INEOS Breagh

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INEOS Breagh

Environmental Report 2016

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Title:

INEOS Breagh

2016 Environmental Report

Notes:

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Table of Contents

Table of Tables

Glossary

BEIS	Department of Business, Energy and Industrial Strategy
BMS	Business Management System
Centrica	Centrica Energy Upstream
CMS	Caister Murdoch System
CNS	Central North Sea
EMS	Environmental Management System
HS&EMS	Health Safety & Environment Management System
HSE	Health and Safety Executive
INEOS Breagh	INEOS UK SNS Ltd
ISO	International Standards Organisation
NNS	Northern North Sea
NUI	Normally unattended installation
OCNS	Offshore Chemical Notification Scheme
OCR	Offshore Chemicals Regulations 2002 (as amended 2011)
OPEP	Oil Pollution Emergency Plan
OSC	Offshore support contractor
OSPAR	Oslo Paris convention for the protection of the marine environment of the NE Atlantic
PLONOR	Poses Little or No Risk to the environment
PON1	Petroleum Operations Notice 1
POSA	Processing and operating services agreement
RDUK	RWE Dea UK
SNS	Southern North Sea
SUB	Marked for substitution
TGT	Theddlethorpe Gas Terminal
UKCS	UK continental shelf
VOC	Volatile Organic Compounds

1 Introduction

This document is the 2016 Environmental Report for INEOS UK SNS Ltd and describes offshore operations undertaken throughout the year.

This report is a public statement designed to:

- Describe the scope of the company's offshore activities;
- Provide a description of the INEOS Environmental Management System (EMS);
- State the company's environmental policy, goals, objectives and targets; and
- Provide a performance summary for 2016.

This document is the second INEOS annual Environmental Report to be issued as a public statement.

2 Scope of Activities

This Section summarises activities undertaken in 2016.

2.1 Overview of INEOS

INEOS is a global manufacturer of petrochemicals, speciality chemicals and oil products. It is one of the UK's largest manufacturing businesses, employing some 4,000 people across 7 sites. INEOS UK SNS Limited is part of the INEOS Upstream group which is the INEOS exploration and production business.

INEOS UK SNS Ltd ('INEOS Breagh') was operator of the following producing fields during 2016: Breagh, Clipper South, Cavendish, Topaz and Windermere and was also operator of the following non-producing assets: Opal, Kenny, Crosgan, Carna and Gasta.

The INEOS UK SNS Ltd head office is located at the below address:

4th floor
90 High Holborn
London WC1V 6LJ
Tel: 020 3116 0200
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2.2 Offshore activities during 2016

The locations of company operated and non-operated fields are shown in Figures 2.1 and 2.2 below. During 2016 four interests in non-operated fields were sold or relinquished: Kepler, Macanta, Lochran and Marconi.

Figure 2-1 Company operated and non-operated fields during 2016, NNS & CNS[1]

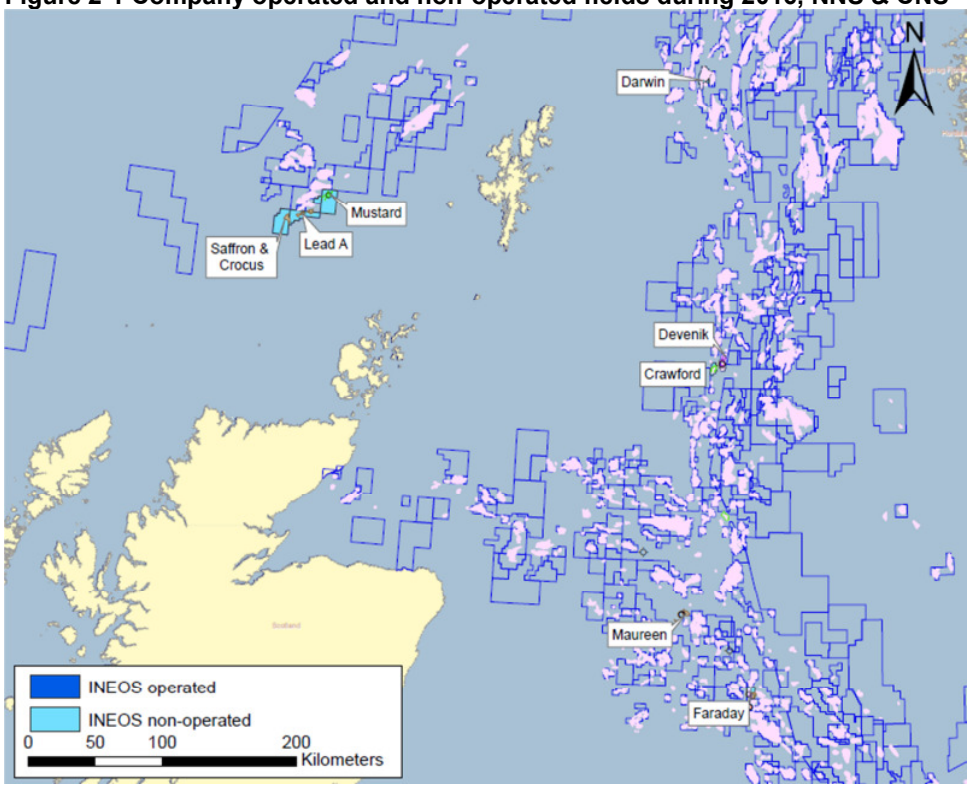
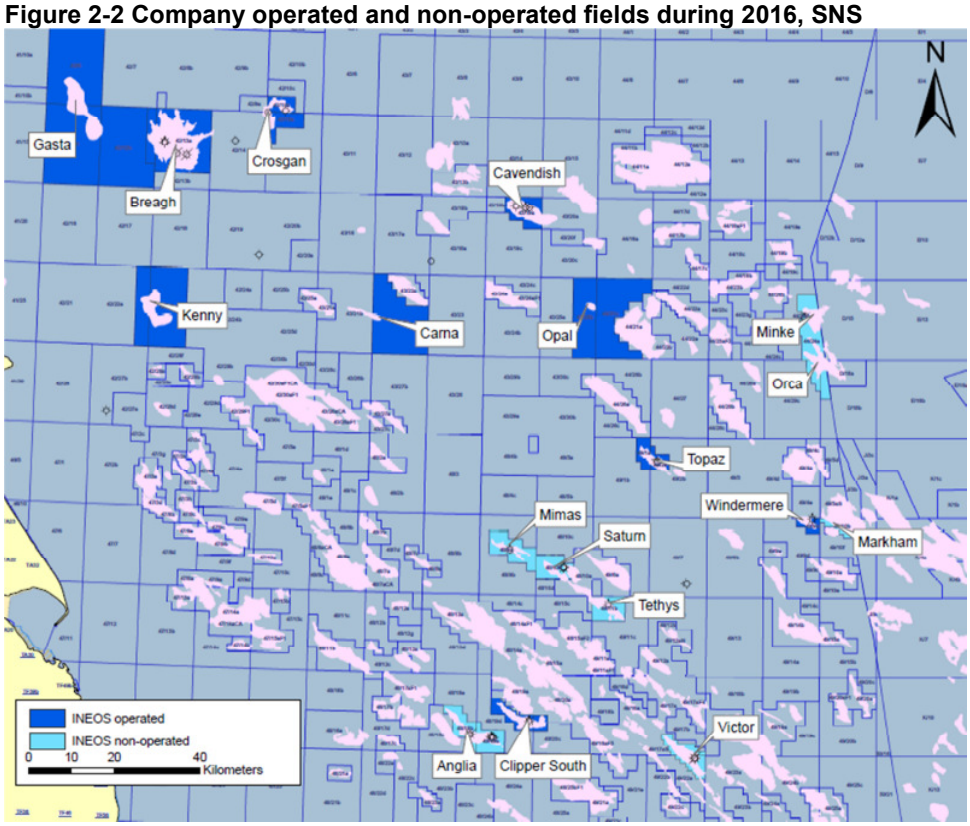


Figure 2-2 Company operated and non-operated fields during 2016, SNS



[1] All fields in the Northern and Central North Sea are non-operated

2.2.1 Production Operations

2.2.1.1 Breagh

The Breagh A platform is located in SNS Block 42/13a in a water depth of 62m. The platform was installed in late 2011 and production commenced in October 2013. Drilling was completed in 2014. The platform is operated as a NUI, typically for periods of between 35-40 days in between maintenance visits.

The Breagh platform is controlled, operated and maintained for production purposes by INEOS, with the assistance of an Offshore Support Contractor (OSC).

2.2.1.2 Clipper South

Production operations commenced at the Clipper South platform in August 2012. It is located in SNS Block 48/19, approximately 100km east of the Theddlethorpe gas terminal, in a water depth of 23.5m.

During the initial stages of Clipper South production, an operations team was continuously on board to operate and maintain the facility, commission subsequent wells and perform routine removal of accumulated proppant from the wellhead cyclones. The platform was de-manned in February 2016 and maintenance visits typically occur for one week in every five. INEOS operate the Clipper South platform with the assistance of the OSC.

2.2.1.3 Cavendish

The Cavendish platform is a gas and condensate producing NUI located in SNS Block 43/19a. The platform is tied back via a 47 kilometre long 10-inch pipeline to the ConocoPhillips operated Murdoch host platform. The Cavendish platform is a fixed four-legged jacket that is visited on a routine basis to undertake maintenance operations. The Cavendish topsides facilities enable primary operational control from the Murdoch platform. The Murdoch platform is the main hub of the Caister Murdoch System (CMS). Incoming gas supplies are commingled at Murdoch before being landed onshore in the UK, via the CMS trunk line, at the Theddlethorpe Gas Terminal (TGT).

The Cavendish platform was controlled, operated and maintained for production purposes by INEOS, with the assistance of the OSC.

2.2.1.4 Topaz

The Topaz subsea well head and protective structure, pictured below during installation, is a gas producing seabed installation located in SNS Block 49/02a. The facility is tied back to the Schooner host platform via a 15.2 kilometre long 6-inch gas export line, with associated methanol feed line and control and communications cable. The Schooner platform is itself tied

back to the Murdoch platform described above. Schooner was owned by Faroe Petroleum (UK) Limited during 2016.

The Topaz subsea production facility is controlled, operated and maintained for production purposes remotely from Schooner. Faroe has a contract in place with Petrofac Ltd., the Duty Holder and day-to-day operator of the Schooner platform.

Due to low flow rates, the Topaz well has been shut in and production ceased at 0600hrs on 1st October 2016.

2.2.1.5 Windermere

The Windermere platform is a gas producing NUI located in SNS Block 49/09b. The platform is tied back via a 7 kilometre long 8-inch pipeline to the Centrica Energy Upstream (Centrica) operated ST-1 platform that is part of the Markham field complex. The Windermere platform is a fixed three-legged jacket that is visited on a routine basis to undertake maintenance operations. The Windermere topside facilities enable primary operational control from Centrica's J6-A platform. The ST-1 platform is tied back to the J6-A platform which is located in the Dutch sector and is the main hub of the Markham field complex. Incoming gas supplies are commingled at J6-A before being landed onshore in the Netherlands.

The Windermere platform is controlled, operated and maintained for production purposes by Centrica. Although an operator in their own right, in this instance, Centrica acts as a contractor and are responsible for day-to-day production operations at Windermere. In a Processing and Operating Services Agreement (POSA), Centrica were contracted to provide processing and operating services.

The remaining operating well at Windermere, W2 was shut in on 1st October 2016 and did not flow for the remainder of the year.

2.2.2 Drilling Operations

INEOS Breagh did not undertake any drilling operations during 2016.

3 EMS Summary

This Section provides a brief description of the company's EMS as it operated in 2016.

3.1 Introduction

The EMS is a component of the overall Business Management System (BMS) that defines the organisational structure, planning activities, responsibilities, procedures, business processes and resources required for developing, implementing, achieving, reviewing and maintaining the environmental policy.

The EMS is a tool for identifying and managing the impact the business has on the environment. It works to reduce this impact by controlling the quantity of materials and energy used and the amount of waste produced. As well as facilitating the management of environmental impacts in a credible way, the EMS provides a practical tool to help evaluate and improve performance.

The following guiding principles and methodologies are incorporated into the OSPAR Strategy and integrated, as appropriate, into the EMS:

- the precautionary principle;
- the polluter pays principle;
- best available techniques and best environmental practice, including, where appropriate, clean technology;
- sustainable development;
- the application of an integrated ecosystem approach; and
- the waste management hierarchy of avoidance, reduction, re-use, recycling, recovery, and residue disposal.

3.2 Verification

RWE Dea UK SNS Ltd (RDUK being the previous owners) had an HS&EMS in place from 2002 and in November 2010 was awarded ISO 14001 certification by DNV, an independent and accredited third party certification body possessing recognised competence in this field.

Since the initial certification, the HS&EMS has been subject to biannual reviews, each of which has resulted in the successful re-approval of the certification. The ISO 14001 certification covers the management of all the company's exploration, drilling, development and production operations and the INEOS Breagh business was successfully re-certified in November 2016 by Exova.

3.3 Review

A formal review of QHSE performance is conducted annually. This is an essential step required to assess the effectiveness of the HS&EMS in achieving the aims of the company's policy and objectives and to achieve continuous improvement in the control system.

The review process enables the company to:

- review progress against existing objectives and targets;
- consider evidence of performance, such as audits and other reports;

- consider the sufficiency of the organisational structure, the available resources, the policy and the management system in general; and
- agree new objectives and targets.

Internal auditing is used to objectively investigate how each element of the management system is being applied. Internal audit reports provide input to management review, along with other performance indicators.

4 Environmental Policy

This Section provides a brief description of the company's environmental policy, including relevant environmental goals, objectives and targets set for significant environmental aspects and impacts.

4.1 Introduction

In line with the OSPAR Strategy, the company has established an environmental goal of protecting and conserving the maritime area against any potentially adverse effects resulting from its activities. To achieve this goal, programmes and measures to identify, prioritise, monitor and prevent/reduce/eliminate any emissions, discharges or losses of substances which could cause pollution have been developed.

Non-polluting activities, that may have potentially adverse effects on the ecosystems and biological diversity of the maritime area, include exploration activities and the installation of structures, cables and pipelines.

4.2 HS&E Policy Statement

The components of the HS&E Policy Statement that relate to environmental management are stated in the remainder of this Section.

The Company operates in a sensitive environment and takes a proactive stance in the protection of the environment, recognising its moral and legal obligations to conduct all activities in a manner which protects the natural environment. All employees are required to act responsibly so as to protect the environment.

In relation to environmental management, the company will:

- annually set and internally publish objectives, seeking to achieve improvement wherever practicable;
- document procedures for management, based on recognised standards which clearly allocate responsibilities within the HS&EMS;
- provide and maintain clear lines of communication and consult with employees to ensure awareness and gain commitment to the policy and the company's procedures for its implementation;
- ensure that all employees are competent to discharge their relevant responsibilities and receive all necessary information, instruction and training;
- monitor and record performance, and conduct internal audits;
- annually conduct a management review of performance against objectives, including review and development of policy and the HS&EMS; and
- ensure that sufficient resources are provided and allocated to implement the policy.

For all its activities and projects undertaken, the company will:

- comply, as a minimum, with all environmental legislation applicable in the UK, applying best industry practice and undertaking steps to improve environmental protection levels where appropriate;
- plan for the management of environmental issues, identifying performance standards, procedures for control and monitoring, and resources to be applied;

- ensure that systematic hazard identification, assessment of the risk of harm and incorporation of measures to control risks are central to the design, construction and operation of facilities;
- select competent contractors and provide them with all necessary information, including definition of HS&E requirements;
- monitor and audit contractors to ensure that they operate in compliance with the principles of the Policy and meet the standards required; and
- maintain emergency and contingency plans.

The company requires each of its contractors and suppliers to:

- operate an effective EMS relevant to their scope of work/supply; and
- comply with these environmental requirements including appropriate planning, hazard identification, risk control, performance monitoring and reporting.

4.3 Objectives and targets for 2016

The environmental management objectives and targets for the period between January and December 2016 were determined in order to progressively achieve the commitments set out in the HSE Policy Statement. Section 5.2 provides further detail.

5 Performance Summary

This Section provides a summary of performance in relation to compliance with relevant legislative requirements and compliance with the environmental policy, goals, objectives and targets. A summary of offshore environmental aspects, and their associated emissions and impacts, is also provided.

5.1 Introduction

The company's internal and external auditing processes enabled reporting on the areas of environmental performance defined in Section 4, i.e. the extent to which the environmental goals listed below have been achieved:

- compliance with legislation;
- progress made in achieving environmental goals; and
- continual improvement in environmental performance.

5.2 2016 Environmental Performance Summary

Progress against the identified objectives and targets for 2016 is considered in the annual Management Review. Key objectives and targets are related to development of the EMS, risk management, training, update of Oil Pollution Emergency Plans, emergency preparedness and response, environmental incidents and audit and review. The majority of objectives were achieved with one ongoing and many targets were met. The audit schedule continues throughout the year in order to ensure that progress against objectives and targets is maintained.

5.2.1 Production Activities

Production operations during 2016 were undertaken at the Breagh, Clipper South, Cavendish, Topaz and Windermere fields.

5.2.1.1 PON1 Incidents

There were two incidents that required submission of a Petroleum Operations Notice 1 notification (PON 1) during 2016 resulting in the loss of 206 litres of hydraulic oil. These were associated with the lifeboat davit and TEMPSC davit hoses which both remained within their five year recommended operating lives. Options for replacing the hydraulics systems were reviewed in order to prevent these incidents in the future.

5.2.1.2 Chemical use and discharge

Breagh

During 2016, Breagh operations used methanol gas hydrate inhibitor in order to undertake well start-up operations. The methanol remained within the production system and therefore was not discharged to sea at the platform.

An acid wash was undertaken during Q4 of 2016, to remove a calcium carbonate accumulation that was reducing flow. All products used for this operation either remained downhole or were returned to the platform for treatment onshore; no discharges were made to sea.

Table 5-1 below presents the quantities of chemicals used and discharged at Breagh during 2016 based on label and ranking categories.

Table 5-1 Chemicals Used and Discharged at Breagh

OCNS category or colour band ranking	Additional Label	Quantity (kg)	
		Use	Discharge
E	PLONOR	19,734.6	0
Gold	-	10	0
Gold	SUB	8.7	0

Clipper South

During 2016, Clipper South operations used and discharged 103.3kg of SOBO S Gold 08 (colour band Gold) rigwash detergent for platform cleaning. No other chemicals were used or discharged.

Cavendish

For the Cavendish facilities, production chemicals are supplied via Murdoch and remain in a closed system that originates and terminates onshore at TGT. As such, the use of these chemicals does not require permitting under the Offshore Chemicals Regulations 2002 (as amended) (OCR). However, chemicals are required for helideck cleaning on Cavendish and a Chemical Permit is in place for this. During 2016, no chemicals were used for this purpose.

Topaz

During 2016 no Castrol Transaqua HT2 was discharged via the Topaz subsea well. Transaqua HT2 is a water-based hydraulic fluid with an Offshore Chemical Notification Scheme (OCNS) category D ranking. The use and discharge of this product is permitted under the OCR on the Chemical Permit for the Schooner platform.

Windermere

For the Windermere facilities, production chemicals are supplied in an umbilical that is routed from the nearby ST-1 platform and remain in a closed production system that is processed at J6-A located in the Dutch sector. As such, no overboard discharges of production chemicals occurred at the Windermere platform. The use of the chemicals within the production system on Windermere does not require permitting under the OCR.

5.2.1.3 Produced water discharges

There are no produced water, or other, discharges to sea at the Windermere platform; since May 2013 all produced water from J6-A has been re-injected. Due to several produced fluid streams arriving at J6-A, separate measurement of hydrocarbons originating from Windermere is not made.

The Breagh, Clipper South, Cavendish and Topaz developments utilise closed production systems and there are no separation facilities or disposal caissons at these installations. As such, there are no offshore discharges of produced water associated with these production operations.

5.2.1.4 Waste

A total of 62.1 tonnes of waste was generated by the four NUIs during 2016. A summary is provided as Table 5-2 below.

Table 5-2 Summary of Waste from Production Operations (tonnes), 2016

Asset	Group	Type	Reuse	Re-cycling	Waste to Energy	Incine-rate	Landfill	Other	Total
Breagh	Group I	Chem/ Paints	0	0	0.6	0	0	0	0.6
		Drums/ Containers	0	0	0.2	0.5	0	0.2	0.9
	Group II	Drums/ Containers	0	0.072	0	0	0	0	0.072
		Scrap Metal	0	0.045	0	0	0	0	0.045
		Segregated recyclables	0	0.96	0	0	0	0	0.96
		General	0	0	0	0	2.32	0	2.32
Clipper South	Group I	Drums/ Containers	0	0.132	0	0	0	0	0.132
		Oils	0	0	3.2	0	0	4.9	8.1
		Misc	0	0.135	0	0	0.4	0.075	0.61
		Sludges/ Liquids Tank Washings	0	0	13.1	0	0	18	31.1
	Group II	Drums/ Containers	0	0.141	0	0	0	0	0.141
		Scrap Metal	0	2.345	0	0	0	0	2.345
		Segregated Recyclables	0	6.39	0	0	0	0	6.39
		General	0	0	0	0	6.8	0	6.8
		Sludges/ Liquids/ Tank Washings	0	0	0	0	0	0.013	0.013
Cavendish	Group I	Misc	0	0	0.075	0	0	0.075	0.15
	Group II	General	0	0	0	0	0.45	0	0.45
Windermere	Group II	General	0	0	0.96	0	0	0	0.96
	Group III	Explosives	0	0	0	0.007	0	0	0.007
TOTAL			**0**	**10.22**	**18.135**	**0.507**	**9.97**	**23.263**	**62.1**

In addition to the above wastes, the liquid waste generated at the Breagh, Cavendish, Windermere and Schooner[2] platforms during routine maintenance visits by the contracted flying squads was limited to small volumes of wastewater, from the sink and shower, as well as sewage from the single toilets, which was discharged to sea. The Clipper South platform has a macerator for all black waste. The small amounts of domestic waste generated during NUI visits is bagged and returned onshore. Company policy states that no garbage, including plastic, is to be disposed of overboard.

[2] Waste that is applicable to the Topaz subsea tieback.

5.2.1.5 Atmospheric emissions

The Breagh, Clipper South and Cavendish platforms have self-sufficient power supplies in the form of standalone diesel generators. The Windermere facility is provided with power via a subsea electrical cable from the ST-1 facility. Operational emissions to air from combustion of diesel to power generators is summarised in Table 5-3 below.

Table 5-3 Emissions to Air from Producing Assets (tonnes), 2016

		Emissions to Air						
Asset	Diesel Used	CO_2	CO	NO_x	N_2O	CH_4	VOC	SO_x
Breagh	56.3	180	0.9	3	0.01	0.01	0.11	0.23
Clipper South	141.1	452	2.2	8	0.03	0.03	0.28	0.56
Cavendish	47.9	153	0.8	3	0.01	0.01	0.10	0.19

Atmospheric emissions relating to production operations at the Breagh, Clipper South, Cavendish and Windermere fields were also generated as a result of the combustion of fuel onboard the helicopters and supply/standby vessels utilised during planned maintenance visits.

In addition to the above, emissions to air from operational facilities emanated from the manual venting of produced gas for maintenance purposes. The calculated emissions of direct gas from operational facilities in 2016 comprised the following from maintenance venting:

- Breagh – 8.9 tonnes
- Cavendish – 0.2 tonnes
- Clipper South – 1.26 tonnes
- Windermere – 1.44 tonnes

5.2.1.6 Oil spills

Oil Pollution Emergency Plans (OPEPs) were in place to cover all production operations at Breagh, Clipper South, Cavendish, Topaz and Windermere during 2016. Each OPEP lists the required offshore and onshore actions and responses, defines roles and responsibilities in the event of an oil spill and provides a risk assessment. The OPEPs for Breagh, Clipper South and Cavendish were approved by BEIS in September, November and October respectively in order to comply with the requirements resulting from the Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015. The scope of the Breagh and Clipper South OPEPs was also expanded to cover all potential future operations at the platform including drilling, wireline operations and fracturing. Decommissioning was not included.