UK ENVIRONMENTAL STATEMENT 2016

Contents

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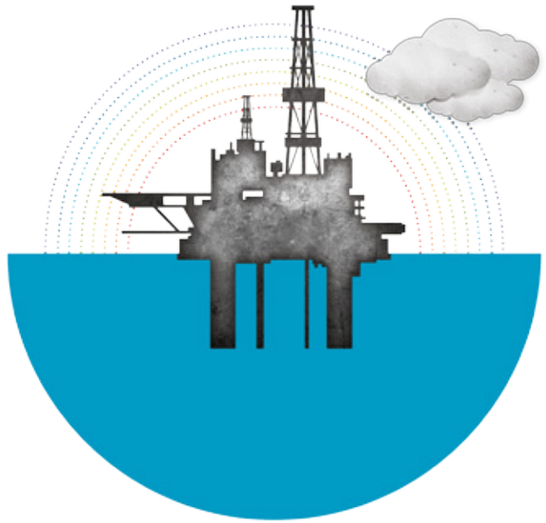
At TAQA, we are committed to world-class health, safety, security, environmental and quality (HSSEQ) performance. We work to respect the natural environment and to achieve our goals of ensuring that no harm comes to people; to providing a safe, secure workplace; and carrying-out our activities with minimal impact on the environment. Our commitment to safe and incident-free operations goes hand-in-hand with improved operational reliability, lower costs and higher productivity.



Introduction

Welcome to TAQA's 2016 Environmental Statement

I am pleased to present the 2016 Environmental Statement for TAQA's UK business. At TAQA we are committed to world-class health, safety, security, environmental and quality (HSSEQ) performance and our ongoing priority is to ensure our long-term sustainable future in the UKCS.

2016 saw some significant work taking place to ensure the integrity and sustainability of our assets. This included a complex and highly challenging project carried out to make an obsolete section of bypass pipeline safe, addressing a major accident hazard at Cormorant Alpha. During 2016 we also changed out the submerged loading system, which is central to supporting exports from our Harding platform, enabling production to continue up until the end of economic life of the field.

In 2016 we saw some positive results across the main environmental impacts, including decreased CO_2 emissions, reduced permitted discharges to sea, less waste to land fill and also reduced oil spills to sea (number reported and leak volume).

There was a significant decrease in waste sent to landfill and the 'other' category (which includes discharged under consent and treated waste) due to decreased drilling activity and a greater proportion of waste disposed via the recycling route. Increased duration of planned shutdowns resulted in lower emissions from gas turbines in 2016 compared to 2015. We also saw a 39% reduction in the volume of reported releases and achieved 32.4% below the internal target for dispersed oil discharge to sea, the lowest volume in the last six years.

Despite some positive trends highlighted above we recognise that this was a year of decreased activity, compared to previous years. We are not complacent and continue to implement the best possible environmental practices and processes by utilising Best Available Techniques (BAT). In addition we identify potential environmental issues, and will continue to share and implement lessons learned as activity increases again over the next year, including planning for decommissioning related activities.

Sustainability continues to be a key business focus at TAQA and this goes hand in hand with good environmental performance. We will continue to make this a priority and look at new ways to improve or further reduce our impact on the environment.

> "Sustainability continues to be a key business focus at TAQA and this goes hand in hand with good environmental performance."

Donald Taylor
Managing Director

Health, Safety, Security & Environment Policy

The health, safety and security of our employees, contractors and the public is our highest priority; it is more important than any operational priority.

We must also:

- Ensure that our assets are operated safely
- Assure the integrity of our assets
- Respect, protect and understand the natural environment

HSSE = Health, Personal Safety, Major Accident Prevention, Security and Environment

We strongly believe that excellent business performance requires excellent HSSE performance – we recognise this as a core value.

Employees and contractors are required to focus on these four areas:

Leadership

- Everyone within TAQA understands their accountabilities for the management of HSSE
- The structure and resources necessary to achieve and measure HSSE accountabilities are provided
- Requirements of applicable legislation and standards are identified, understood and complied with
- Personnel have the required competencies and are fit for work
- Our workforce is aligned, involved and empowered in the identification and management of HSSE hazards and the achievement of our HSSE goals
- Key stakeholder groups are identified and a good working relationship is maintained with them (understanding and addressing their issues and concerns)
- Everyone within TAQA demonstrates commitment and accountability to implement this policy and to work in accordance with the TAQA Management System Elements and Expectations

Operational Risk Identification and Assessment

- Risks are identified, assessed and appropriately managed
- Information required to support safe operation is identified, accurate, available and up to date

Operational Risk Management

- The standards, procedures and operating manuals required to support project, maintenance and operational activities are identified, developed, understood and consistently applied
- Process and operational status monitoring and handover requirements are defined, understood and carried out
- Operational interfaces with third parties are identified, assessed and appropriately managed
- Risks arising from any form of change are systematically identified, assessed and managed
- A systematic process is in place to verify the safe condition of plant and equipment and to ensure that personnel are appropriately prepared (before start-up or return to normal operations)
- We are appropriately prepared for all necessary actions which may be required for the protection of the public, personnel (including contractors), the environment, plant equipment and reputation in the event of an incident
- We aim to prevent pollution and protect the environment from the impact of our operations

Review and Improvement

- We routinely monitor our activities through internal/external audits and produce key performance indicators – we review these indicators and intervene as necessary
- Compliance with our expectations is routinely reviewed and audited to determine whether this policy remains appropriate and is being implemented effectively
- The management system is routinely reviewed for continual improvement and to enhance HSSE performance
- All incidents, near misses and opportunities for improvement are consistently reported and investigated, and that identified actions and learnings are implemented on a timely basis

We all have a personal responsibility to work safely and protect the environment. We are all safety leaders, irrespective of our role or location. Everyone is empowered to challenge and stop work if they are in any doubt regarding a job they are involved in or observing.

Donald Taylor
Managing Director

René Zwanepol
NL Country Manager

Neil Fowler
HSSEQ Director

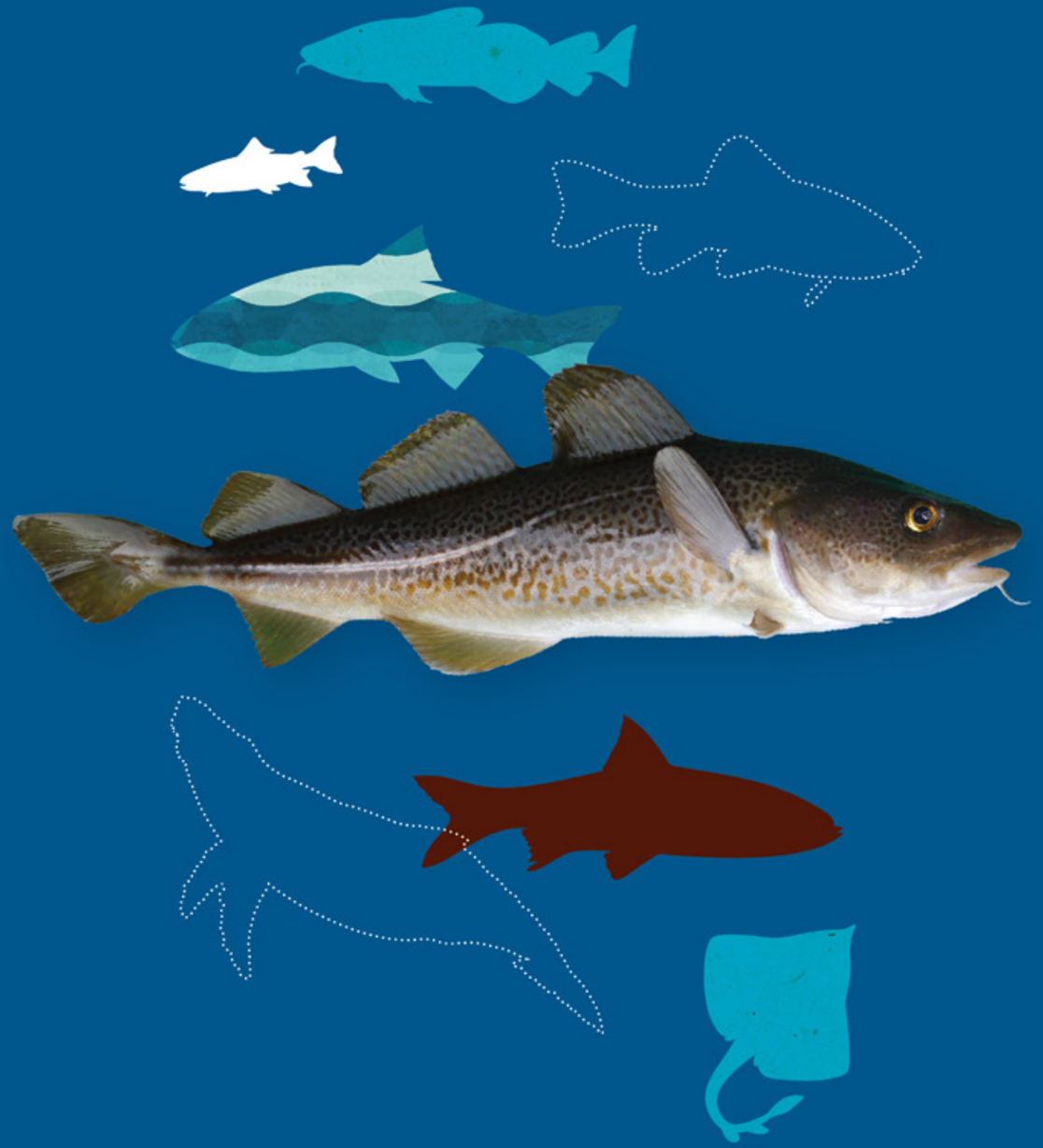
Sandy Hutchison
Legal, Commercial and Business Services Director

Helen Stuart
Human Resources Director

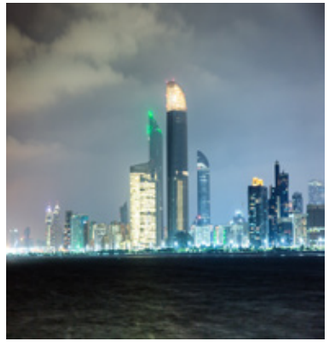
David Gibson
Technical Director

Calum Riddell
Operations Director

Iain Lewis
Finance Director



North Sea Operations



Abu Dhabi National Energy Company PJSC (known as TAQA)

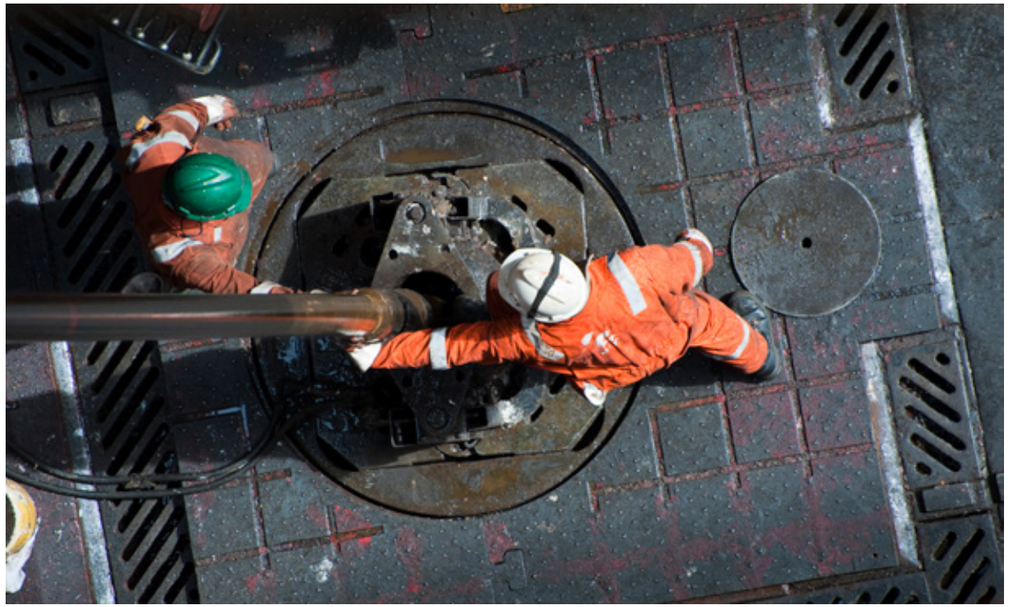
TAQA, meaning energy in Arabic, is the brand name of Abu Dhabi National Energy Company PJSC. TAQA is an international energy and water company listed on the Abu Dhabi Securities Exchange. TAQA strives to be safe and sustainable, and embrace the challenge of delivering affordable and reliable energy and water. TAQA is proud to align its strategy with Abu Dhabi's Economic Vision 2030, a roadmap for a sustainable economy with a focus on knowledge-based industry. TAQA's interests lie in conventional and alternative power generation, water desalination, oil and gas exploration and production, pipelines and gas storage. TAQA operates in Canada, Ghana, India, Iraq, Morocco, the Netherlands, Oman, Saudi Arabia, the United Arab Emirates, the United Kingdom and the United States.

TAQA in the UK

TAQA's UK business was incorporated in 2006 and is a wholly owned subsidiary of Abu Dhabi National Energy Company. Since acquiring its first North Sea interests in 2007, TAQA has created a business which is now ranked amongst the top exploration and production companies in the UK North Sea.

The majority of TAQA's UK portfolio is wholly owned and operated. In the northern North Sea it consists of 100% operated equity in the Tern, Kestrel, Eider, Otter, Cormorant North, South Cormorant, Falcon and Pelican Fields. It also has a 64.5% operated interest in the Cladhan field, 60% operated interest in the Cormorant East field and a 26.73% non-operated interest in the Hudson field. TAQA has a 24% non-operated interest in the Sullom Voe Terminal and operates the Brent System, where it has a 16% interest.

In the central North Sea TAQA has a 70% operated interest in the Harding field, 70% in the Morrone field, 88.7% in the Devenick field and 37.04% non-operated interest in the Maclure field. In the Brae area TAQA has non-operated interests of 45.7% in Block 16/7a, 50.1% in East Brae and 65% in the Braemar field. It also has an interest in the SAGE pipeline and onshore terminal.



2016 Overview

In 2016 our focus was maintaining and protecting production while ensuring safe and efficient operations and reducing overall operating costs. Investment in integrity and inspection was maintained, and a thorough review of the overall maintenance strategy was performed to make it as effective as possible. This was combined with a restructure of the offshore crews and the insourcing of some critical operations and demonstrated by our decision to bring our offshore maintenance team leaders in-house, giving us greater control and ownership and increasing process uptime and equipment availability.

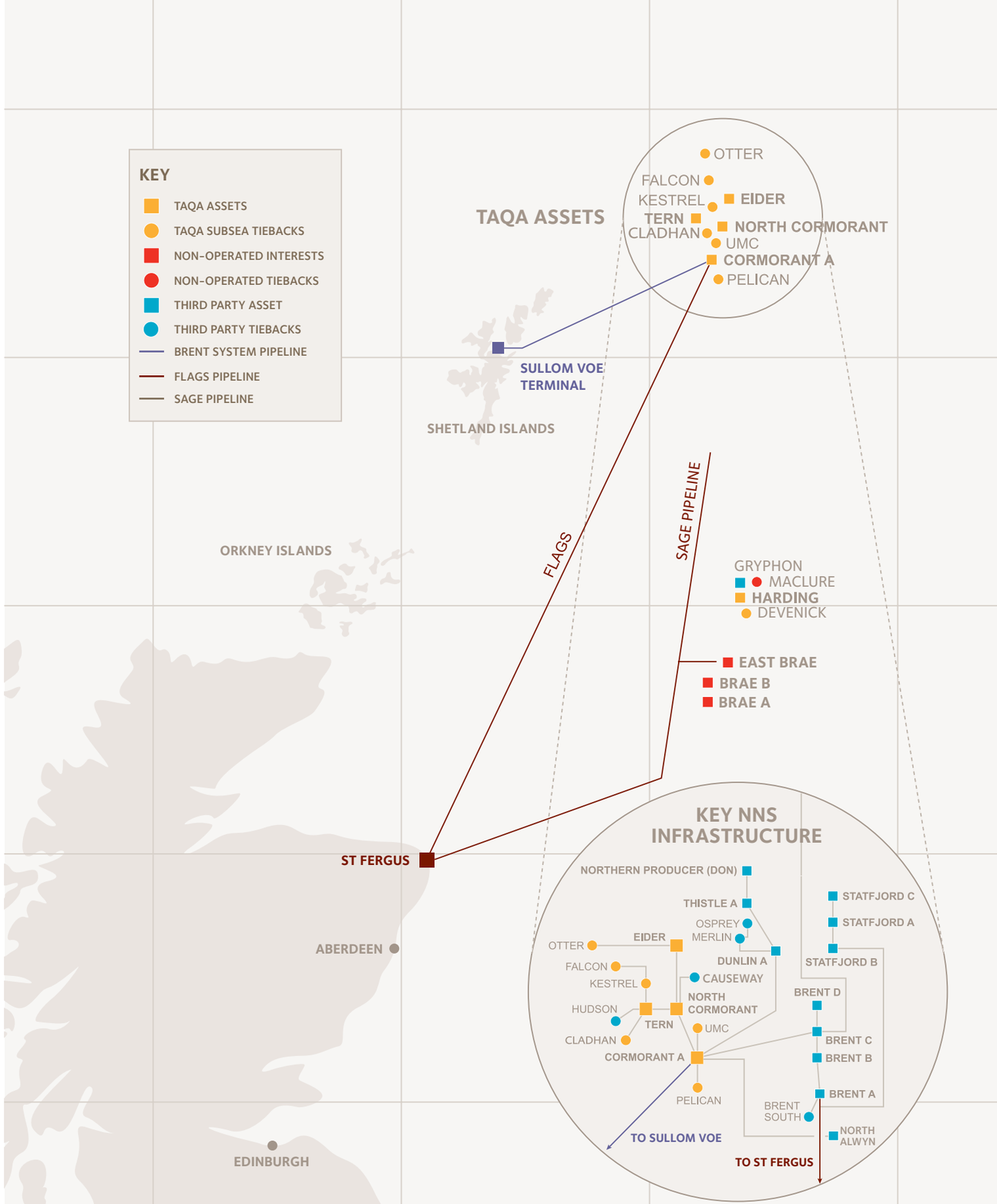
In 2016, production from our UK operations averaged 50,000 boed, impacted by factors including the Harding platform's process shutdown to address some integrity issues as well as the non-operated Brae Alpha shut-in in the first quarter of 2016.

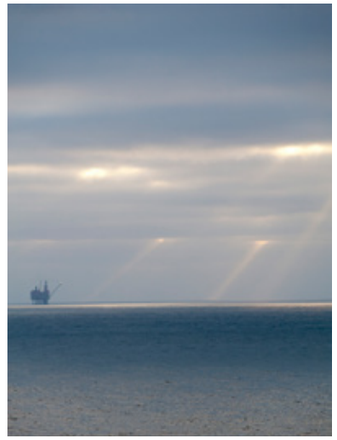
A major replacement programme, was undertaken at Harding during the summer. It involved the change-out of the Submerged Turret Loading (STL) system that is central to supporting exports from Harding, enabling production to continue up until the anticipated end of economic life of the field. The system provides the infrastructure via which shuttle tankers collect Harding oil for onward transportation. As the STL is considered to be an installation the replacement project was undertaken through the formal decommissioning process.

A planned shutdown of the Harding platform also took place in July. The significant elements of the shutdown included gas compressor workscopes and a water injection pump changeout. The shutdown also extended to the closing stages of two programmes that had begun earlier in the year - including work to isolate the export line during the installation of the new Offshore Loading System; and a major cleaning and repair exercise on the platform coalescer oil separation vessel.

Planned shutdowns of our northern North Sea platforms commenced in November for approximately four to six weeks. During this time we removed a number of temporary repairs and undertook a planned outage of the Brent System to enable the execution of safety critical work on Cormorant Alpha.

The majority of CAPEX well activity was deferred into 2017 with some activity taking place at the start of the year at the end of the John Shaw Mobile Offshore Drilling Unit (MODU) rig term. In addition, work commenced during December with the WilPhoenix MODU on Sturgeon, an exploration well close to the Brae field. Well integrity and intervention work continued through the year to protect and maintain production.





North Cormorant

Position:
177km (110 miles) north-east of Lerwick, Shetland

Block number:
211/21a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
August 1974

Water depth:
161m (528ft)

Est ultimate recovery:
Approx. 461 million barrels of oil (61 million tonnes)

Reservoir depth:
2710m (8900ft)

Producing horizon:
Middle Jurassic

Oil production:
Via Brent System

Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
North Cormorant is a drilling and production facility for the North Cormorant field. Oil and gas is imported from Eider before being separated and processed via the North Cormorant process facilities. The oil is then routed to Cormorant Alpha for onward transmission through the Brent System to Sullom Voe Terminal.

Since 2012 the North Cormorant platform is also a production facility for the TAQA Cormorant East field and the third party Causeway and Fionn fields.

Associated gas, and gas imported from Tern, is exported through the Western Leg via Brent A and the Far North Liquids and Associated Gas System (FLAGS) Pipeline to St Fergus Terminal. Crude oil, imported from Tern, is exported to Cormorant Alpha.

Eider

Position:
184km (114 miles) north-east of Lerwick, Shetland

Block number:
211/16a and 211/21a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
May 1976

Water depth:
157.5m (517ft)

Est ultimate recovery:
Approx. 109 million barrels of oil (14 million tonnes)

Reservoir depth:
2620 - 2750m
(8600 - 9030ft)

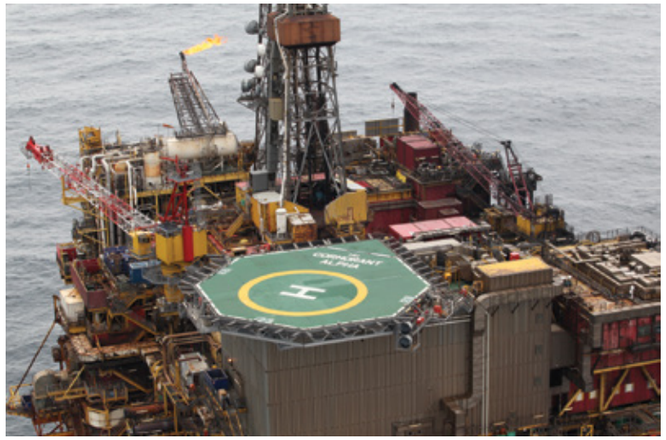
Producing horizon:
Middle Jurassic (Brent) sands

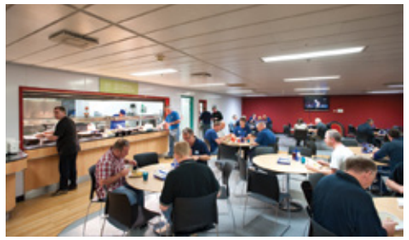
Oil production:
Via Brent System

Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
Eider produces, meters and pumps oil and also operates as an oil producing satellite for the North Cormorant installation.Oil and gas is exported to North Cormorant via a subsea pipeline before being exported via the Brent System to Sullom Voe Terminal. The Eider platform is also an oil and gas production facility for the Otter field.





Cormorant Alpha

Position:
161km (100 miles) north-east of Lerwick, Shetland

Block number:
211/26a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA (not including Brent System owners' interest)

Discovery date:
September 1972

Water depth:
150m (492ft)

Est ultimate recovery:
Approx. 90 million barrels of oil (12.4 million tonnes)

Reservoir depth:
2895m (9500ft)

Producing horizon:
Middle Jurassic (Brent) sands

Oil production:
Via Brent System

Gas production:
Commingled in process separation then via Western leg to FLAGS line to St Fergus.

Storage capacity:
1 million barrels

Type of installation:
Concrete gravity structure – 4 legs

Function:
Cormorant Alpha was designed to drill, produce, meter and pump oil and gas. Cormorant Alpha also receives oil via pipelines from Dunlin/Murchison/Thistle, Brent C, North Alwyn and North Cormorant platforms as well as from the Underwater Manifold Centre (UMC) and Pelican subsea tie-backs. Oil from Cormorant Alpha is exported to Sullom Voe Terminal in the Shetlands via the Brent System. Gas from Cormorant Alpha also joins the Western Leg Gas Pipeline link to the FLAGS.

Tern

Position:
169km (105 miles) north-east of Lerwick, Shetland

Block number:
210/25a

Operator/Duty Holder:
TAQA

Equity:
100% TAQA

Discovery date:
April 1975

Water depth:
167m (548ft)

Est ultimate recovery:
Approx. 295 million barrels of oil (39 million tonnes)

Reservoir depth:
2440m (8005ft)

Producing horizon:
Middle Jurassic (Brent) Sands

Oil production:
Via Brent System

Gas import/export:
Via Western leg

Storage capacity:
Nil

Type of installation:
8 legged steel jacket

Function:
The Tern platform serves as a production and drilling facility for the Tern, Kestrel, Hudson, Falcon and Cladhan fields. It also provides production, gas lift and water injection facilities for the Hudson field, water injection facilities for the Eider and Kestrel fields and gas lift to the Falcon field. Crude oil is exported to North Cormorant before joining the Brent System via Cormorant Alpha. The separated gas is compressed and used as fuel gas. It is also used as lift gas for Tern, Hudson, Kestrel, and Cladhan production wells.

Harding

Position:
320km (200 miles) north-east of Aberdeen

Block number:
9/23b

Operator/duty holder:
TAQA

Equity:
70% TAQA
30% Maersk

Discovery date:
1987

Water depth:
110m (330 ft)

Est ultimate recovery:
>250 million barrels of oil

Reservoir depth:
1676.4m (5500ft)

Producing horizon:
Tertiary (Balder)

Oil production:
Oil from Harding is exported via 24-inch diameter oil export pipeline to a submerged tanker loading system.

Storage capacity:
600,000 barrels

Type of installation:
Harding is a heavy-duty jack-up production unit, resting on a gravity base/storage tank.

Function
The basis of the Harding development is a large, heavy-duty jack-up platform. It is a fully integrated drilling and production platform for the Harding field. The topsides structure sits on the Gravity Base Tank (GBT), a reinforced concrete structure that provides the foundation. The GBT is also a T-shaped storage tank, which acts as a large storage tank for the export of crude oil. Oil production is exported from the GBT around every 4-6 weeks via a short (2km), 24" pipeline and submerged Offshore Loading System (OLS) to shuttle tankers.

Brent System

The Brent System is responsible for transporting around 75,000 barrels of oil a day from some 26 North Sea fields. This accounts for almost 67% of the oil processed by the Sullom Voe Terminal and around 5% of UK offshore oil production.

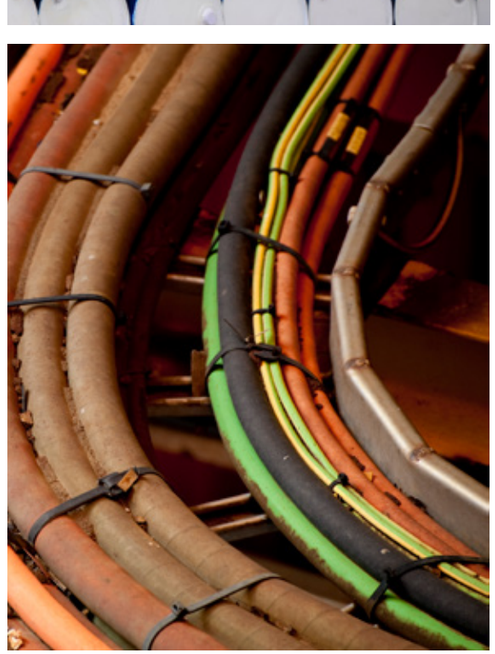
75,000 barrels – Average amount of oil transported per day.

153km – Transportation distance from Cormorant Alpha to Sullom Voe.

16% – TAQA interest.

The Brent System is a joint venture between 21 participants who each own a percentage interest in the system. Brent System consists of a proportion of the processing system on, and structure of, the TAQA operated Cormorant Alpha platform, as well as the 153km pipeline connecting Cormorant Alpha to the Sullom Voe Terminal in the Shetland Islands.

TAQA has been operator of the Brent System since 2009.



20 TAQA'S HSSE Management System Elements And Expectations

Leadership

01. Leadership Involvement and Responsibility
02. Compliance with Legislation and Standards
03. Employee Competence
04. Workforce Engagement
05. Communication with Stakeholders

Risk Identification and Risk Assessment

06. Hazard Identification and Risk assessment
07. Documentation, Records and Knowledge

Risk Management

08. Operating Manuals and Procedures
09. Process and Operational Status Monitoring and Handover
10. Management of Operational Interfaces
11. Technical Standards
12. Management of Change and Project Management
13. Operational Readiness and Process Start-up
14. Emergency Preparedness
15. Inspection and Maintenance
16. Management of Safety Critical Devices
17. Work Control, Permit to Work and Task Risk Management
18. Contractor Management

Review and Improvement

19. Incident Reporting and Investigation
20. Audit, Assurance and Management Review

TAQA Commitment to Operational Excellence

Health, Safety, Security and Environment (HSSE) Management Programme

TAQA is committed to the pursuit and attainment of a world class health, safety, security and environmental performance. It pledges to respect the natural environment, and to work to achieve its goals of ensuring that no harm comes to people; to provide a safe, secure workplace; and to carry out its activities with minimal impact on the environment. To meet this commitment, TAQA has established an HSSE policy that describes its core principles for HSSE management.

To implement the HSSE programme, TAQA utilises 20 elements and expectations that make up its HSSE Management System. The elements correspond to the "Plan-Do-Check-Act" elements of ISO standards for health, safety, environment and quality management systems.

The HSSE programme ensures that within all of its activities and operations, TAQA will as a minimum:

- Ensure all TAQA leaders demonstrate leadership and commitment to the programme throughout the organization, ensuring that the commitments set out in the HSE Policy are achieved
- Ensure compliance to legislation is maintained, whilst working constructively to influence proposed laws and regulations and debate on emerging issues
- Provide assurance that personnel are competent; that they possess the requisite underpinning working knowledge, understanding, skill & attitude, and clearly demonstrate the ability to routinely undertake the tasks and activities of the designated work roles, safely, consistently & reliably to the minimum defined standard of performance
- Identify key stakeholder groups and develop and maintain a good working relationship with them, understanding and addressing their issues and concerns
- Manage risks by performing comprehensive risk assessments to provide essential decision making information. Develop and implement plans to manage significant risks to an acceptable level
- Identify, maintain and safeguard important information. Ensure personnel can readily access and retrieve information. Required standards and safe working practices are provided to support project, maintenance and operational activities
- Design, construct, install, commission, operate, maintain, assure and decommission all TAQA assets in a healthy, safe, secure, environmentally sound, reliable and efficient manner
- Incidents will be prevented by identifying and minimising workplace and personal health risks, through implementation of robust and effective work control, permit to work and task risk management arrangements. Promote and reinforce all safe behaviours
- Identify all necessary actions to be taken to protect people, the environment, TAQA's assets and reputation in the event of an emergency or security threat
- Maintain operations stability and integrity throughout lifecycle of facility by use of clearly defined and documented operational, maintenance, inspection and corrosion control programs. Seek improvements in process and equipment reliability by systematically eliminating defects and sources of loss. Assessment of the degree to which expectations are met is essential to improve operations Integrity, maintain accountability and reliability
- Ensure that risks and exposures from proposed changes are identified, evaluated and managed to remain within pre-set (design) acceptance criteria
- Ensure contractors and suppliers perform in a manner that is consistent and compatible with TAQA policies and business performance standards. Ensure contracted services and procured materials meet the requirements and expectations of TAQA standards
- Report and investigate all incidents. Learn from incidents and use the information to take corrective action and prevent recurrence
- Confirm that TAQA processes are implemented and assess whether they are working effectively. Measure progress and continually improve towards meeting TAQA HSSE objectives, targets and key performance indicators

Environmental Management System and ISO 14001

TAQA operates an Environmental Management System (EMS) which is set out in accordance with the requirements of the ISO 14001:2004 Standard.

The EMS details the environmental aspects of all activities associated with TAQA's offshore operations and onshore offices, including risk ranking and mitigation measures. It also documents the procedures for monitoring and reporting environmental performance and for ensuring that TAQA's activities are in compliance with all relevant environmental legislation.

At a location level TAQA's Environmental Management System addresses the following:

- Identifies possible environmental aspects, their consequences and how to control them;
- Identifies processes, roles and responsibilities;
- Oil spill management and response;
- Confirmation of operations to legal and regulatory requirements.

The EMS provides control of processes or activities which may have a potential environmental impact by means of procedures, instructions, training and education, in addition to assisting with:

- Preventing pollution;
- A systematic approach to working processes;
- Identifying potential or actual problems and finding solutions;
- Tracking environmental performance;
- Utilising natural resources effectively;
- Managing legal compliance;
- Improving awareness of workforce.

Key elements of TAQA's EMS

ENVIRONMENTAL ASPECTS – These are elements or activities that may result in a positive or negative impact on the environment. Where the actual impact on the environment cannot be controlled, the aspects can be. Thus TAQA's EMS is driven by significant environmental aspects; the aspects themselves form the basis for review and if necessary adjustment of procedures and working practices.

LEGAL REQUIREMENTS – Identification of applicable legal regulations is an integral part of the Environmental Management System.

OBJECTIVES, TARGETS AND PROGRAMMES – The TAQA 'Objectives and Targets List' with respect to environmental performance is reviewed annually then translated into plans and programmes to ensure effective and successful implementation.

TRAINING, AWARENESS AND COMPETENCE – Periodic training and awareness are cornerstones of the TAQA Learning and Development Programme.

COMMUNICATION – Effective external and internal communication of environmental issues by TAQA contributes to the success of the EMS. This is carried out internally through regular meetings and offshore visits and externally with authorities and third parties.

DOCUMENT CONTROL – All EMS documentation is systematically managed to ensure it is up to date, accurate and traceable.

OPERATIONAL CONTROL – TAQA's procedures and work instructions are set up to minimise and control the impact of environmental aspects.

EMERGENCY PREPAREDNESS AND RESPONSE – Location level response plans are in place and are designed to effectively manage a wide variety of emergency scenarios.

MONITORING AND MEASUREMENT – All incident reports, such as near misses, incidents and accidents are systematically recorded, root causes identified and preventative/corrective actions are tracked.

AUDITING – Regular auditing ensures the continued effectiveness of the EMS. All internal audits are performed according to the TAQA audit procedure, results are then discussed in cross functional meetings and corrective actions are tracked for progress.

MANAGEMENT REVIEW – Management reviews are crucial to the cycle for continuous improvement. Regular Management Review meetings initiate and evaluate improvement programmes.

ISO 14001

The International Standards Organisation (ISO) is a non governmental network of global national standards institutes. ISO 14001 is the main management systems specification document in the ISO 14000 series containing the essential elements that must be satisfied by an organisation seeking registration or certification for its Environmental Management System.

The backbone of ISO 14001 systems are:

- Senior management support and participation;
- Explicit organisational structures and responsibilities;
- Good communication;
- Competency reviews and training;
- Efficient document management and recording procedures;
- Audit capabilities;
- Regular well planned management reviews;
- Continual improvement and robust corrective action culture.

The ISO 14001 philosophy is based on the **Plan-Do-Check-Act (PDCA)** management model, originally known as the Deming cycle. In continuously going through each individual step, environmental management can result in improved environmental performance.

Plan: tools for identification of targets in environmental performance.

Do: tools for achieving goals of environmental management.

Check: tools for checking the effect of environmental management.

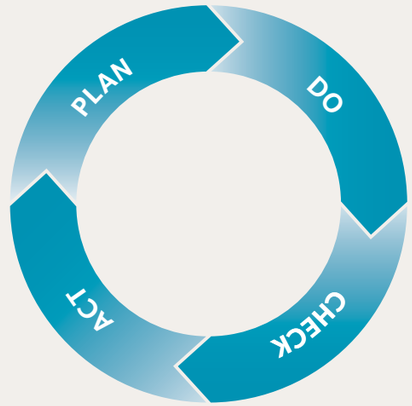
Act: tools for taking effective adjusting measures in environmental management.

The use of the PDCA cycle helps in keeping the environmental management system a continuous process instead of an individual event. This continuous process is illustrated in the graphic opposite.

In designing TAQA's Environmental Management System to meet the requirements of ISO 14001, TAQA is effectively optimising the company's opportunity to reduce risk and liability within a structured system while enhancing its commitment to pollution control.

Two independent ISO 14001 surveillance audits were undertaken in 2016, both on and offshore. These audits covered all of the elements of ISO 14001. Both audits produced positive results with only two minor findings and a small number of observations identified. TAQA plan to transition to the new ISO 14001 standard by 2018.

> "The Environmental Management System details the environmental aspects of all activities associated with TAQA's offshore operations and onshore offices, including risk ranking and mitigation measures. It also documents the procedures for monitoring and reporting environmental performance and for ensuring that TAQA 's activities are in compliance with all relevant environmental legislation."



Environmental Performance

During 2016 TAQA saw the completion of the Harding Submerged Turret Loading (STL) replacement, delivery of planned shutdowns and a continued focus on safe, efficient and sustainable operations.

Atmospheric Emissions

Atmospheric emissions from TAQA's offshore activities arise primarily from the combustion of fuel gas and diesel for power generation and the flaring of associated gas that cannot be used or exported for safety reasons (an integral part of the platform safety systems).

CARBON DIOXIDE EMISSIONS

The Greenhouse Gases Emissions Trading Scheme (Amendment) Regulations (2014) is the statutory mechanism used to regulate and reduce CO_2 emissions to the atmosphere. All TAQA assets account for carbon dioxide (CO_2) emissions by means of the cap and trade system, which allows for an allocated allowance of CO_2 to be emitted and then allowance for all subsequent releases have to be purchased.

The major combustion processes on TAQA's platforms resulting in the production of CO_2 is the generation of electrical power and the compression of gas for transportation to shore. Reservoir gas provides the primary fuel source with diesel acting as back up.

Figure 1 shows the actual (full year) amount of CO_2 emitted. CO_2 emissions in 2016 were approximately 69% greater than the Emissions Trading Scheme (ETS) allowance however they were 4% lower than in 2015. The introduction of ETS Phase III in 2013 saw a significant reduction in allowances which continue to decrease each year. TAQA's overall allowance decreased by 3,728 tonnes, 1.8%, between 2015 and 2016. To account for the deficit between allowance and emissions TAQA purchased additional allowance from the trading scheme.

FIGURE 1: 2016 FULL YEAR CO_2 EMISSIONS vs 2015

FIGURE 2: TAQA CO_2 DISCHARGES BY SOURCE

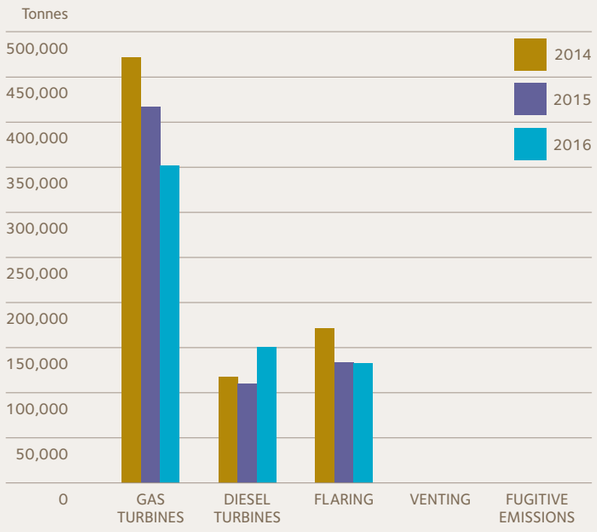
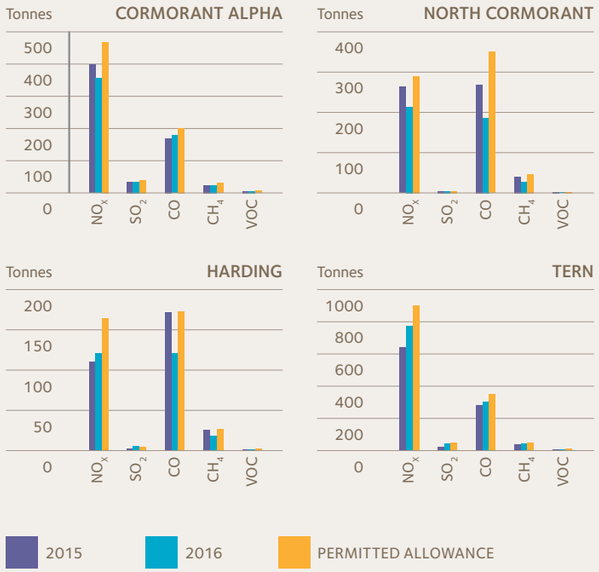


FIGURE 3: TAQA ACTUAL NON CO_2 ATMOSPHERIC EMISSIONS vs PPC PERMIT ALLOWANCE



CARBON DIOXIDE EMISSIONS (CONTINUED)

Figure 2 shows that the largest proportion of CO_2 discharge comes from turbine gas usage. The emissions from gas turbines were lower in 2016 compared to 2015. This was mainly due to increased platform specific shutdown durations on Harding, North Cormorant, and Eider, using less gas for turbine power generation, resulting in slightly higher emissions in 2015 than previous years (2014 was a year of stable production and subsequent elevated CO_2 emissions). CO_2 production from flaring in 2016 remained comparable to 2015 due to similar combined (all asset) shutdown durations and gas use / flare purge optimisation.

NON CO_2 ATMOSPHERIC EMISSIONS

The main combustion emission from TAQA's operations is carbon dioxide, however smaller emissions of nitrous oxide, sulphur dioxide, carbon monoxide, methane and volatile organic compounds are also produced. Non CO_2 atmospheric emissions from TAQA installations are regulated via legislation covering flare emissions, vent gas emissions and combustion plant emissions.

As shown in *Figure 3* all platforms were within the permitted allowance for all non CO_2 atmospheric emissions with the exception of the sulphur dioxide limits on North Cormorant and Harding. The sulphur dioxide emissions on North Cormorant and Harding breached the allowances in the final month of the year due to increased diesel use as a result of fuel gas outages and an unplanned shutdown (Harding). It is noted that Eider is the only platform that does not have a PPC permit because the installed combustion plant on board is below the threshold required to hold a permit.

FIGURE 4: TAQA 2016 WASTE DESTINATION COMPARISON

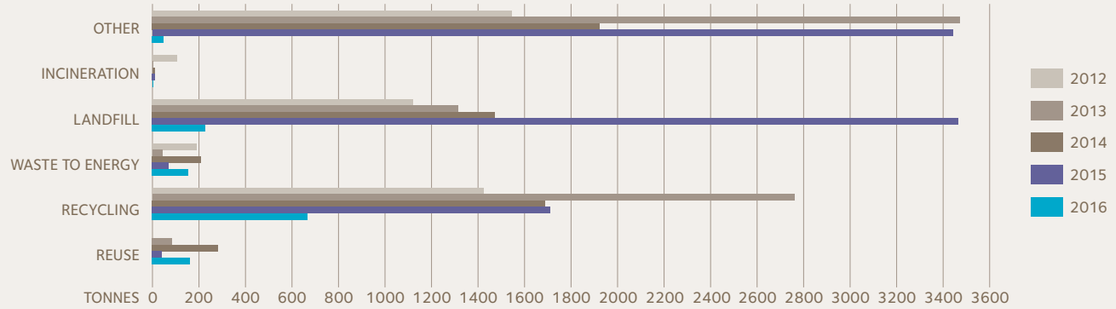
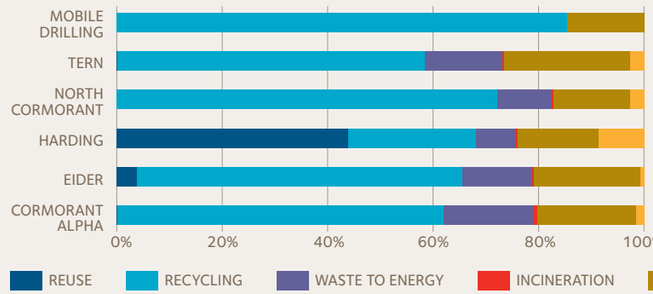
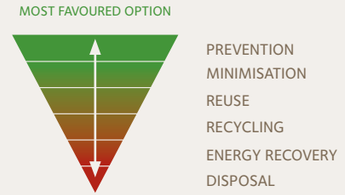


FIGURE 5: TAQA 2016 WASTE DESTINATION



TAQA WASTE HIERARCHY



Waste

A variety of solid and liquid hazardous and non-hazardous wastes are produced from TAQA's offshore operations, including: drill cuttings, waste chemicals, tank washings, waste oil, paper, scrap metal, glass and wood. To ensure legal compliance all TAQA platforms actively segregate waste which reduces contamination of disposal routes and minimises environmental impact by following the waste hierarchy for waste management.

The Merchant Shipping (Prevention of Pollution by Garbage) Regulations 1998 prohibits overboard discharge of offshore waste. All waste is therefore segregated offshore and disposed of onshore via a variety of routes including re-use, recycling, Waste-to-Energy (WtE), landfill and incineration.

Figure 4 details the tonnage of TAQA waste going to each disposal route over the last five years. 2016 saw a significant decrease in waste going to landfill and the 'other' category (which includes discharged under consent and treated waste) due to decreased drilling activity and a greater proportion of waste disposed via the recycling route. In addition there was an increase in WtE quantities and waste being reused compared to 2015. However, it should be noted that the amount of waste sent to WtE is also dictated by the capacity of the plant handling the waste. Overall the tonnage of waste produced and handled during 2016 was 1,265.8 tonnes, which is approximately a 85% decrease on 2015. The reduction in 2016 waste quantities was mainly due to decreased drilling activity and project work.

Figure 5 gives an overview of the percentages of different waste disposal routes generated by the TAQA offshore locations. The proportion of waste sent for recycling across all assets saw an increase in 2016 and a decrease in land fill. It is also noted that a MODU came on hire in mid-December producing a small amount of general / non-drilling waste.

Annual waste reduction targets for general waste were set for all platforms during 2016. The platform target for 2016 was for a 92% (average) correct segregation of general waste. This was measured by conducting quarterly general waste skip audits. The target was based on continual improvement in waste segregation to ensure that waste is sent to the correct disposal route. The waste reduction targets were met by all of the platforms with the exception of Cormorant Alpha and Eider.

FIGURE 6: TAQA ACTUAL OIPW vs TARGET OIPW CONCENTRATIONS

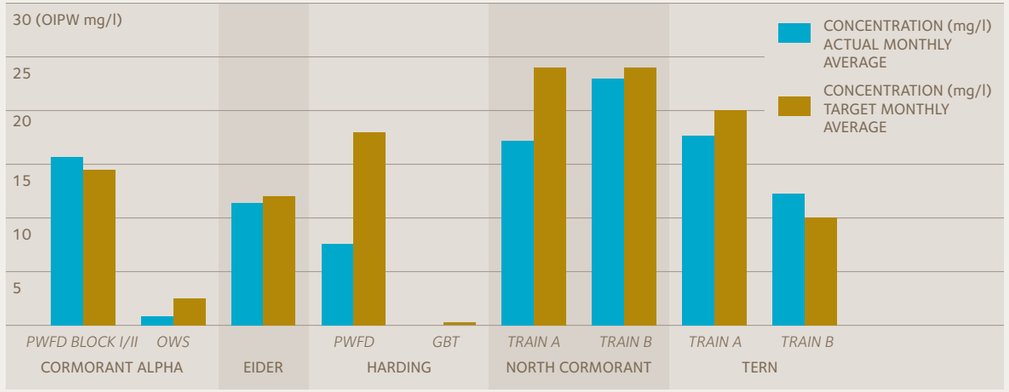


FIGURE 7: TAQA ACTUAL vs TARGET PRODUCED WATER DISCHARGE

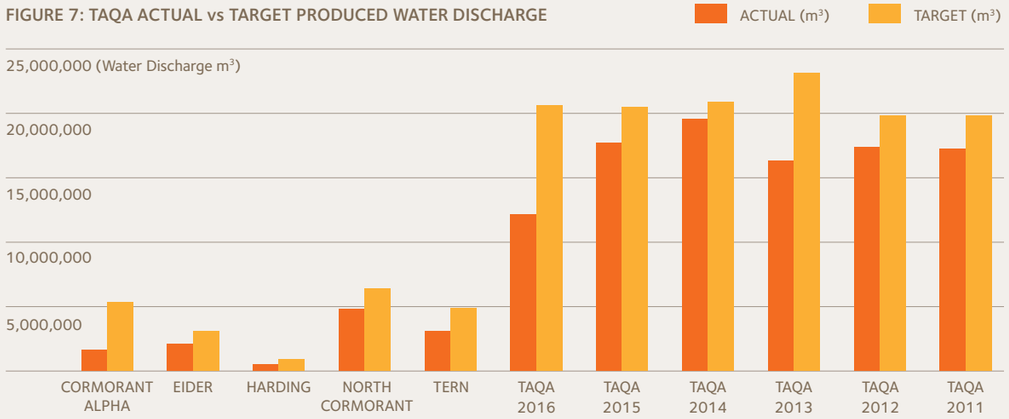
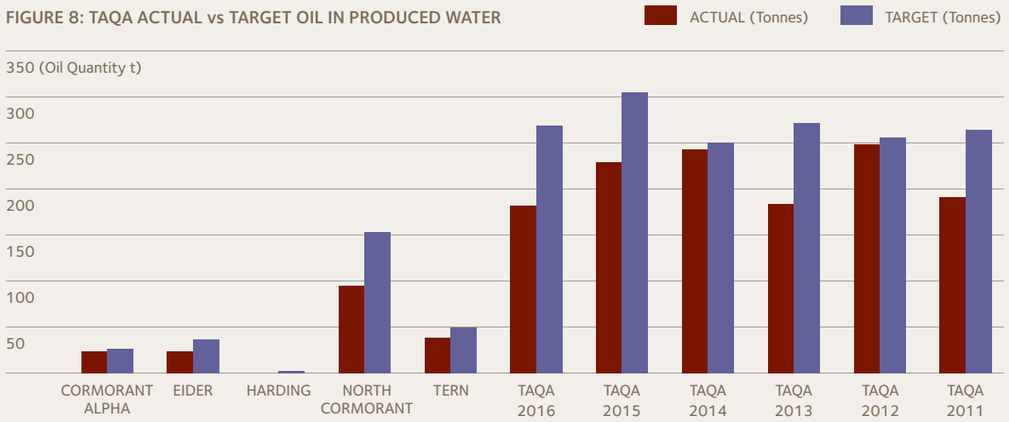


FIGURE 8: TAQA ACTUAL vs TARGET OIL IN PRODUCED WATER



Produced Water

Produced water is created during the extraction of oil and gas from subsurface. The produced water may contain water which has come directly from the reservoir, water injected into the formation to aid the extraction of oil or gas and any chemicals added during the production/treatment process. Oil reservoirs typically produce more water during extraction compared to gas reservoirs and as the reservoirs mature the proportion of water increases. The produced water is separated from the hydrocarbons so it contains dissolved and dispersed hydrocarbons.

The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC) (as amended) regulate all oil discharges to sea and require that all of these discharges must be permitted by the Offshore Petroleum Regulator for Environmental and Decommissioning (OPRED). OPRED place limits on both the concentration and quantity of oil discharged within the produced water in order to protect the marine environment.

The five TAQA installations report a total of nine individual discharges streams – two on Cormorant Alpha, one on Eider, two on North Cormorant, two on Tern and two on Harding – all of which must meet the legal monthly oil in water discharge average of 30mg/l. The exception to this is the second discharge stream on Harding which comprises of displacement water discharged from the buffer cell (during oil production water is displaced through the buffer cell and discharged to sea to a legislative limit of 40mg/l). A third discharge from Tern, the Hudson subsea tieback, is operated by Dana Petroleum, therefore the produced water discharge data is not included in this report.

Reporting discharge streams on an individual basis ensures that a constant focus can be maintained on the quality of each discharge stream via the required sample regime. If any deterioration in quality is observed then subtle process adjustments can be made (e.g. skimming produced water flash drums or changing vessel liquid interface levels) to minimise the overall quantity of dispersed oil being discharged to sea.

Figure 6 shows that the TAQA internal target for average oil in produced water (OIPW) concentration for each discharge stream was met in 2016, except for Cormorant Alpha Produced Water Flash Drum (PWFD) and Tern B train. The Cormorant Alpha PWFD and Tern train B exceeded the internal targets by 8% and 23% respectively. The exceedance on Cormorant Alpha was due to slugging issues and some debris from the UMC wells. On Tern the exceedances were a result of an increased produced water throughput on train B compared to previous years due to the Cladhan subsea tieback using train A. All discharge streams achieved the legal monthly average limit of 30mg/l.

Figure 7 illustrates that all platforms met their internal produced water discharge targets for 2016. 2016 saw a 11.3% decrease in the volume of discharged produced water compared to 2015, due to platforms undertaking planned and unplanned shutdowns. Harding is the only platform that has the capability to re-inject produced water. 2016 saw 98% (3,892,783m³) of the total produced water being re-injected back into the reservoir which decreases the volume discharged to sea. It is also noted that produced water comprised 18% of all discharges to sea (93,268m³) with the remaining 82% from displacement water from the GBT (422,944m3).

Figure 8 shows the actual quantity of oil discharged to sea via produced water for all TAQA platforms during 2016 compared to internal targets. A total of 181.8 tonnes of dispersed oil was discharged to sea which is 32.4% below the internal target. This is a 47.5 tonne decrease from the amount that was discharged in 2015 because of reduced produced water volume to sea given there were planned and unplanned shutdowns on four out of the five assets.

In addition to the produced water discharge streams on the installations there was also an additional project based term OPPC permit in place during 2016. This permit covered the replacement of the Harding STL system offload buoy, associated riser and pipeline, where 0.03 tonnes of oil were discharged to sea.

Chemicals

Chemical use and discharge is regulated under the Offshore Chemicals Regulations 2002 (as amended) (OCR). A permit must be obtained from OPRED prior to the use and discharge of chemicals associated with production, drilling, well interventions and pipeline operations offshore.

These permits describe the selection, deployment, discharge route and environmental impact assessment for chemicals that are either used continuously or on an ad-hoc basis.

A key objective of the OCR Regulations is "to identify chemicals that might be considered hazardous and to ensure wherever possible their substitution by less hazardous or non-hazardous chemicals".

Classification of chemicals is undertaken via the Offshore Chemical Notification Scheme (OCNS). This scheme assigns a substance a risk/hazard category. This is either a colour or a letter (dependent on the method used to model the risk), based on the varying levels of hazard/risk to the receiving environment associated with its discharge (see *Table 1*).

Table 1 shows the relative quantities of chemicals used and discharged according to their classification under the OCNS. The quantities of chemicals used (9,112 tonnes) and discharged (6,654 tonnes) cover all those used during 2016 for TAQA's installation operations, Harding STL buoy replacement project, well intervention activities and pipeline operations.

A substitution warning is assigned to an offshore chemical if it is considered by CEFAS to be harmful to the environment. I.e. the chemical or one of its components fails to meet set criteria with respect to biodegradation, bioaccumulation potential or toxicity.

It should be noted that of the total 6,654 tonnes of chemicals discharged to sea during 2016, 89% of this was a discharge of either the lowest risk CHARM (Chemical Hazard Assessment and Risk Management) category Gold, or the Non-CHARM lowest risk category E. Furthermore, of the total 6,654 tonnes of chemicals discharged to sea during 2016, only 2.3% was comprised of chemicals which carry a substitution warning.

TABLE 1: 2016 CHEMICAL USAGE AND DISCHARGE QUANTITIES ACCORDING TO OCNS CATEGORY

			TOTAL USAGE (KG)	TOTAL DISCHARGE (KG)
NON-CHARM MODEL CHEMICAL CATEGORISATION	A	HIGH HAZARD	0.09	0.00
	B	↑	0.00	0.00
	C	↓	14,932.44	24.62
	D	POSES LITTLE OR NO RISK	671,280.03	18,282.13
	E		5,801,202.21	4,863,843.64
CHARM MODEL CHEMICAL CATEGORISATION	PURPLE	HIGH	0.00	0.00
	ORANGE	↑	0.00	0.00
	BLUE	RISK	82,614.79	71,045.25
	WHITE		0.00	0.00
	SILVER	↓	717,169.29	649,037.53
	GOLD	LOW	1.825,538.28	1,052,785.25
			9,112,737.13	6,654,991.42

FIGURE 9: 2016 TAQA CHEMICAL USAGE AND DISCHARGE

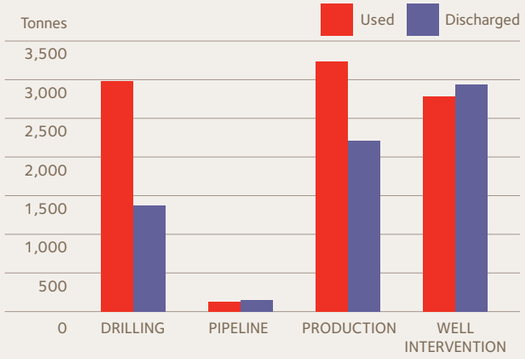


Figure 9 highlights that production operations used the largest amount of chemicals during 2016. The chemicals used as part of the Harding STL replacement project were captured under a decommissioning permit and are not included within *Figure 9* given the small volumes used and discharged, 4.5kg in total. Comparing historical production chemical usage it is noted that there has not been a significant increase in use, with levels remaining constant. Even though production operations had the greatest chemical usage, well intervention operations discharged 732kg more chemicals than production operations. This is due to the fact that the majority of well intervention chemicals are injected into the wells and chemicals flow into the platform process systems before discharge via approved points to sea.

Accidental Spills

All offshore operations must be covered by an approved Oil Pollution Emergency Plan (OPEP). These plans describe the procedures and notifications that must be undertaken in the event of a release. They are regularly tested and exercised by offshore and onshore response teams to ensure they are robust and fit for purpose. All unplanned discharges to sea of oil and chemicals, regardless of volume, must be reported to relevant authorities (OPRED, Marine Scotland, MCA and JNCC) via a Petroleum Operations Notice 1 (PON1).

At TAQA, there are a variety of systems and procedures in place to mitigate against and reduce the potential of the unplanned releases to sea. If a loss of containment does occur whether it reaches the sea or is recovered at the location, it is captured in the company's incident reporting database. The release is then subject to investigation to identify the root cause.

Table 2 shows the number of PON1s submitted by TAQA during 2016, detailing if it was an oil or chemical release and the corresponding quantity. 33 releases took place during 2016 which is a decrease on the 38 reported in 2015. In addition there was an overall 77% decrease in the volume of oil released to sea, down from 2.71 tonnes in 2015 to 0.62 tonnes in 2016. It is noted that in 2016 there was a (35%) increase in the volume of chemicals released to sea with 2.51 tonnes reported compared to 1.4 tonnes in 2015.

TABLE 2: ACCIDENTAL SPILLS TO SEA

PLATFORM	DESCRIPTION OF OIL SPILL	QUANTITY OF OIL SPILLED (TONNES)	DESCRIPTION OF CHEMICAL SPILL	QUANTITY OF OIL CHEMICAL SPILLED (TONNES)
North Cormorant	Pig receiver drain line leak	0.250	Wing valve on Subsea Control Module (SCM) for Fionn passes to vent when operated. Procedure developed to prevent losses during start-up was not followed resulting in loss	0.075
	Oil released from failed connection hose when pumping from open hazardous drains tank			
Tern	Bunkering spill of diesel from hose rupture at manifold end	0.133	Gyptron SA3500 loss to drains due to faulty drain valve	1.36
	Oil discharge to sea from leak in 4" pipe to Hudson hazardous open drains	0.00018	Falcon / Kestrel chemical pump overflow into the bund, over spilling and discharging to the sea through the open grating	0.0985
	Lube oil discharge to sea from leaky hose connector (over gratings) during generator service	0.000846		
	Pin hole leak from diesel bunkering hose (chaffing from relocation to storage fingers)	0.003		

TABLE 2 (CONTINUED)

PLATFORM	DESCRIPTION OF OIL SPILL	QUANTITY OF OIL SPILLED (TONNES)
Cormorant A	Minor residual diesel spill from bunkering hose following removal from platform manifold for change out	0.0011
	Loss of subsea isolation valve (SSIV) supply pressure identified by a low supply tank level. Pressure did not rise in system despite high volume hydraulic oil pump being in service	0.06
	Loss of hydraulic oil from a failed hydraulic supply hose to the subsea accumulator bank. Reported by DSV ROV during investigations into previous SSIV losses	0.068
	Loss of Brayco Micronic from subsea terminal assembly coupler on Pelican manifold	0.01712
	During crane operations on the East side a hose ruptured on the hoisting system leading to hydraulicfluids spraying inboard and to sea	0.01752
	Brent Charlie pig receiver leak from lid, oil migrated via open deck drain	0.005
	Pin hole leak on a 3" line (closed drains degasser pipework) resulting in an oily water mix (produced water with low crude oil content) spilling to sea	0.005
Eider	Diesel release from breakaway coupling on diesel bunkering hose	0.007
	Diesel release when diesel bunkering hose failed to seal at platform manifold	0.018
	Oil from pin hole leak in Otter production line pooling on solid deck and blown over grating to sea	0.013
	Loss of engine oil to sea from failure of emergency generator	0.02125

PLATFORM	DESCRIPTION OF CHEMICAL SPILL	QUANTITY OF CHEMICAL SPILLED (TONNES)
Harding*	Release of hydraulic fluid due to seal failure from WS1 slot 17 (cylinder 2)	0.0225
	Release of hydraulic fluid due to seal failure from WS1 slot 17 (cylinder 1)	0.0225
	Release of hydraulic fluid due to seal failure from IC4 slot 1 (cylinder 3 & 4)	0.045
	Release of hydraulic fluid due to seal failure from AQ1 slot 14 (cylinder 2)	0.013
	Release of hydraulic fluid due to seal failure from PS1 slot 22 (cylinder 3)	0.023
	Release of hydraulic fluid due to seal failure from PS1 slot 22 (cylinder 1)	0.07
	Release of hydraulic fluid due to seal failure from PN1 slot 2 (cylinder 2)	0.0275
	Release of hydraulic fluid due to seal failure from PC4 slot 10 (cylinder 1)	0.0225
	Release of hydraulic fluid due to seal failure from PC4 slot 10 (cylinder 3)	0.0225
	Release of hydraulic fluid due to seal failure from PNE2 slot 4 (cylinder 1)	0.0225
	Release of hydraulic fluid due to seal failure from GI1 slot 12 (cylinder 2)	0.0225
	Release of hydraulic fluid due to seal failure from PC5 slot 6 (cylinder 1)	0.0225
	Release of hydraulic fluid due to seal failure from PC5 slot 6 (cylinder 2)	0.0225

* It is noted that all of the chemical PON1 reports submitted in 2016 by Harding were attributed to losses of hydraulic fluid from the conductor tensioner system due to historical design issues. A rolling program of improvements through 2016 (onwards) includes replacement of under performing units and installation of new types of cylinder.

Onshore Initiatives

As a responsible energy company, TAQA continually looks to support the communities in which it operates. We have an active corporate social responsibility programme which looks to achieve three overarching goals: protect the environment from the impact of our operations; support the local communities where we operate; and increase education, potential and creativity.

Macduff Marine Aquarium

Situated on Aberdeenshire's scenic coast in the traditional fishing town of Macduff, Macduff Marine Aquarium features marine life from the Moray Firth, Scotland's largest bay, in a variety of exciting and innovative exhibits. The aquarium aims to promote awareness, enjoyment and stewardship of the Moray Firth marine environment in North East Scotland in an entertaining and educational way. In 2016 TAQA supported an energy efficiency project to upgrade the lighting to LEDs throughout the aquarium, which will reduce their annual lighting costs by up to 50%.

Litter Picks (Arnhall Moss and Aberdeen Beach)

Marine litter is a huge problem for our wildlife, but thanks to a group from TAQA many bags of litter were collected during a litter pick around the coastline by Aberdeen Harbour in August organised by RSPB Scotland. Members of staff also spent time litter picking and removing non-native birch trees at Arnhall Moss nature reserve in Westhill.

Greenpower

Greenpower is a national engineering competition which challenges school pupils to design, construct and race electric cars.

As well as showing the fun side of science, the event also develops team work, communication skills and elements of project management, providing participants with an all-round experience. TAQA recognises that the future of the oil and gas industry relies on a skilled workforce so it's important that, from a young age, children get a better understanding of how subjects such as technology and engineering might be applied in 'real life'. TAQA is principle sponsor and each year a team of TAQA staff volunteer to help run the event.

North Sea Bird Club

The North Sea Bird Club (NSBC) provides a recreational pursuit for people employed offshore; they are encouraged to obtain, collate and analyse observations of all birds seen offshore and as a result the club currently holds in excess of 140,000 records of birds, cetaceans and insects reported since it was established in 1979.

TAQA has an annual membership to the North Sea Bird Club and actively encourages all of its offshore assets to record and report any sightings to the club.

Environmental Objectives

Each year a number of key objectives are set. The purpose of these objectives are to help achieve and demonstrate continual improvement in the environmental performance of TAQA in the UK. Each objective is made up of a number of individual targets.

The table below provides an overview of the status of the 2016 objectives at year end.

	OBJECTIVE	STATUS
1	Environmental Studies/Assurance Activities	
2	Offshore Operations Continuous Improvements	
3	Environmental Engineering Control Improvements	
4	Waste Management Continuous Improvements: Reduction of waste to landfill both onshore and offshore (see below):	
	a) 92% (average) correct general waste segregation for offshore	
	b) 75% (average) correct general waste segregation for onshore	
5	Environmental Management System Continuous Improvements	

COMPLETED/ACHIEVED (>90%) PARTIALLY COMPLETE (>75%) INCOMPLETE/NOT ACHIEVED (<75%)

Overall five of the seven objectives in 2016 were achieved and two were not fully completed. A number of the objective 3 targets were partially completed, however the objective was not met due to delays in the regulator issuing guidance and the Environmental Critical Element identification project scope changing to include Major Environmental Incident (MEI) and Major Pollution Incident (MPI) assessment. The platform MEI and MPI assessments will be scheduled as part of 2017 Environmental Engineering Control objectives and targets. In addition objective 4 was partially met by three of the five offshore platforms, with the Eider and Cormorant Alpha platforms only missing the 92% (average) correct general waste segregation target by 1% and 3%, respectively. Onshore waste management improved in 2016, although the average general waste skip compliance was 74%, 1% under the target. The other environmental objectives were successfully achieved in 2016.

In 2017, TAQA is continuing its efforts on focussed objectives in five key areas:

1. Environmental Studies/Assurance Activities
2. Offshore Operations Continuous Improvement
3. Environmental Engineering Control Improvement
4. Waste Management Continuous Improvement
5. Environmental Management System Continuous Improvement

Glossary

CEFAS
Centre for Environment, Fisheries and Agricultural Science

CH_4
Methane

CHARM
Chemical Hazard Assessment and Risk Management

CO
Carbon Monoxide

CO_2
Carbon Dioxide

EMS
Environmental Management System

ETS
Emissions Trading Scheme

FLAGS
Far North Liquids and Associated Gas System

GBT
Gravity Base Tank

HSSEQ
Health, Safety, Security, Environment and Quality

ISO 14001
International Standards Organisation 14001 – specifies the requirements for an environmental management system

JNCC
Joint Nature Conservation Committee

mboe/d
Thousand Barrels Oil Equivalent per Day

MCA
Maritime and Coastguard Agency

MEI
Major Environmental Incident

MODU
Mobile Offshore Drilling Unit

MPI
Major Pollution Incident

NO_x
Oxides of Nitrogen

NSBC
North Sea Bird Club

OCR
Offshore Chemicals Regulations (2002) (as amended)

OCNS
Offshore Chemical Notification Scheme

OIPW
Oil in Produced Water

OLS
Offshore Loading System (oil export system installed at the Harding Field during 2016)

OPEP
Oil Pollution Emergency Plan

OPPC
Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations (2005) (as amended)

OPRED
Offshore Petroleum Regulator for Environment and Decommissioning

OWS
Oily Water Separator

PDCA
Plan-Do-Check-Act cycle for environmental management and improvement

PON
Petroleum Operations Notice

PPC
Offshore Combustion Installations (Pollution Prevention and Control) Regulations (2013)

PWFD
Produced Water Flash Drum

SCM
Subsea Control Module

SO_2
Sulphur Dioxide

STL
Submerged Turret Loading (oil export system removed from the Harding Field during 2016)

SSIV
Subsea Isolation Valve

UKCS
United Kingdom Continental Shelf

UMC
Underwater Manifold Centre

VOC
Volatile Organic Compound

WtE
Waste-to-Energy

Designed & produced by **Hampton Associates**, Aberdeen.

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