to implement programme for enhanced integration with our stakeholders	Continue tree-planting campaign	Tree-planting campaign progressed and 70 trees were planted by local children and staff

Environmental objectives and goals for 2004 are as follows:

Objectives	Goals
Manage atmospheric emissions with the aim of reducing their production	• To begin nitrogen purging on Phase 2 SALT flare • To progress feasibility study on implementation of nitrogen purging on Phase 3 flare
To reduce liquid waste generation on site	Investigate methods of reducing volume of contaminated water sent offsite as special waste (<2% oil)
Continue to implement programme for enhanced integration with our external stakeholders	• Complete tree-planting campaign, with local school children and terminal families, to achieve goal of planting 5,000 trees since 2000 • Progress environmental projects with the St Fergus Terminal Gas Liaison Committee • Monitor and protect the adjacent sand dunes through liaison with the St Fergus Coastal and Environmental Committee.

We will report on our progress towards these objectives and goals in the next externally verified Environmental Statement.

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Air

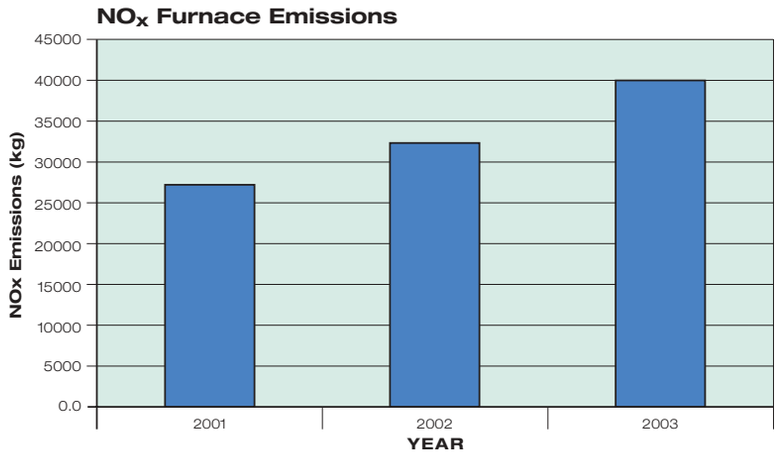
Under normal operations, the largest sources of atmospheric emissions resulting from the TOTAL North Sea Gas Terminal are generated by the combustion of natural gas within the site:

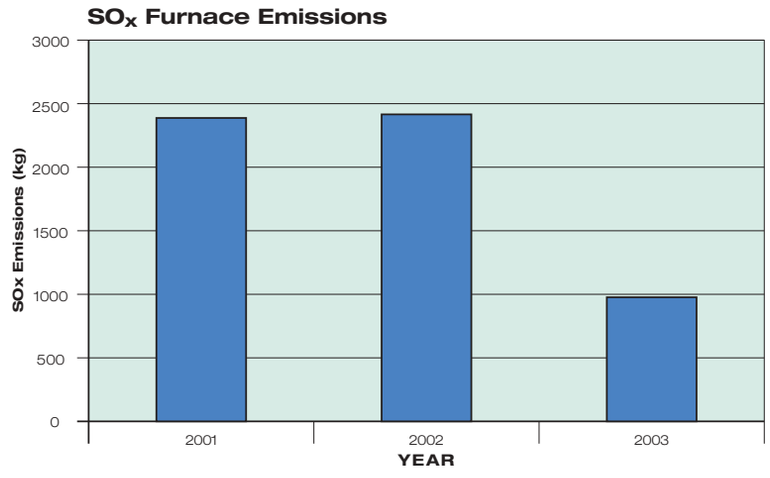
- furnaces that are used to provide heat to the process systems
- flare facilities which are an integral part of the site safety system

Furnace Emissions

Gas combustion within furnaces is the largest source of atmospheric emissions with approximately 80 – 120 tonnes of gas consumed each day. Processed site gas is used to supply the fuel for this process and typically represents a very minor proportion (0.3 – 0.4%) of the total hydrocarbon exported from the site.

Total NO_x and SO_x, measured as mass emissions are illustrated in the graphs below. NO_x emissions increased in 2003 due to the increase in terminal exports. However SO_x emissions decreased in line with the reduced operation of MRF, as the Miller gas used in the installation's furnaces is high in sulphur.

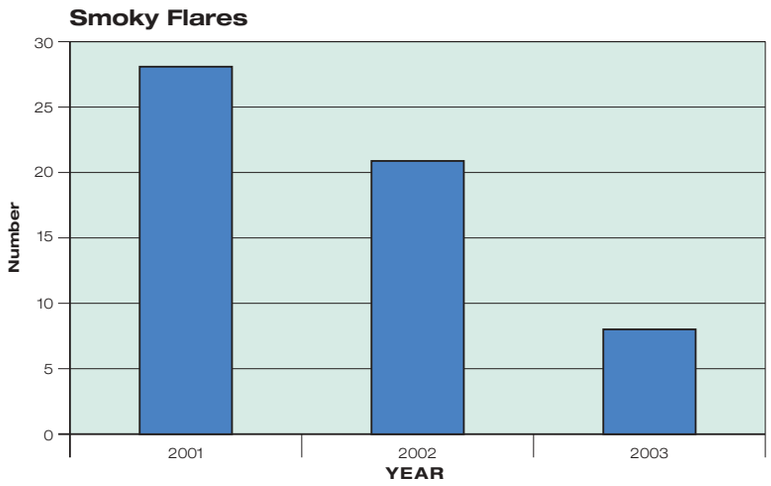




Smoky Flares

The MRF is only used intermittently to receive gas from the BP Miller platform as the offshore export rate is insufficient to run the plant continually. Whenever shut down and restarts occur, it is necessary to 'dew point' the gas to ensure that no liquids form in the pipeline between MRF and the Peterhead Power Station. During this process, small quantities of liquid hydrocarbons, which do not burn as cleanly as natural gas, are routed to the flare resulting in a smoky flare for a short time.

In 2003 there was a decrease in the number of smoky flare occurrences above our authorised limit compared to the two previous years. This was due to a reduced number of dew point incidents and the inclusion of liquid management techniques in the dew pointing procedure. The liquids formed during dew pointing are now vapourised and taken up in the gas flow rather than being routed to the flare. Peterhead power station accepts this gas and uses it to produce electricity.



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Environmental Monitoring & Local Air Quality

The impact of the TOTAL and adjacent St Fergus gas terminals on the local environment is the subject of regular independent air quality monitoring. In January 2003 monitoring was carried out in the vicinity of the terminal complex.

The results demonstrated that local concentrations of atmospheric pollutants (nitric oxide, nitrogen dioxide and sulphur dioxide) are lower at St Fergus than in typical urban environments and more comparable to concentrations measured at rural sites. The data from this study and previous surveys shows that pollutants measured at St Fergus do not approach any relevant national or international air quality guidelines.

Water

Water Collection and Treatment System

Rainwater and water generated by site activities are collected by a network of site drains and routed to the Water Treatment System.

Clean water resulting from surface water run-off is collected by the open drains and diverted to concrete basins which allow any suspended solids to settle out. Water originating in areas where oils may be present is collected by a separate drains system and any free oil is recovered. The treated waters from the clean and oily area drains are combined with the overflows from the site septic tanks and discharged to the Scottish Water Authority public sewer. Recovered oil from the water treatment system is collected in a sump and disposed offsite by a specialist contractor.

Water Quality

Discharge of the combined site waters to the public sewer is regulated by IPC. TOTAL regularly monitors the quality of the water discharged from the treatment system to ensure compliance. The parameters monitored are: Biochemical Oxygen Demand, Chemical Oxygen Demand, Suspended Solids and Oil Concentration.

Biochemical Oxygen Demand (BOD) is a measure of how much oxygen the naturally occurring bacteria within the water sample will consume as they feed on the organic matter present.

Chemical Oxygen Demand (COD) is the amount of oxygen required for complete oxidisation of water-borne matter, both organic and inorganic.

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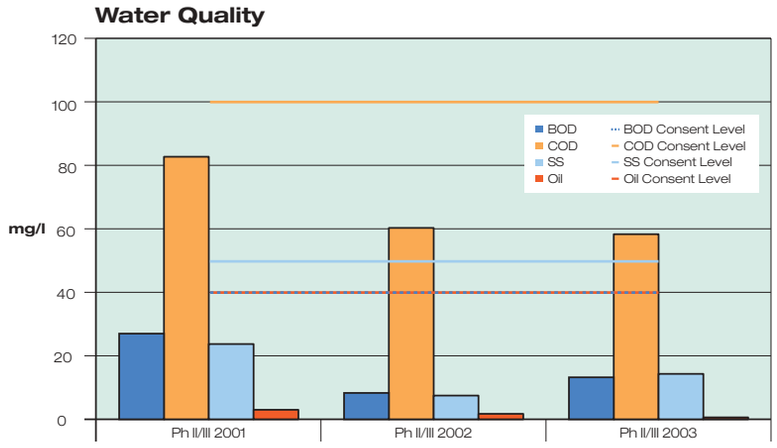
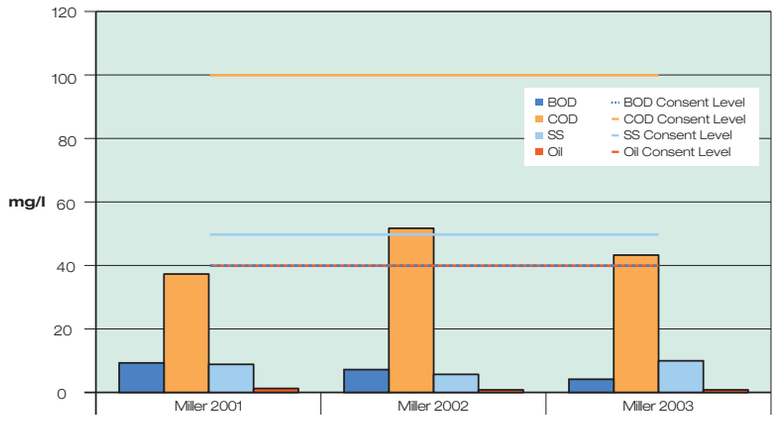
Suspended Solids (SS) is a measure of the total amount of suspended matter in a given sample of water.

In exceptional circumstances, for example, following prolonged periods of excessive rainfall, heavy site flooding can result in the direct discharge of site water to the Blackwater Burn, rather than the public sewer. Monitoring of the Blackwater Burn by SEPA has indicated that the terminal has a minimal impact on the burn.

During 2003, there were no excursions to the public sewer above IPC consent levels.





Waste

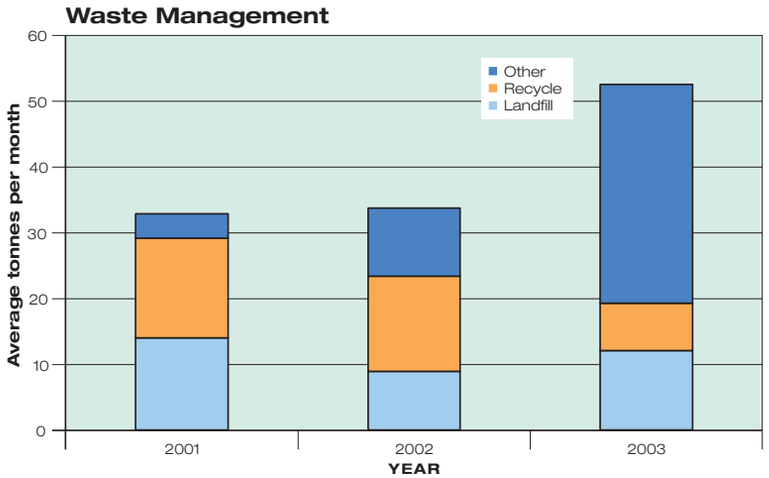
One of our objectives is to minimise the generation of waste and maximise waste segregation to optimise our opportunities for re-use or recycling of materials. All waste materials are categorised and segregated. The types of wastes generated on site include waste oils, glycol, food waste, paper, scrap metal and plastics. Where no practicable re-use or recycling opportunities exist, the wastes are sent to specialised companies for treatment and/or disposal at designated landfill sites.

In 2003 the total quantity of waste generated on site increased by almost 61%. This was as a result of a high level of maintenance activity and an increased volume of hazardous liquid waste during the year.

Problems were experienced with the site's septic tank, which has since been replaced. An increased volume of process water containing a low concentration of oil also had to be removed from the site as special waste.

A particularly intensive maintenance campaign during the year produced a large amount of shot blasted waste and scrap metal. Unfortunately, due to the nature of this waste, a large proportion was sent to landfill.

In 2003, management systems ensured that duties were met under applicable waste legislation.



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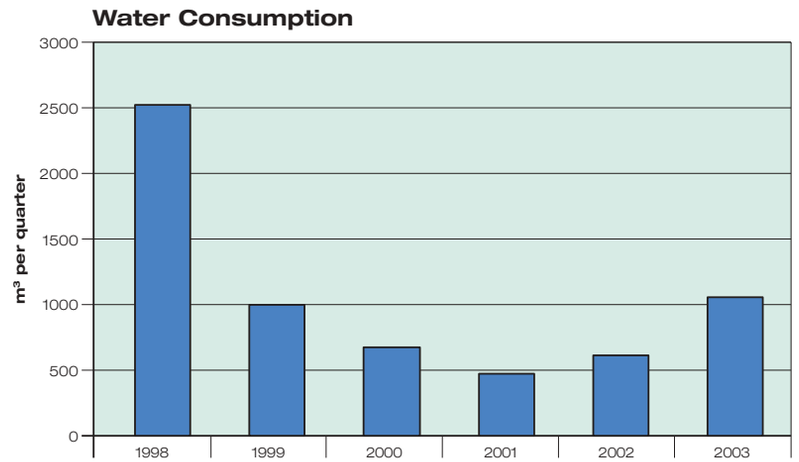
Resources

Water Consumption

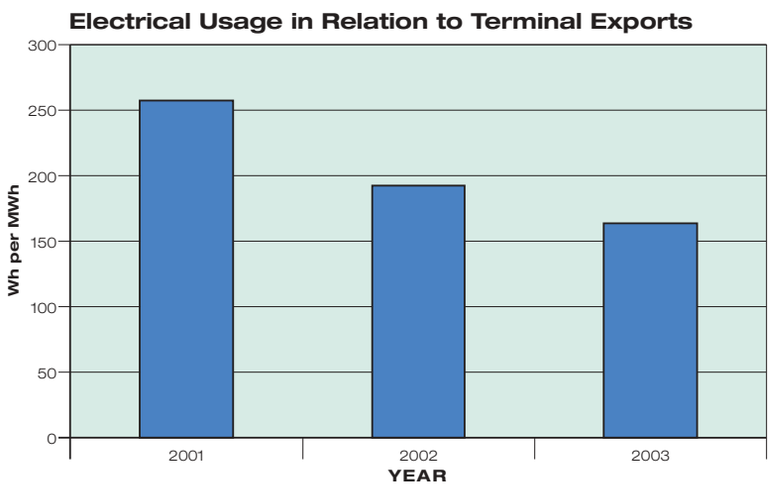
Site water consumption results is mainly from domestic purposes such as the canteen and washroom facilities. In 2003 consumption increased due to a faulty water meter and a water leak. Both issues were addressed quickly; the local water authority has replaced the meter and the leak has been mended.



Electrical Efficiency

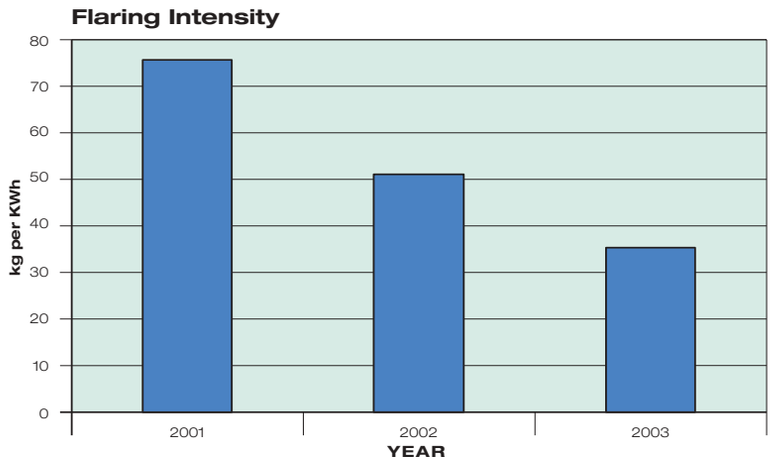
The administration buildings, workshops and electrical motors used within the plant all consume electricity. In 2003, the site electricity consumption increased by almost 3% due to increased plant activity.

However the terminal has continued to raise awareness of its energy use reduction campaign and has made efficiency improvements such as installing motion sensitive light switches to reduce wastage.



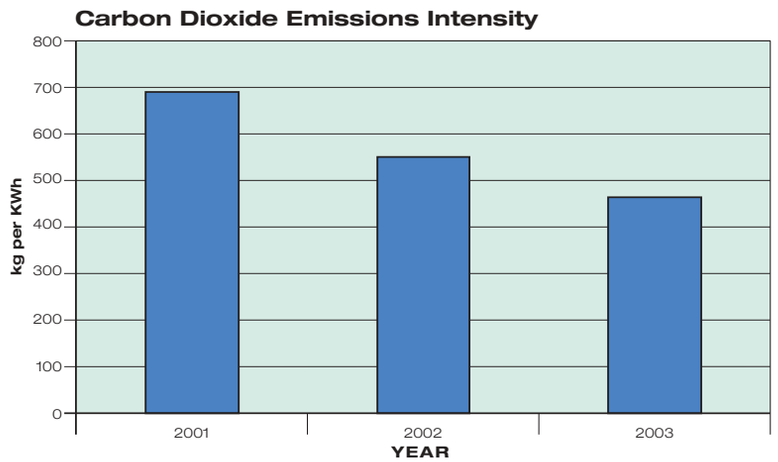
Flaring Intensity

The TOTAL North Sea Gas terminal has three flare systems, each of which has a small pilot flame for ensuring safe combustion of any gas entering the flare system. The introduction of nitrogen purging technology on the Miller flare in 2003 has lead to a 25% reduction in flared volumes. Good management of the other two terminal flares has lead to a 17% reduction overall. Flaring intensity has been chosen as a realistic performance indicator as it shows the amount flared in relation to terminal exports. The graph illustrates that over the years the amount of gas flared per Gwh of gas exported has reduced.



Carbon Dioxide Emission Intensity

The majority of CO_2 generated on site arises as a result of gas consumption in heaters. St Fergus' carbon dioxide emissions have remained just over 100 thousand tonnes despite the terminal exports increasing by approx 17% in 2003. As above, the overall intensity has decreased due to nitrogen purging on MRF and good flare management.



The basis of the efficiency and intensity figures shown in the last three graphs was reviewed in 2003 and the re-calculated figures are now shown.

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Environmental Initiatives

In 2003 the St Fergus Environmental Focus Team continued to monitor progress against objectives and targets and develop future environmental improvements through open discussion and involvement of personnel from across the terminal. In this way, 'environmentally-friendly' alternatives to chemical algal-control in the fire pond were investigated and the use of barley straw, which breaks down algae, was agreed for implementation in 2004.

In 2003 the terminal introduced a new scheme designed to encourage and award innovative ideas from across the terminal, which includes topics such as environment and safety.

The terminal also maintained its close links to the RSPB, who provide advice and help with sick or injured birds. The company has supported RSPB projects such as a memorial bench and increasing disabled access at the nearby Loch of Strathbeg Nature Reserve.

Community Involvement

In 2003 monitoring and protection of the adjacent sand dunes continued in conjunction with the St Fergus Coastal Environment Committee. Environmental projects and issues at the St Fergus complex were also discussed and progressed through the St Fergus Terminal Gas Liaison Committee. These committees were attended by representatives of all the terminals in addition to representatives of the University of Aberdeen, Aberdeenshire Council and SEPA.

Staff at St Fergus, along with their families and friends, have continued to help with the development of a wildlife garden on former waste ground outside the terminal perimeter fence. Since the project was inaugurated in 2000 some 3,700 trees have been planted – well on the way to achieving the target of 5,000 trees by 2005.

Feedback

If you have any comments, or would like further information on our environmental impacts or performance, please contact:
Public Affairs and Corporate Communications, TOTAL E&P UK PLC
Crawpeel Road, Altens, Aberdeen AB12 3FG
Tel: +44 (0) 1224 297000 Fax: +44 (0) 1224 298999
To view online visit www.uk.total.com/activities/EP_SHE-envStFergus.html

EMAS CERTIFICATE

Certificate of Registration

Total E&P UK Plc
St Fergus North Sea Gas Terminal

The management and reporting of the significant environmental aspects associated with the receipt and processing of natural gas at the St Fergus terminal.

This organisation, having committed to legal compliance and continual improvement in environmental performance, having implemented an environmental management system and having published an environmental statement in accordance with the requirements of EU Regulation 761/2001, is registered under the Eco-Management and Audit Scheme and is entitled to use the EMAS logo in accordance with the Regulation.

EMAS

VERIFIED ENVIRONMENTAL MANAGEMENT
REG. NO. UK000089

This certificate is valid until 31st July 2007

Signed on behalf of the EMAS Competent Body on 24th August 2004

This statement has been validated by Thomas Moss of BSI who are accredited for EMAS verification with the registration reference UK-V-0002. The validation was completed on 16th June 2004.

Thomas W. Moss

Lead Verifier

EMAS
VALIDATED INFORMATION
REG.NO. UK-000089

www.uk.total.com

TOTAL E&P UK PLC
Crawpeel Road, Altens, Aberdeen AB12 3FG
Tel: +44 (0) 1224 297000 Fax: +44 (0) 1224 298999

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