

# Premier Oil UK 2017 ENVIRONMENTAL STATEMENT



**HEALTH, SAFETY  
& ENVIRONMENT.  
WE'RE ALL RESPONSIBLE.**  
NO SHORT CUTS. NO EXCEPTIONS. NO INCIDENTS.



# TABLE OF CONTENTS

ABBREVIATIONS .....	3
1.0 INTRODUCTION .....	5
2.0 OVERVIEW OF OPERATIONS .....	6
2.1 Production Operations .....	6
2.2 Projects .....	13
2.3 Drilling and DSV Operations .....	15
3.0 HSES MANAGEMENT SYSTEM.....	16
4.0 ENVIRONMENTAL PERFORMANCE .....	19
4.1 Oil in Produced Water .....	19
4.2 Chemical Use and Discharge .....	29
4.3 Waste.....	35
4.4 Atmospheric Emissions .....	40
5.0 INCIDENTS .....	46
5.1 Unplanned Releases – PON 1 .....	46
5.2 Regulatory Non-Compliance (NC).....	48
6.0 ENVIRONMENTAL PERFORMANCE AGAINST TARGETS .....	50

## ABBREVIATIONS

<b>Bbl/d</b>	Barrels of Oil per Day
<b>DBEIS</b>	Department of Business Enterprise & Industrial Strategy
<b>CEFAS</b>	Centre for Environment, Fisheries and Aquaculture Science
<b>CH<sub>4</sub></b>	Methane
<b>CO</b>	Carbon Monoxide
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>DECC</b>	Department of Energy & Climate Change
<b>ECE</b>	Environmentally Critical Equipment
<b>EU ETS</b>	European Union Emissions Trading Scheme
<b>FPS</b>	Forties Pipeline System
<b>FPSO</b>	Floating Production Storage and Offloading Vessel
<b>FPV</b>	Floating Production Vessel
<b>HSES</b>	Health, Safety, Environment and Security
<b>ISO</b>	International Standards Organisation
<b>IOGP</b>	International Association of Oil and Gas Producers
<b>mg/l</b>	Milligrams per Litre
<b>NCN</b>	Non Compliance Notice
<b>NCR</b>	Non Conformance Report
<b>NO<sub>x</sub></b>	Nitrous Oxides
<b>OCNS</b>	Offshore Chemical Notification Scheme
<b>OCR</b>	Offshore Chemicals Regulations
<b>ODP</b>	Oil Discharge Permit
<b>OHSAS</b>	Occupational Health and Safety Assessment Series
<b>OPEPs</b>	Offshore Pollution Emergency Plans
<b>OPPC</b>	Oil Pollution Prevention and Control
<b>OPRED</b>	Offshore Petroleum Regulator for Environment & Decommissioning

<b>OIW</b>	Oil in Water
<b>OSD</b>	Offshore Safety Directive
<b>PDN</b>	Permitted Discharge Notification
<b>PLO</b>	Poses Little or No Risk
<b>PON</b>	Petroleum Operations Notice
<b>PPC</b>	Pollution, Prevention and Control
<b>ROV</b>	Remotely Operated Vehicle
<b>RQ</b>	Risk Quotient
<b>SEGAL</b>	Shell Esso Gas and Associated Liquids
<b>SO<sub>x</sub></b>	Sulphur Oxides
<b>SOST</b>	Subsea Oil Storage Tank
<b>SUB</b>	Chemicals Rated for Substitution
<b>UKCS</b>	United Kingdom Continental Shelf
<b>VOCs</b>	Volatile Organic Compounds

## 1.0 INTRODUCTION

Premier Oil UK consists of assets owned by three different legal entities, Premier Oil UK Limited, Premier Oil E&P UK Limited and Premier Oil E&P UK EU Limited, hereafter collectively referred to as Premier UK. Premier UK is the UK subsidiary of the publicly listed oil and gas company Premier Oil Plc, a leading independent exploration and production company with oil and gas interests in the North Sea, South East Asia, Pakistan, the Falkland Islands and Latin America.

Premier UK's North Sea position was transformed in 2009 with the acquisition of Oilexco North Sea Ltd which added a production base, including operatorship capability, and a broader development and exploration portfolio in the UK North Sea. Premier's portfolio was further expanded in 2016 with acquisition of E.ON UK's North Sea Assets including the Babbage, Huntington, Johnston, Hunter/Rita field developments. During 2017 Premier commenced production from the Catcher Area fields and continued production from the Babbage, Balmoral, Huntington and Solan Johnston and Hunter/ Rita fields.

Under Recommendation 2003/5 of the Oslo Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) requires that all companies operating in the United Kingdom Continental Shelf (UKCS) have systems and procedures in place to identify, monitor and control the environmental aspects associated with offshore activities.

During 2017 the Premier UK Business Unit achieved successful re-certification to the international environmental management system standard, ISO 14001 and the Occupational Health and Safety Standard OHSAS 18001.

This report provides information on Premier UK's 2017 offshore operations and the environmental performance of these operations. For the purpose of this report, data included covers all production and drilling activities undertaken in compliance with Premier UK held permits and consents.

This report is available via the Premier Oil website at;

<http://www.premier-oil.com/premieroil/corporate-responsibility/environment-new>

## 2.0 OVERVIEW OF OPERATIONS

### 2.1 Production Operations

#### (a) Babbage

The Babbage platform is located in Block 48/02a in the Southern North Sea, approximately 50 miles West of Easington and 57 miles west of the UK/Norway transboundary in a water depth of approximately 42m (Figure 2.1).

The Babbage field produces gas and condensate from five development wells drilled into the Babbage reservoir; the most recent 2 wells being drilled in 2013. Produced gas from Babbage is exported via a 28 km pipeline tied-back to a subsea tee at the West Sole Bravo (WSB) platform.

The reservoir fluids pass into the West Sole System where they commingle with other fluids before being routed to the Dimlington Terminal for processing. The field produced a dry gas and initially produced water break through was not anticipated during the life field. However, water break through was first observed in 2010 and produced water discharges to sea subsequently commenced in 2013. During 2017 no produced water was discharged to sea with the minimal quantities being exported to Dimlington.

The Babbage platform is designed with minimum facilities, with processing limited to gas separation and hydrate inhibitor storage and injection. No processing of the gas occurs at the WSB platform, with combined gas reception and compression taking place at the onshore Dimlington Terminal.

In 2017 the platform changed its mode of operation and now is operated as a Not Permanently Attended Installation (NPAI), only manned for one week in every four.

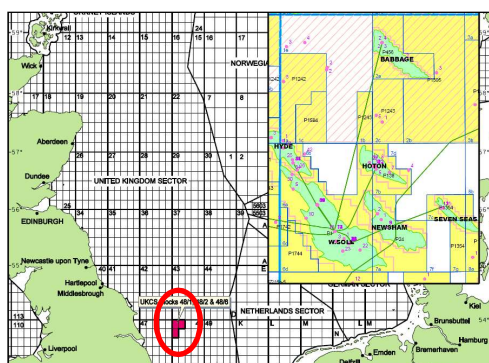


Figure 2.1 – Babbage Field System

## (b) Balmoral Floating Production Vessel

The Balmoral Floating Production Vessel (FPV) (Figure 2.2) is located in Block 16/21a in the Central North Sea, approximately 125 miles north-east of the Aberdeen and 20 miles west of the UK/Norway trans-boundary line in a water depth of approximately 147m (Figure 2.3).

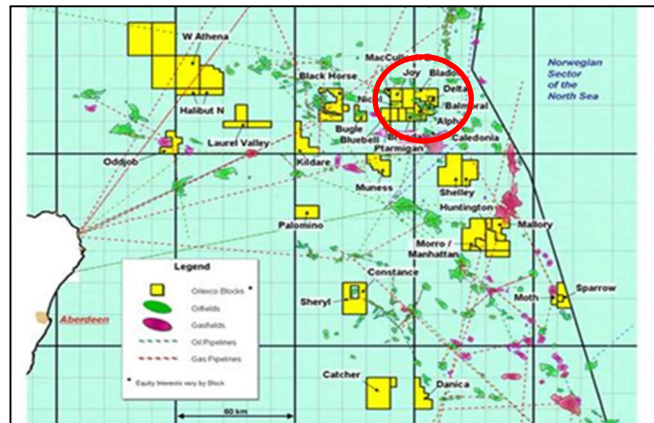


Figure 2.2 – Balmoral FPV

Figure 2.3 – Balmoral FPV Location

First oil was produced from Balmoral in 1986 and Premier UK acquired operatorship of the installation as part of the acquisition of Oilexco North Sea Limited in 2009.

Balmoral processes fluids from the Balmoral, Stirling, Brenda, Nicol, Burghley and Beaully fields, with the crude oil transported to shore via the Ineos-operated Forties Pipeline System (FPS) to the Kinneil reception terminal on the Firth of Forth. Produced gas is used for power generation and gas lift, with excess gas flared from the installation. The water phase is treated to meet the regulatory standard for Oil in Water (OIW) and is then discharged overboard under an Oil Discharge Permit (ODP) issued by OPRED.

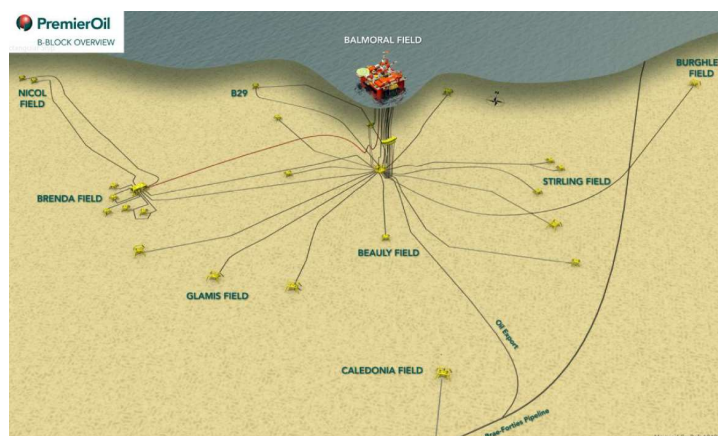


Figure 2.4 – Balmoral Field Schematic

**(c) Solan**

The Solan platform (Figure 2.5) is a single steel jacket structure located West of Shetland in Block 205/26a of the UKCS, 60 miles from the Scottish coast and 35 miles from the UK/Faroes median line in a water depth of approximately 138m (Figure 2.6).

The facility is designed to process fluids from two production wells supported by two water injector wells. It is capable of producing a peak flowrate of 28,000 Barrels of Oil per Day (bbl/d) with separated crude accumulating in a Subsea Oil Storage Tank prior to offloading to a tanker. Produced gas is used for power generation with excess gas flared from the installation. Seawater and ballast water is treated and injected to maintain reservoir pressure. During 2017, only a small amount of produced water was encountered and this was primarily discharged overboard.

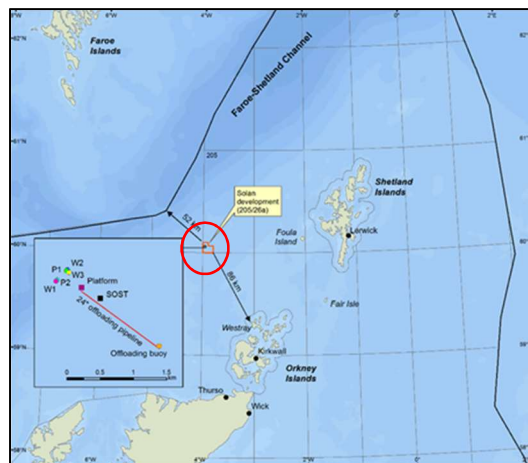


Figure 2.5 – Solan Installation

Figure 2.6 – Solan Location

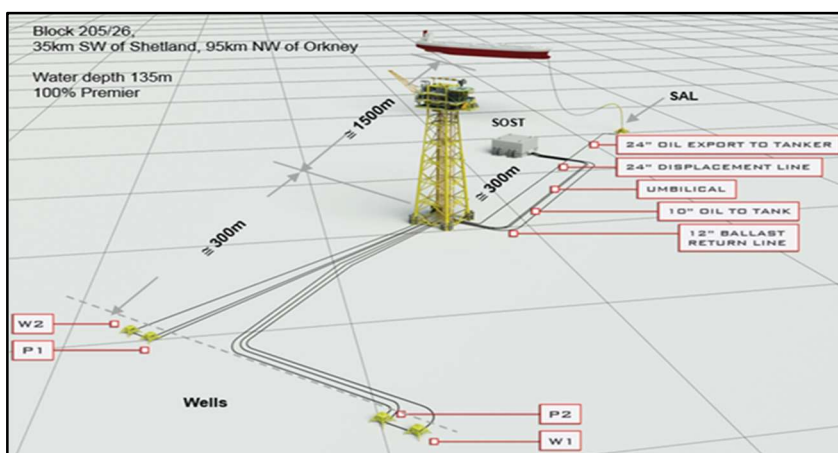


Figure 2.7 – Solan Field Schematic



**(d) Voyageur Spirit (Huntington Field)**

The Voyageur Spirit Floating, Production, Storage and Offloading vessel (FPSO) is the host installation for the Huntington Field. The FPSO lies in approximately 89 m of water and is located in UKCS Block 22/14 of the central North Sea (Figure 2.8), approximately 204 km from the Scottish coast and 27 km from the UK/Norwegian median line. The field layout is provided schematically in Figure 2.9.

The FPSO is located approximately 1.9 km to the north of the Huntington drilling template, and moored by a pattern of 13 anchors with flexible risers from the seabed entering the turret via “J” tubes.

Teekay Petrojarl is the FPSO owner and under The Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015 (SCR 2015), the appointed Production Installation Operator. Accordingly, Teekay is responsible for the day to day HSE management of the facility, including all environmental permitting requirements for production operations including the Pollution Prevention and Control (PPC), Chemical Permit (CPs), Oil Discharge Permit (ODP) etc.

Premier UK is the Licensee, Pipeline and Well Operator of the Huntington Field and is consequently responsible for the management of all HSE related matters associated with these activities. From an environmental permitting and management perspective, Premier UK is responsible for the FPSO Greenhouse Gas (GHG) Permit and the installation Flare consent.

The data presented in this document relates to Premier UK’s responsible activities for the Huntington Field. Teekay will submit their own OSPAR report describing Teekay managed activities.

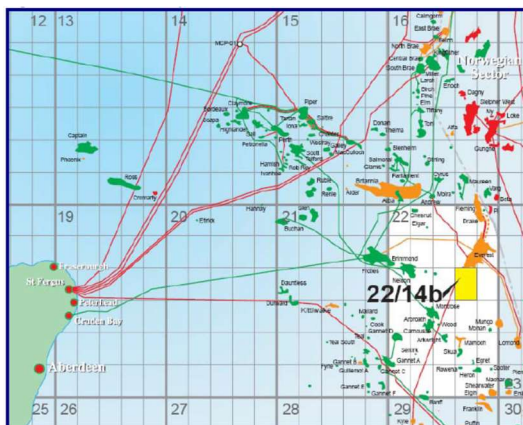


Figure 2.8 – Huntington field location

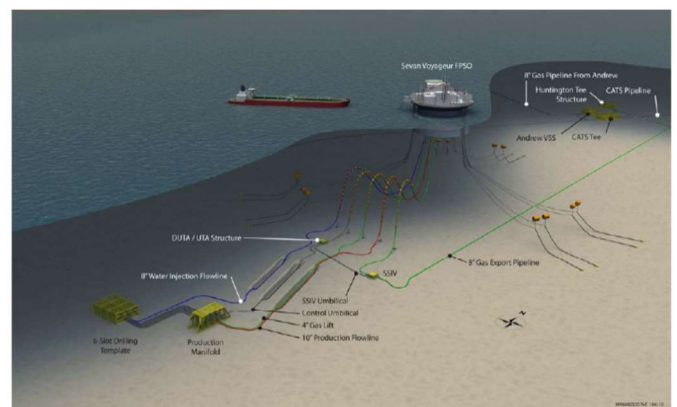


Figure 2.9 – Huntington field schematic

The Huntington field development consists of 4 production wells and two water injection wells drilled during 2011/2012. The production wells are tied back to the Voyager Spirit FPSO processing and export facility via a single flexible production flowline.

The crude oil is exported via a dynamically positioned shuttle tanker and gas is exported via the Central Area Transmission System (CATS) pipeline.

## (e) Catcher

The BW Catcher Floating, Production, Storage and Offloading (FPSO) vessel (Figure 2.10) is the host installation for the Catcher, Burgman and Varadero Fields, collectively referred to as the Catcher Area Development. The FPSO is located in UKCS Block 28/9a of the UK Central North Sea in approximately 90 m of water. Figures 2.11 and 2.12 illustrate the location of the Catcher Area Development and the overall field layout.

BWOCUK (BW Offshore Catcher UK Limited) is the FPSO owner and appointed Production Installation Operator of the BW Catcher FPSO. Accordingly, BWOCUK is responsible for the day to day HSE management of the facility including all environmental permitting requirements for production operations including the PPC, Chemical and ODP etc.

Premier UK is the Licensee, Pipeline and Well operator for the Catcher Area Development and is consequently responsible for the management of all HSE related matters associated with to these activities. From an environmental permitting and management perspective, PMO is responsible for the FPSO GHG permit and the Flare and Vent consents.

The data presented here relate to Premier UK's responsible activities for the Catcher Area Development. BWOCUK will submit their own OSPAR report describing BWOCUK-managed activities.

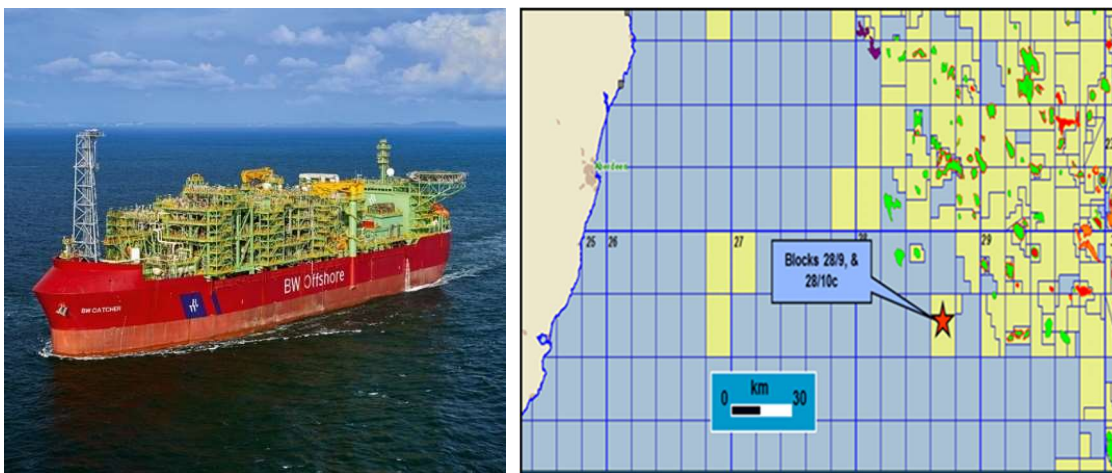
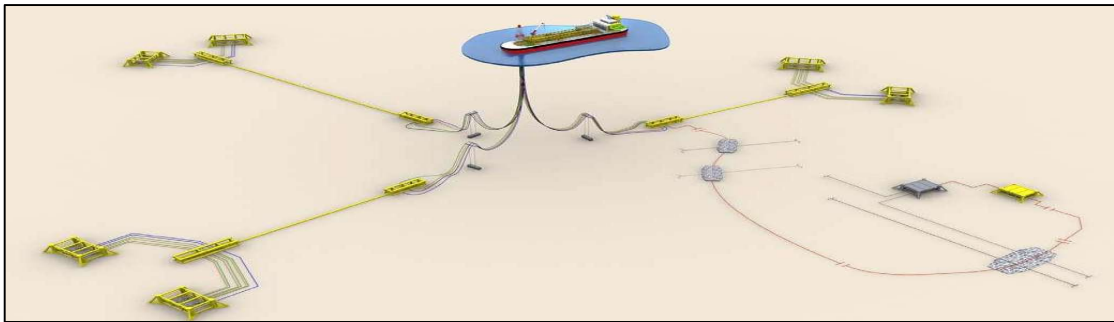


Figure 2.10 – Catcher FPSO in field    Figure 2.11 – Catcher Field Location



*Figure 2.12 – Catcher Development Schematic*

The three reservoirs are each tied back to the BW Catcher FPSO processing and export facility which is designed to process a peak flowrate of 60,000 Barrels of Oil per Day (bbl/d). Separated crude is stored in the vessel's cargo tanks prior to being offloaded to an export tanker. Excess gas is exported via the 62 km gas export pipeline (which extends into Block 28/10c) into the Shell UK Limited operated Fulmar Gas Line.

During 2017, the Premier UK managed offshore works, in support of the Catcher Area Development, included:

- Tie in of production spools and control lines.
- Drilling of five development wells.

The BW Catcher FPSO arrived in the field in mid-October 2017 from when subsea and topsides commissioning activities commenced. First oil was achieved on the 23<sup>rd</sup> December 2017.

## 2.2 Projects

### (a) Balmoral Late Life Project

The Balmoral Late Life Project (BLLP) was kicked off in late 2015 to prepare for decommissioning of the Balmoral FPV, subsea infrastructure and wells associated with the Balmoral, Glamis, Stirling, Brenda and Nicol fields.

The Balmoral decommissioning programme will be executed in three distinct phases;

- Phase 1 – Removal of the Balmoral FPV and associated risers and mid-water arches and disconnection of the FPV moorings.
- Phase 2 – Decommissioning of subsea infrastructure.
- Phase 3 – Plug and abandonment of wells.

Work completed in 2017 included sampling and analysis of the drill cuttings on the Balmoral template and further environmental data gathering for the wider Balmoral field. The comparative assessment (CA) process; a detailed process that weighs up the pros and cons of various subsea infrastructure decommissioning options, was also commenced 2018.

### (b) Huntington Late Life Project

The Huntington Late Life Project (HLLP) commenced in 2017 to prepare for the decommissioning of the Voyageur Spirit FPSO, subsea infrastructure and wells associated with the Huntington field.

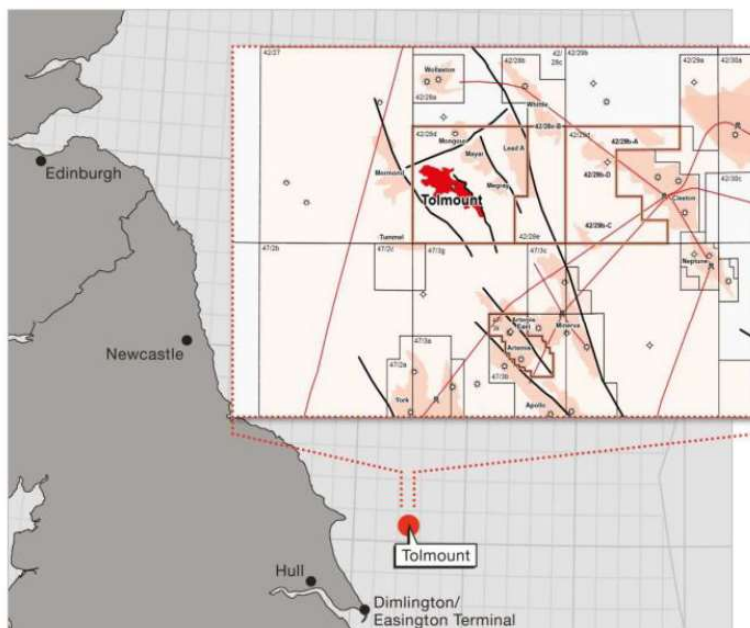
The Huntington decommissioning programme will be executed in three distinct phases:

- Phase 1 – Removal of the FPSO, associated risers and mid-water arches and disconnection of moorings.
  - Teekay as the appointed Installation Operator will be responsible for the removal of the vessel and disconnection of its moorings.
  - Premier as Licensee, Pipeline and Well operator for the Huntington Field, will be responsible for the flushing of subsea infrastructure and removal of the risers and mid-water arches.
- Phase 2 – Decommissioning of subsea infrastructure.
- Phase 3 – Plug and abandonment of wells.

Work completed in 2017 included preparation of project HSE and Regulatory documentation, and a PLANC Register identifying relevant permits, licences, authorisations, notifications and consents for execution of the decommissioning project phases.

### (c) Tolmount

The Tolmount Field is located in the Southern North Sea (SNS), Block 42/28d, approximately 36km east of Flamborough Head and 156km from the UK/Netherlands median line.



*Figure 2.13 – Tolmount Field Location*

Following successful well tests proving viable reserves of gas, Premier UK plans to develop the Tolmount Field in conjunction with its 50% equity partner, Dana Petroleum. Gas is expected to be produced from four offshore production wells. This gas will be routed via a minimum facilities platform prior to export via a new 20" export pipeline to new reception facilities within an existing onshore Terminal. Project sanction and Final Investment Decision (FID) are expected in 2018.

During 2017 the Offshore Environmental Statement and Onshore Planning Applications were submitted to regulatory authorities for the planned development. First gas is currently expected in Q4 2020

## 2.3 Drilling and DSV Operations

### (a) Catcher Drilling

Drilling operations in the Catcher Field commenced during 2015 employing the Ensko 100 jack-up drilling rig. In 2015, two injector wells and one production well were successfully drilled and completed. During 2016 drilling operations, one exploration well and five production wells were drilled and completed successfully, and throughout the course of 2017 drilling operations, two injector wells and three production wells were drilled and completed successfully. The data presented in this report, relates to the five wells drilled and completed in 2017.



Figure 2.14 – Ensko 100 Drilling Rig

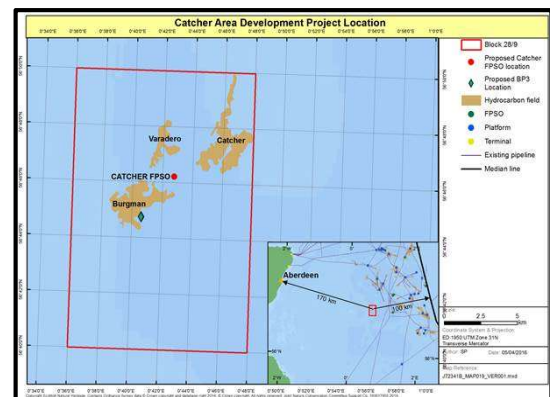


Figure 2.15 – Location of Catcher wells

### (b) Balmoral DSV Campaign and Well Intervention

In Q2 2017 a Dive Support Vessel (DSV) campaign was carried out by Seven Falcon vessel to prepare for abandonment of a number of production and water injector wells within the Greater Balmoral field. DSV operations included flushing and disconnection of the gas lift and production pipelines to the A33 well.

Well intervention operations were conducted at 4 wells during Q3 2016 by a Light Weight Intervention Vessel, the Well Enhancer. These operations were conducted in order to make the wells safe, to minimise any potential leak paths and to prepare the wells for future abandonment campaigns. The operations also helped to gather information on the physical status of the well, including pressure and temperature characteristics, and condition of production tubing.

### 3.0 HSES MANAGEMENT SYSTEM

Premier is focused on protecting the environment in line with our stated commitment to reduce our impact to a level that is as low as reasonably practicable. This involves ongoing assessment, monitoring and reporting on environmental impacts of all our operations.

The Premier Oil Health, Safety, Environment and Security Management System (HSES-MS) exists to provide a systematic approach to the management of HSES issues in order to protect people and the environment and comply with UK legislation.

Premier considers that health, safety, environment and security have equal status with other primary business objectives and are of strategic importance to Premier. Safe working practices and due consideration of environmental impact are vital to the overall efficiency and continued success of the business. The HSES policy forms the basis for the HSES-MS and is presented below.



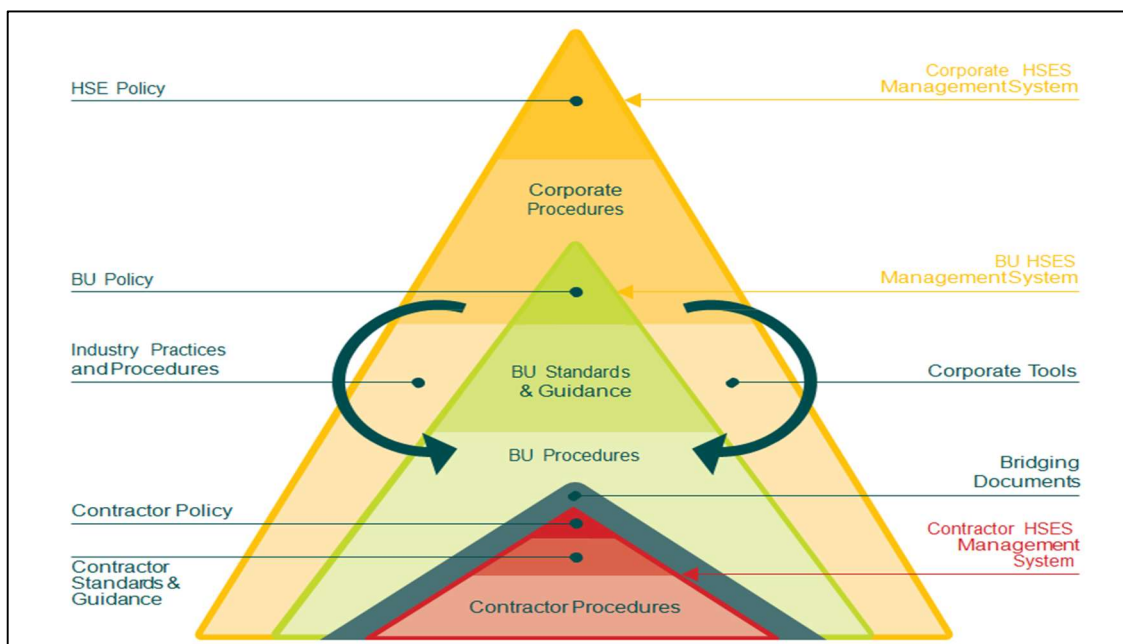
Figure 3.1 – Premier HSES Policy



The HSES-MS has a hierarchical document structure as illustrated in Figure 3.2. It is based on the industry model prepared by the International Association of Oil and Gas Producers (IOGP) and embraces the principles of quality management as found in the ISO 14001 and Occupational Health and Safety Assessment Series (OHSAS) 18001 international standards.

Figure 3.2 shows the structure of the HSES-MS, which is comprised of;

- Premier's HSES Policy;
- The Premier Corporate Expectations. These are owned by the CEO and issued by the Group HSES manager. The corporate expectations apply to all Premier Business Units;
- The tools to allow for implementation of the Corporate Expectations e.g. Business Unit and Asset Specific procedures.



*Figure 3.2 – HSES-MS Structure*

The Premier HSES Management System has 10 individual Elements. Each Element contains a set of concise expectations that are mandatory for implementation and maintenance within all the constituent parts of the Premier Oil group of companies (the Group). They define 'what' is expected by the Group in order to manage HSES risk during execution of work activities.

Figure 3.3 below shows the ten elements that make up the Premier Oil HSES Management System.



Figure 3.3 – HSES-MS Framework

## 4.0 ENVIRONMENTAL PERFORMANCE

Environmental performance for assets operating during 2017 is detailed below. For the Hunting Field and Catcher Area Developments, the data presented here only relates to the PMO managed activities (for example, subsea, drilling, European Trading Scheme reportable (GHG Carbon Dioxide) emissions, flare and venting). Those activities managed by the Voyageur Spirit and BW Catcher Installation Operators (for example, oily discharges, chemicals, combustion emissions associated with power generation etc.) will be reported separately by the respective company in their Environmental Statements.

### 4.1 Oil in Produced Water

During normal production, water is produced when extracting hydrocarbons from the reservoir.

Despite treatment, produced water still contains traces of oil, and as such, produced water discharge is controlled via a permitting system managed by the UK regulatory authority, OPRED.

Oil Discharge Permits allow installations to discharge produced water and ballast water, provided the hydrocarbon concentration is within the limit set out in the permit.

#### (a) Babbage

Produced Water was discharged to sea from the Babbage Platform in Q1 2017, and also in early April 2017. In mid-April 2017, the Babbage Platform transitioned to NPAI (Not Permanently Attended Installation) status. The decision was taken by Premier to direct all produced fluids to Dimlington Terminal through the export pipeline. Produced water can still be routed overboard during the manned week only, however this option was not exercised in 2017. The current operational base case for Babbage is zero discharge of produced water to sea. If required, the PW treatment package comprises a degassing vessel, polishing unit (filtration unit) and discharge caisson [and a hydrocyclone unit which is currently not used].

Figure 4.1 shows the cumulative produced water discharges from Babbage during 2017. The total volume of produced water discharged to sea from the Babbage platform was 140.746 m<sup>3</sup> against the permitted volume of 870.0m<sup>3</sup>. This equates to a discharge of 16% of the Babbage permit produced water volume limit.

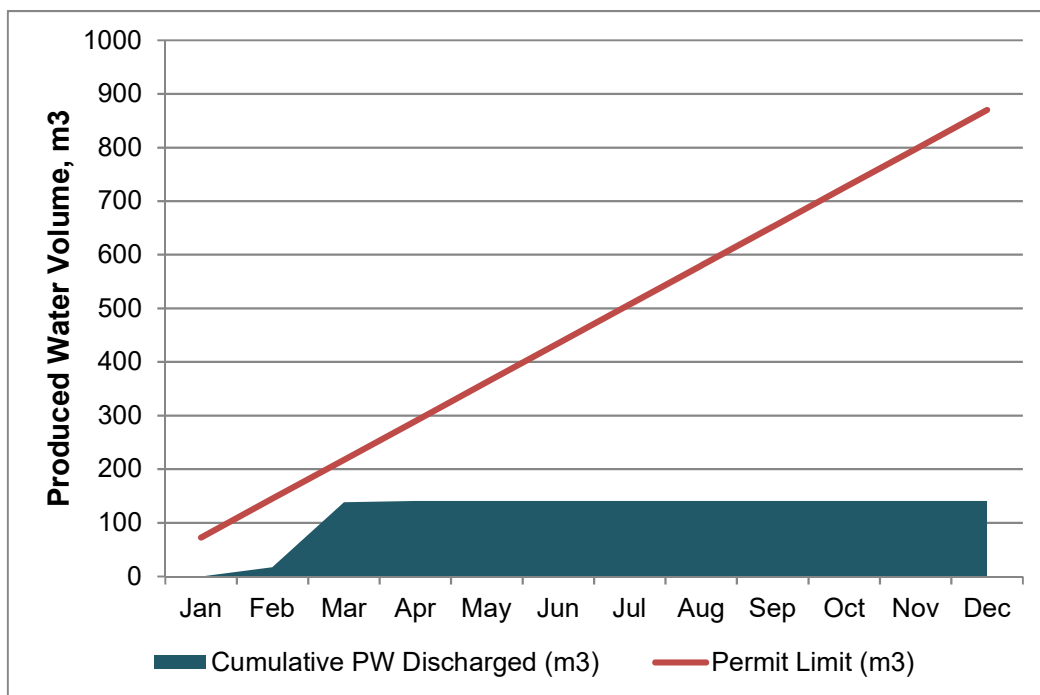


Figure 4.1 – Cumulative Produced Water Discharge from Babbage in 2017

Figure 4.2 shows the mass of oil discharged from the Babbage platform in 2017; due to the small amounts of produced water and the low OIW concentrations the total mass is very small at 0.0006 tonnes of oil.

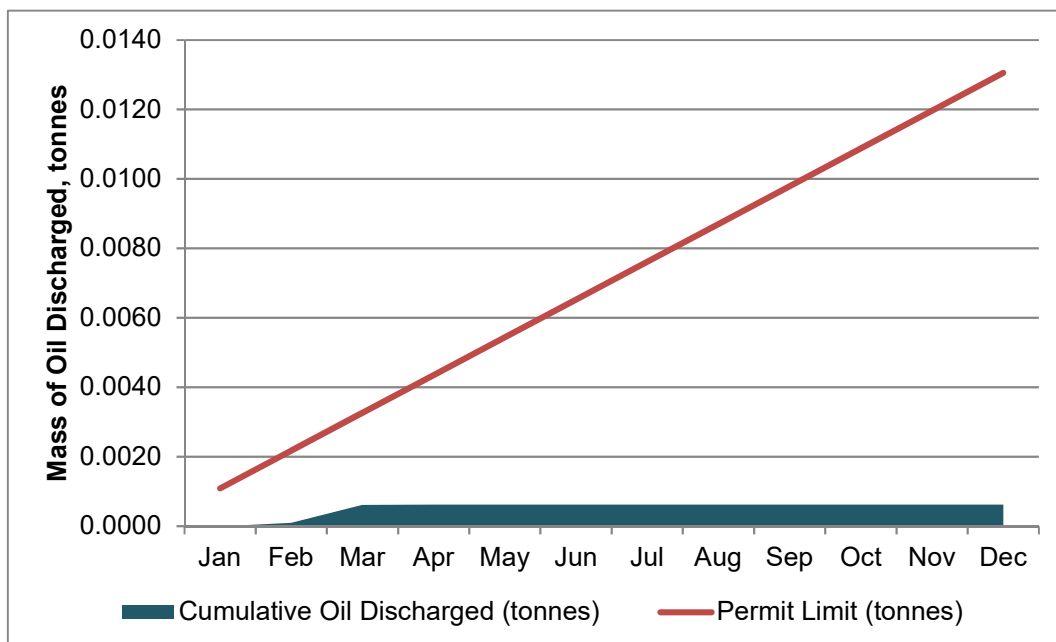


Figure 4.2 – Mass of Oil Discharged in Produced Water from Babbage in 2017

Figure 4.3 shows the average oil in water concentration for Babbage in 2017, up to April 2017 where PW discharges ceased. The OIW performance on the Babbage Platform was very good in 2017, with a maximum POW monthly concentration of 5.530mg/l.

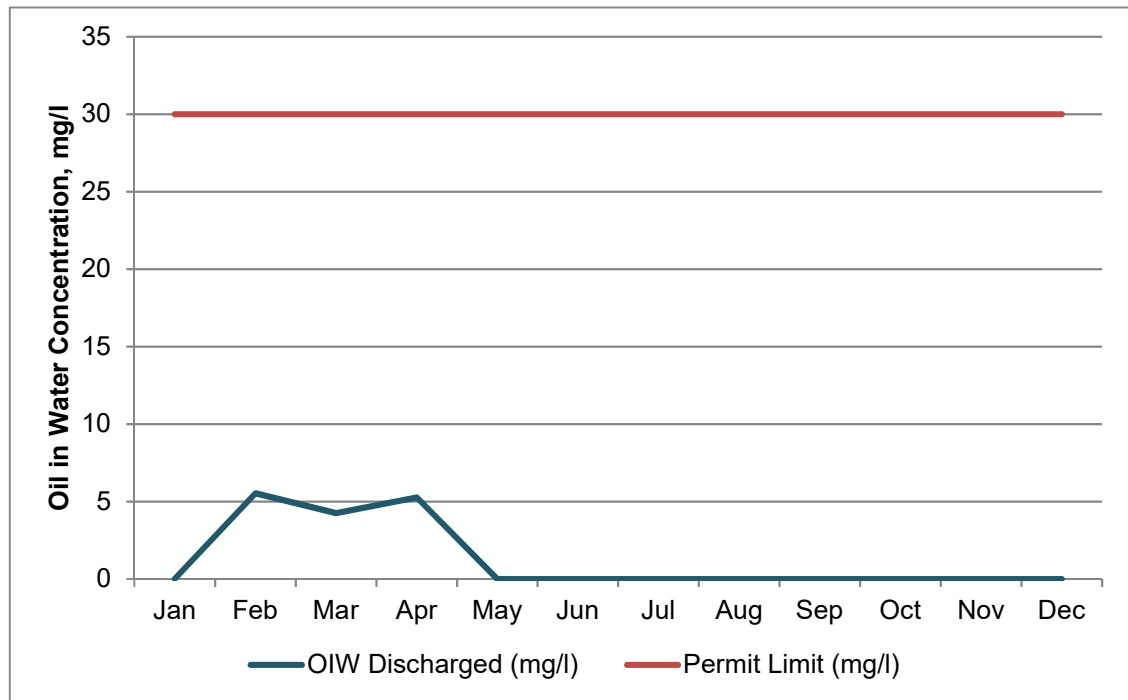


Figure 4.3 – Average Oil in Water Concentration for Babbage in 2017

**(b) Balmoral**

The Balmoral FPV discharges produced water overboard via a dedicated caisson after the water has been separated and then routed through hydro-cyclones and the tilted plate separator to remove entrained oil.

Figure 4.4 shows the cumulative produced water discharges from Balmoral FPV during 2017. The total volume of produced water discharged to sea from the Balmoral FPV was 2,206,136.09m<sup>3</sup> against the permitted volume of 3,641,605m<sup>3</sup>.

This equates to a discharge of 60.5% of the Balmoral FPV permit produced water volume limit and is a decrease in the total amount discharged as compared with 2016 (2,261,808.39m<sup>3</sup>). Produced water volumes expected to increase every year (due to the fact that as wells mature, the percentage of water cut from the reservoir fluids naturally increases). However, in 2017 the number of shut-downs (planned and unplanned) and extended production restrictions, resulted in less produced water/oil in produced water discharged into the sea.

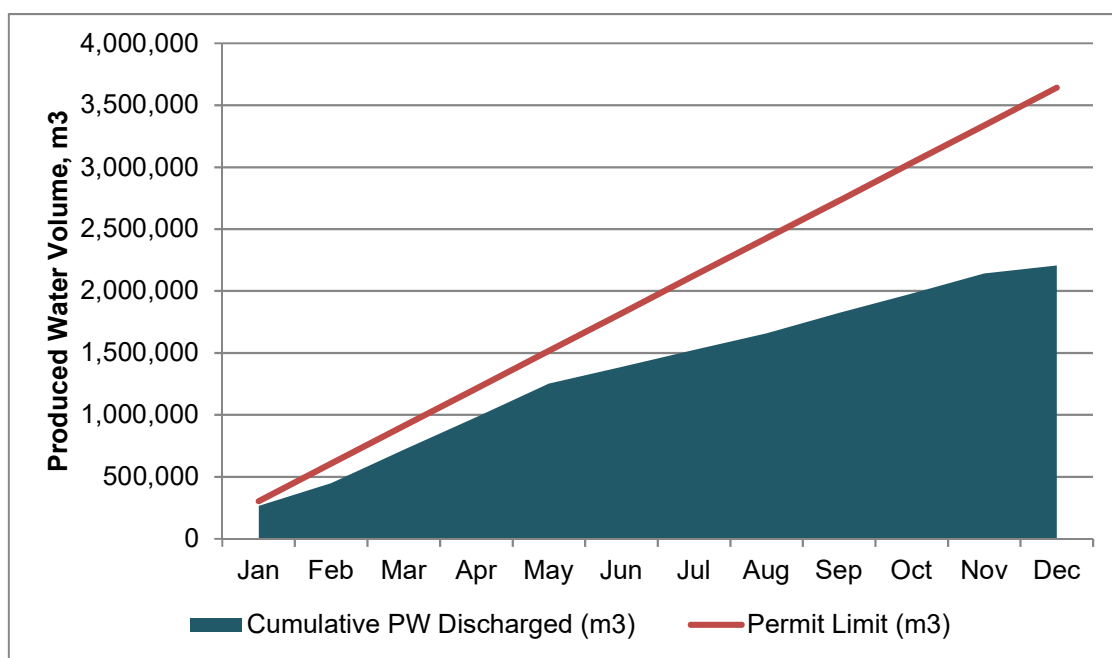


Figure 4.4 – Cumulative Produced Water Discharge from Balmoral in 2017

Figure 4.5 shows the total mass of oil in produced water discharged to sea from the Balmoral FPV in 2017 was 21.74 tonnes. This is about 11% more than the 19.02 tonnes discharged in 2016, however well within the permitted 35.18 tonnes. This is due to the oily water separation process upsets experienced in 2017, where process upsets lead to the relatively higher annual oil in water average concentration.

The average concentration of oil discharged in produced water for Balmoral in 2017 was 9.85 mg/l. Monthly average oil in water concentrations are shown in Figure 4.6. This demonstrate that monthly averages were less than the legally permitted monthly average of 30 mg/l.

Whilst the 2017 average is 14.7% higher than in 2016, it is still significantly below the permitted monthly average. This continued good performance is down to the optimised management of the produced water treatment equipment and the highly efficient chemicals used to remove oil from the produced water before discharge.

Techniques used on Balmoral towards both lowering the concentration of oil in produced water and reducing the amount of oil passed to sea continue to be particularly effective.

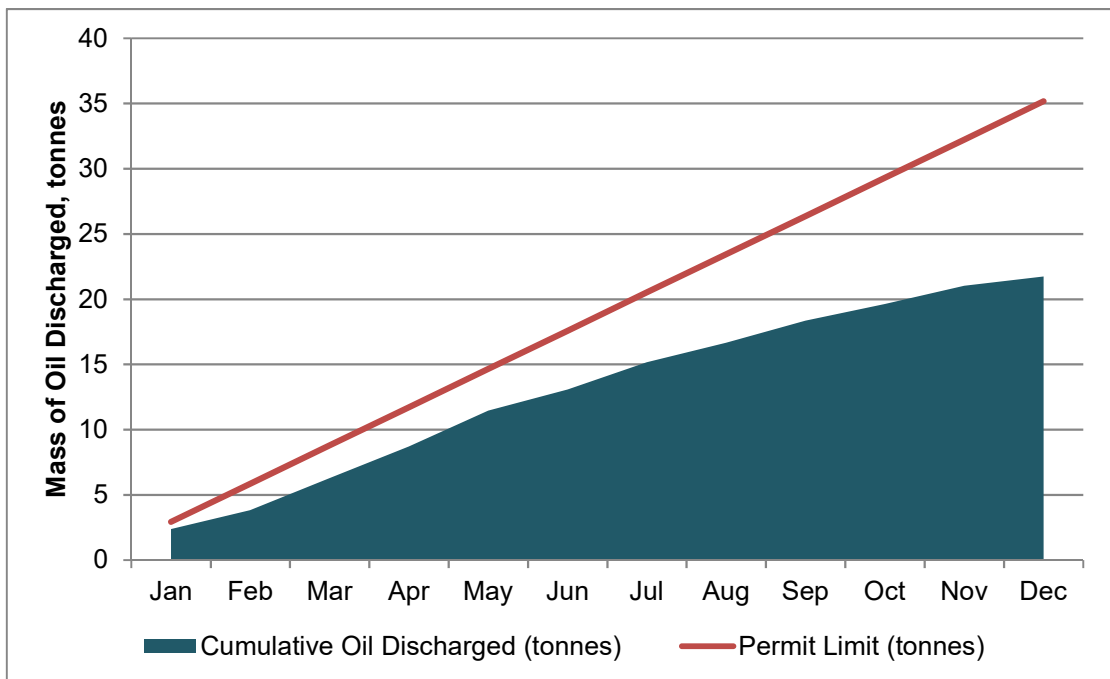


Figure 4.5 – Mass of Oil Discharged in Produced Water from Balmoral in 2017

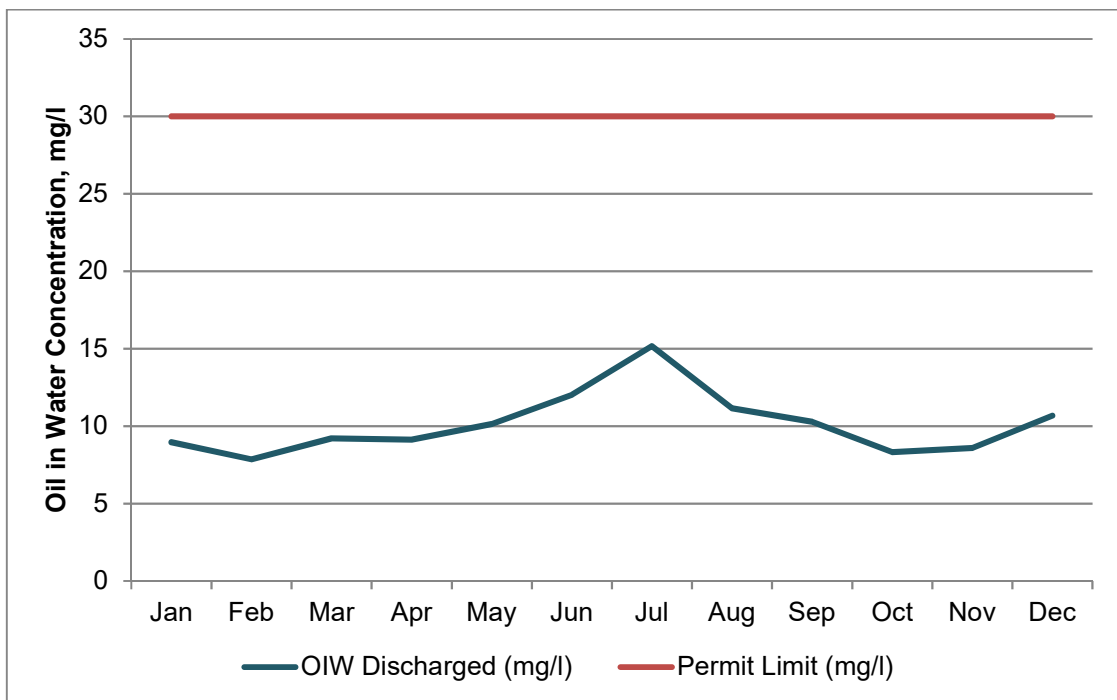


Figure 4.6 – Average Oil in Water Concentration for Balmoral in 2017

**(c) Solan**

Produced water broke through the Solan reservoir early 2017 and was discharged overboard from November 2017 via a bespoke produced water treatment package (PWT). Ballast water from oil displacement within the Subsea Oil Storage tank (SOST) may also be discharged or injected once treated through the dedicated ballast water filters.

The Solan Platform has two options for disposal of produced/ballast water; over board via a dedicated disposal caisson or re-injected into the reservoir via two dedicated water injection wells, W1 and W2. The ballast water is treated through a bank of cartridge filters capable of removing up to 99% of free oil from water prior to disposal overboard or downhole. The produced water is treated through a dedicated treatment package consisting of Hydrocyclones, booster pumps and compact floatation units (CFUs).

Ballast water with small concentrations of hydrocarbons are injected by preference or discharged overboard once treated through the dedicated ballast water absorption filters. A total of 261,907m<sup>3</sup> of ballast water was discharged from the platform in 2017 against a permitted volume of 1,062,678,345m<sup>3</sup>.

Produced water with low concentrations of hydrocarbon are discharged overboard once treated through the PWT. A total of 8,464m<sup>3</sup> of produced water was discharged against a permitted volume of 39,061m<sup>3</sup>. Figures 4.7a&b shows the volume of ballast and produced water discharged in 2017.

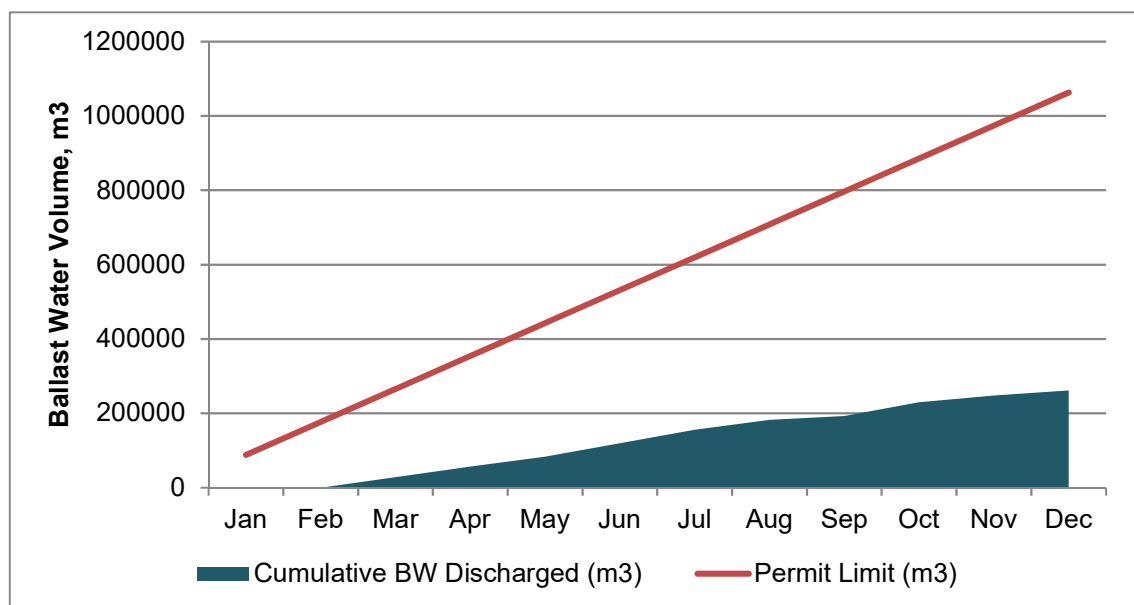


Figure 4.7a – Cumulative Ballast Water Discharge from Solan in 2017



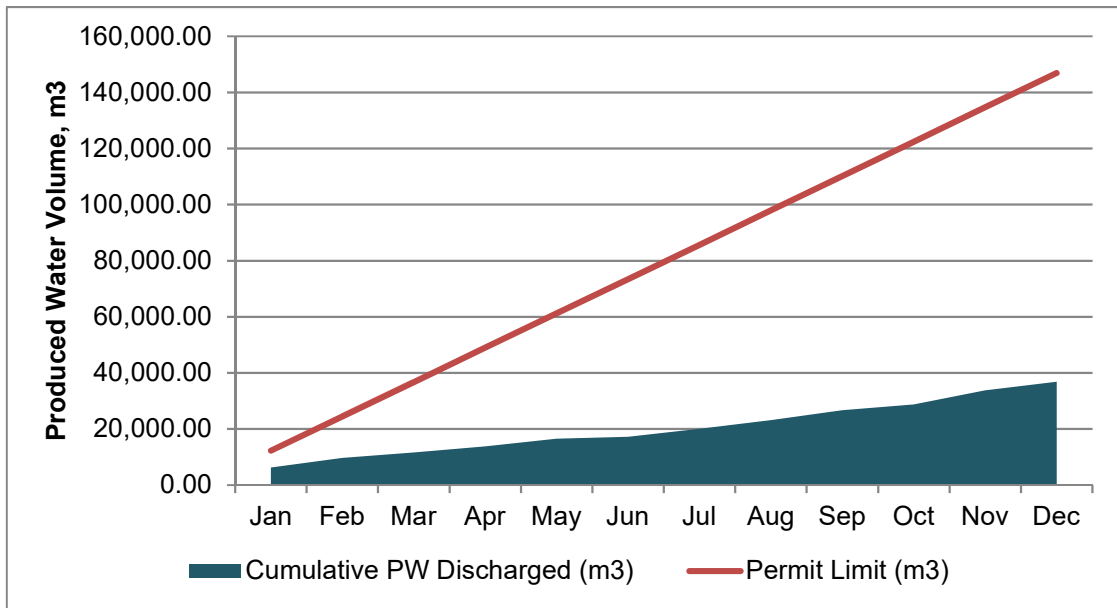


Figure 4.7b – Cumulative Produced Water Discharge from Solan in 2017

Solan was permitted to discharge a total of 0.35 tonnes of hydrocarbon in ballast water in 2017, equating to an average of 10mg/l oil in water concentration. The platform discharged a total of 0.054 tonnes of hydrocarbon (Figure 4.8) with an average concentration of 0.14mg/l (Figure 4.9) within the ballast water due to good interface management within the SOST and treatment through the ballast water filtration package.

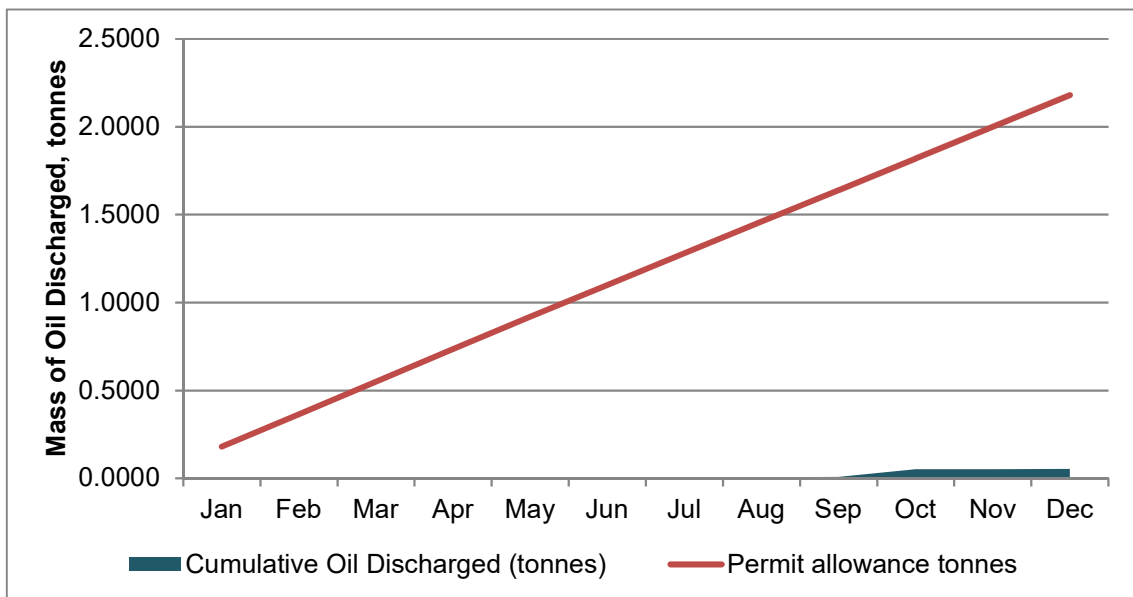


Figure 4.8 – Mass of Oil Discharged in Ballast Water from Solan in 2017

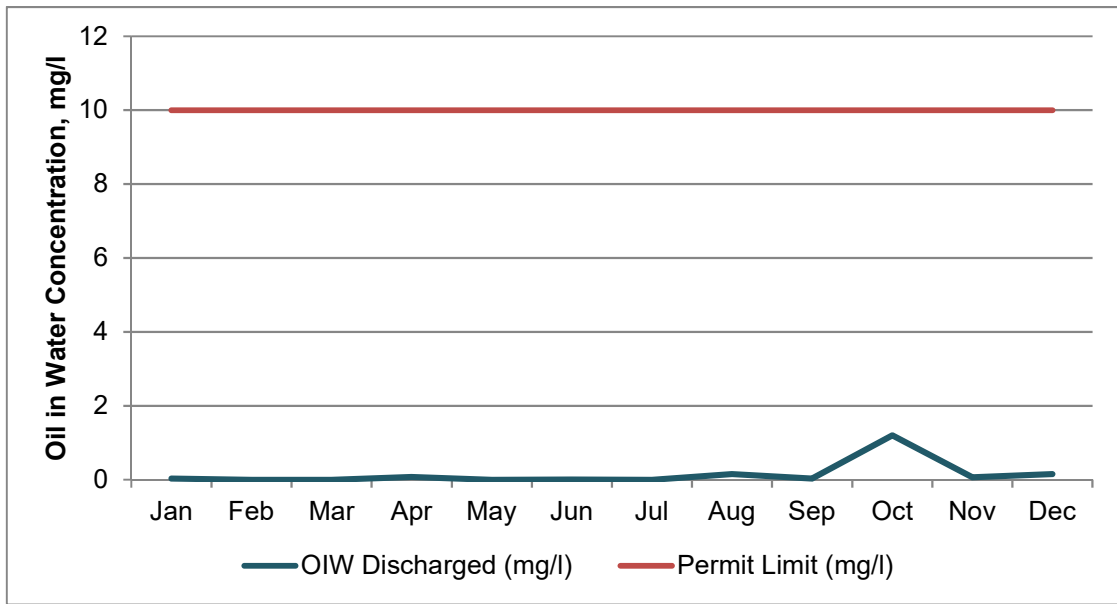


Figure 4.9 – Average Oil in Water Concentration in Ballast water for Solan in 2017

Solan was permitted to discharge a total of 0.78tonnes of hydrocarbon in produced water in 2017 equating to an average of 25mg/l oil in water concentration. The platform discharged a total of 0.0605tonnes of hydrocarbon (Figure 4.10) with an average concentration of 5.15mg/l (Figure 4.11).

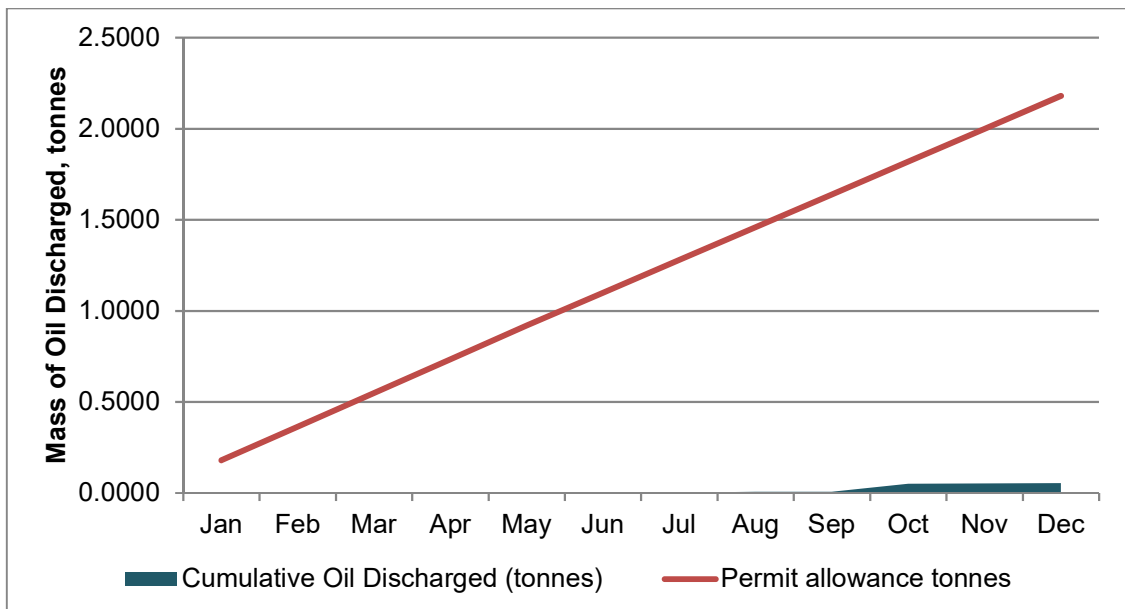


Figure 4.10 – Mass of Oil Discharged in Produced Water from Solan in 2017

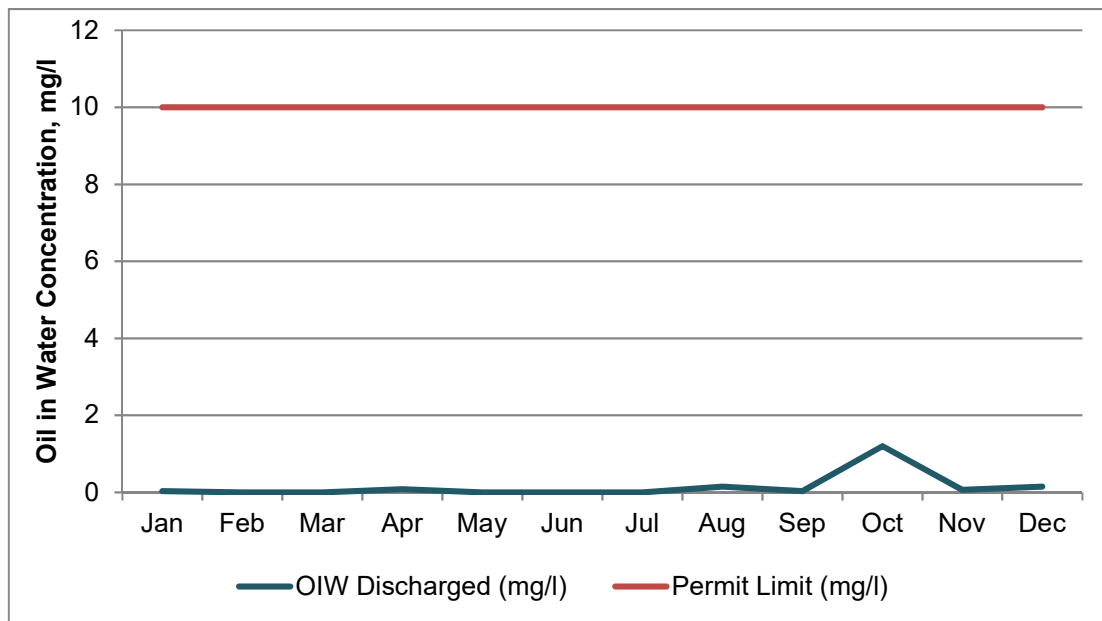


Figure 4.11 – Average Oil in Water Concentration in Ballast water for Solan in 2017

#### (d) Voyager Spirit (Huntington Field)

Produced water can be treated in up to four stages on the Voyager Spirit FPSO before release either via overboard discharge, or to slop tanks, using the following equipment to treat PW:

- 1st and 2nd stage separator
- Hydrocyclone
- Degassing Vessel (inducing gas flotation for coalescing of the oil droplets)
- Filters (Produced Water Filters, Backwashing Filters, And Fine Filters).

Figure 4.12 shows the cumulative produced water discharges from the Voyager Spirit FPSO during 2017. The total volume of produced water discharged to sea from the Voyager Spirit FPSO was 68,076.89 m<sup>3</sup> against the permitted volume of 86,488.23 m<sup>3</sup>. This equates to a discharge of 78% of the Voyager Spirit FPSO permit produced water volume limit. No data is recorded for December, as the Oil Discharge Permit was transitioned to Teekay Petrojarl following Offshore Safety Directive transition.

Figure 4.13 shows the total mass of oil in produced water discharged to sea from the Voyager Spirit in 2017 was 0.462 tonnes.

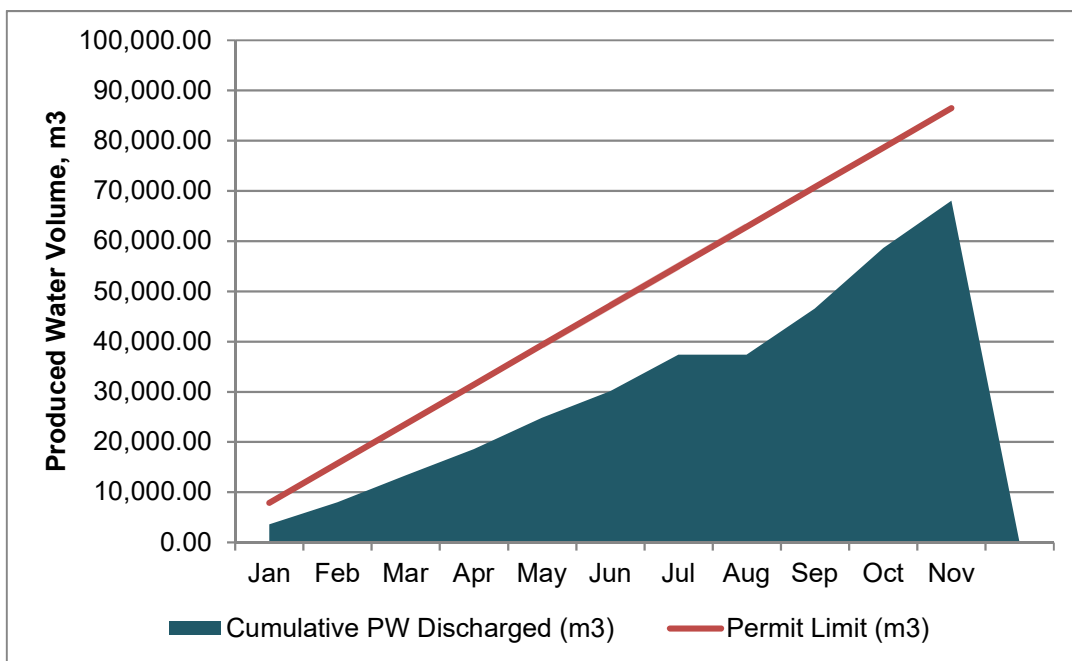


Figure 4.12 – Cumulative Produced Water Discharge from Voyager Spirit in 2017

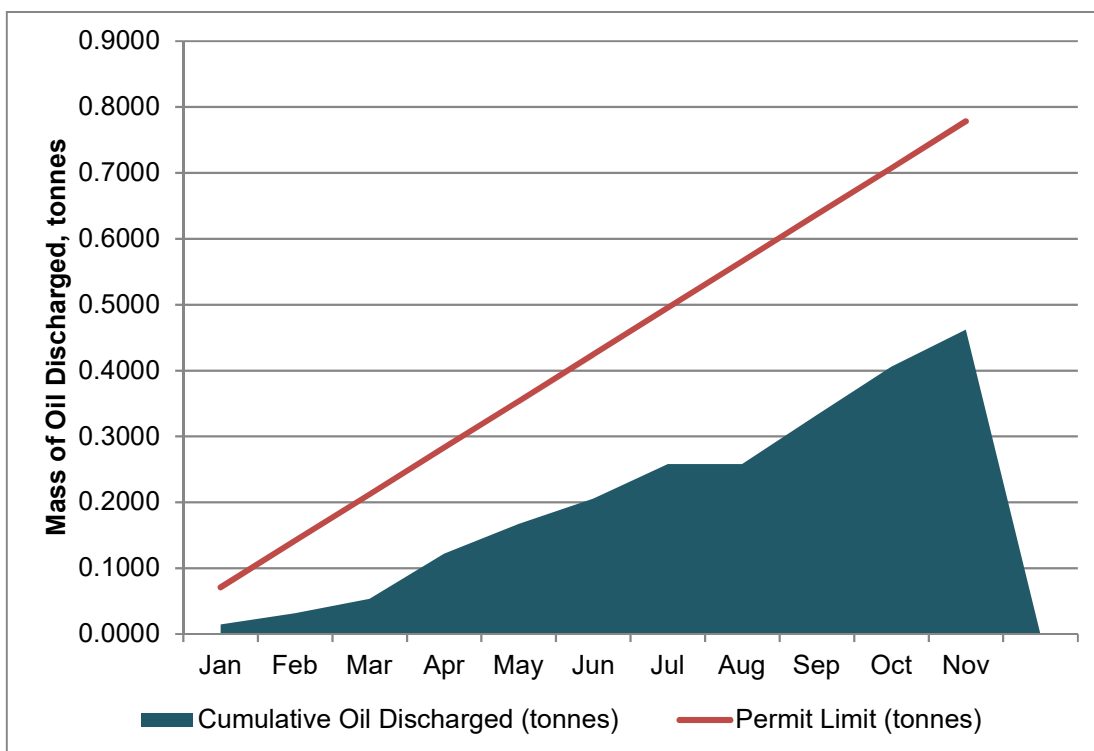


Figure 4.13 – Total Tonnage of Oil Discharged in Produced Water

The average concentration of oil discharged in produced water for the Voyager Spirit FPSO in 2017 was 6.79 mg/l. This compares favourably with the regulatory permitted

monthly average of 30 mg/l. Figure 4.14 presents the rolling monthly average oil in water concentration for the Voyageur Spirit FPSO in 2017.

This continued good performance is down to the optimised management of the produced water treatment equipment.

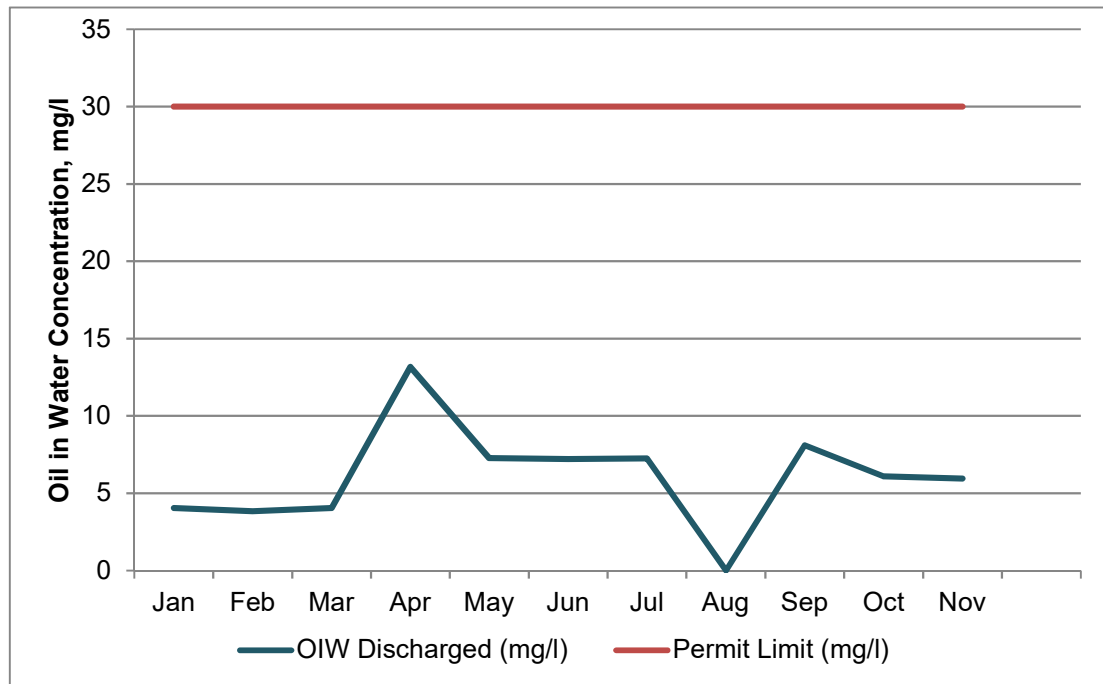


Figure 4.14 – Average Oil in Water Concentration for Voyageur Spirit in 2017

## 4.2 Chemical Use and Discharge

Various chemicals are used offshore in drilling and production operations.

During production operations, chemicals such as scale solvers, corrosion inhibitors, demulsifiers and biocides are used to assist with the separation of oil and water, prevent damage to infrastructure such as pipelines, and to prevent ‘souring’ of the reservoir.

In drilling operations these chemicals include fluids known as ‘drilling muds’, which lubricate and cool the drilling bit, maintain downhole pressure and bring the drill cuttings to the surface.

Any chemical used offshore must, in line with the Offshore Chemical Regulations 2002, first be approved by the Centre for Environment, Fisheries and Aquatic Sciences (CEFAS). The chemicals are subject to robust environmental risk assessment and once approved, their use is controlled and monitored through a permit granted by OPRED.

Under the Offshore Chemical Notification Scheme (OCNS), chemicals are ranked according to the assessed hazard to the environment and are given a lettered heading E, D, C, B or A, with E representing the lowest and A the highest hazard category.

Using the Chemical Hazard and Risk Management (CHARM) model, a colour band is used to show which chemicals pose the highest hazard. These bands are Gold, Silver, White, Blue, Orange or Purple with Gold representing the lowest hazard and Purple the highest.

Some chemicals are regarded as PLONOR (PLO), which means that they have been determined to pose little or no risk to the environment.

Any chemicals which have been identified as posing potential environmental risks (such as bioaccumulation or slow biodegradation) are subject to controls under which their use must first be approved by OPRED. This is backed up by a detailed justification for use of the chemical. Such chemicals carry a 'substitution warning' (SUB) which aims to encourage the phase out of the use of these chemicals.

Premier UK, its contractors and its chemical suppliers work on a continuous basis to find suitable alternatives to replace the products with SUB warnings.

### (a) Babbage

There were no Sub Warning chemicals used on Babbage in 2017. In Figure 4.15, the chemicals used on Babbage during 2017 have been grouped by OCNS category. This figure shows that most of the chemicals used and discharged are rated PLO. From April 2017 onwards, all production chemicals have been zero discharge, with all produced fluids going to Dimlington Terminal.

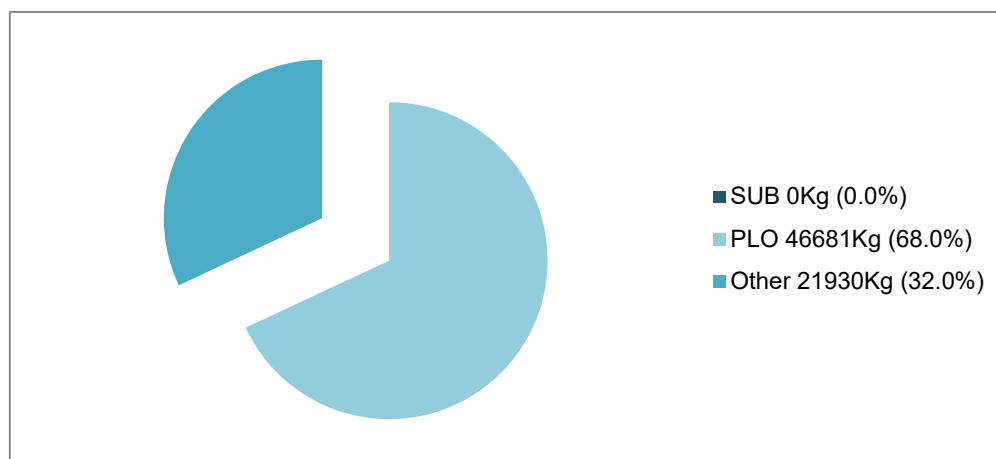


Figure 4.15 – Chemical Use and Discharge during operations, by OCNS Category

## (b) Balmoral FPV

Three chemicals with substitution warnings (SUB) were permitted for use on Balmoral in 2017. These chemicals are detailed in Table 4.1.

Chemical & OCNS Category	Summary of Change Out Review
EC1231A, Nalco Ltd, Corrosion Inhibitor, Gold, 2017	It is the corrosion inhibitor part of this combined SI/CI product that has the sub warning. It is the intention that modelling will be completed on Brenda/Nicol fluids to prove corrosion inhibitor is no longer required, and therefore a new product containing only scale inhibitor can be qualified by completing scale modelling.
EC6152A, Nalco Ltd, Scale Inhibitor, Gold 2017	This scale inhibitor is only used during B3 well scale squeezes. B3 well has been long term isolated since June 2017 due to the integrity issues. It is unclear if B3 will be brought back into production before the COP. In case B3 is brought back online in 2018-2019 it might still have high scale residuals from the previous scale squeeze, this cannot be predicted until samples are taken and analysed.  If B3 is brought back into production in the future, a new non sub scale squeeze chemical will be qualified by Nalco Champion.
SCW85649, Baker Hughes Ltd, Scale Inhibitor, Gold, 2017	This Scale inhibitor is used for Burghley scale prevention. The Burghley well is a Repsol well that is tie-back to the Balmoral FPV.  Discussions are ongoing with Repsol/partners to progress this chemical change out.

*Table 4.1 – SUB Chemicals Permitted for use in Balmoral FPV operations*

30,822 kgs of SUB chemicals were used on Balmoral in 2017. This is 11% less than SUB chemicals use in 2016. EC6152A chemical is only used during B3 well scale squeezes. B3 well has been long term isolated since June 2017 due to the integrity issues, hence reduction of volume. SUB chemicals use in 2016 was 16% of the total 190,976 kgs of chemicals used.

In Figure 4.16 the chemicals used on Balmoral FPV during 2017 have been grouped by OCNS category. This figure shows that 6.2% of all the chemicals used and discharged are rated PLO.

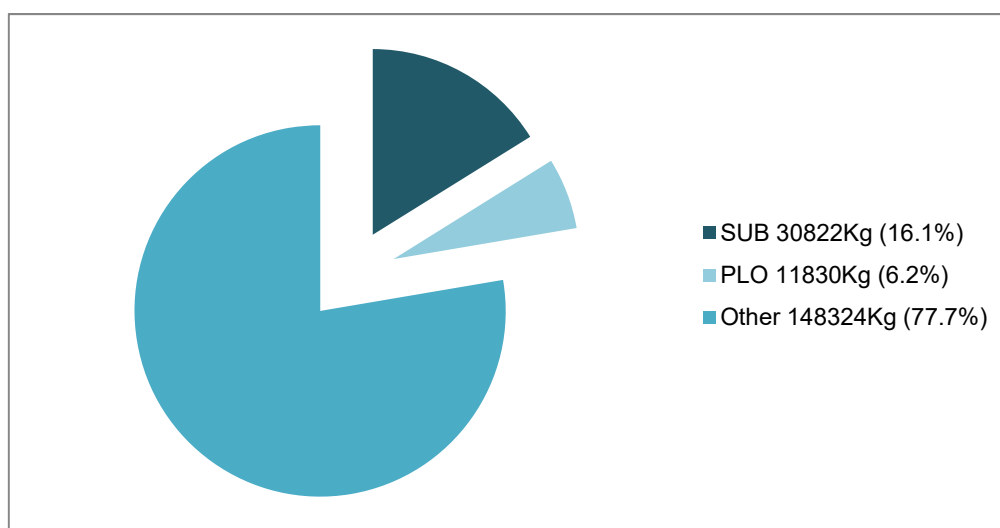


Figure 4.16 – Chemical Use and Discharge during operations, by OCNS Category

### (c) Solan

A total of 4 chemicals identified for substitution were used and / or discharged from Solan in 2017. The majority were relating to chemicals contained within the SOST and flowlines from commissioning of the field. 27202.8kgs of chemical identified for substitution were discharged from Solan in 2017.

Chemical & OCNS Category	Summary of Change Out Review
EC6718A, Nalco Ltd, Biocide, Gold 2017	Alternative biocides are available but not as effective for application to the SOST and able to penetrate biofilms as effectively. Manufacturer continues to research alternative greener technologies.
EC9242A, Nalco Ltd, Antifoam, Gold, 2017	Manufacturer continues to research an alternative with greener technology. This product is currently not in use and will only be used if foaming is seen in the offshore production stream.
EC2217A, Nalco Ltd, Demulsifier, Gold, 2017	Nalco Champion recognises that EC2217A is flagged for substitution and we have a continuous program of development of new, more environmentally friendly products.
Oceanic HW 443, MacDermid, Hydraulic Fluids, 2017	Although greener alternatives are available the component which attracts the substitution warning is the fluorescent dye which has been deemed as important aspect to monitoring of the subsea infrastructure on Solan and therefore the fluid will remain in use.

Table 4.2 – SUB Chemicals Permitted for use in Solan operations



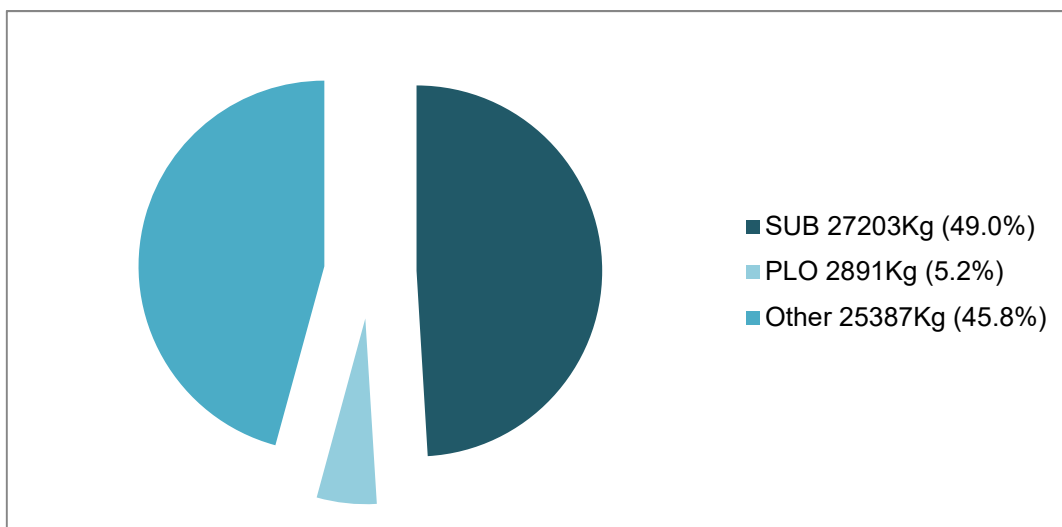


Figure 4.17 – Chemical Use and Discharge during operations, by OCNS Category

**(d) Voyager Spirit (Huntington Field)**

One chemical with a substitution warning (SUB) were permitted for use on the Voyager Spirit FPSO in 2017. CRW85733 (Corrosion Inhibitor) was included on the permit as a contingency chemical but there was no use of it in 2017. The SUB warning was removed at the start of 2018.

The chemicals are detailed in Table 4.4.

Chemical & OCNS Category	Summary of Change Out Review
CRW85733 Corrosion Inhibitor Baker Hughes Ltd.	SUB warning was added but no chemical used or discharged.

Table 4.3 – SUB Chemicals Permitted for use in Voyager Spirit FPSO operations

In Figure 4.18 the chemicals used on the Voyager Spirit FPSO during 2017 have been grouped by OCNS category. This figure shows that most of the chemicals used and discharged are rated Other.

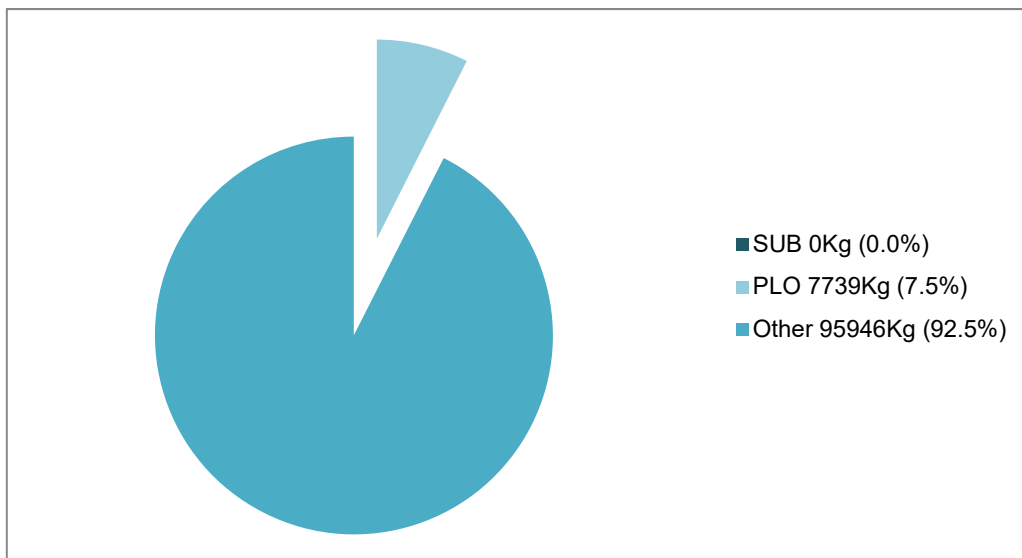


Figure 4.18 Chemical Use and Discharge during operations, by OCNS Category

**(e) Catcher Drilling (Ensco 100)**

A total of 32 chemicals with SUB warnings were permitted for use during Catcher Area drilling operations for the five wells completed in 2017; a reduction from the 35 permitted for use during 2016 drilling operations. Of the 32 chemicals, 16 have been used during drilling operations in 2017.

The quantity of SUB chemicals used during 2017 drilling operations fell by 7155 kg (7.155 tonnes), making up only 0.2 % of the total chemicals used over the course of the five wells. Figures 4.19 and 4.20 show the percentage of SUB and PLO chemicals used and discharged relative to other chemicals. These figures group the chemicals by OCNS category, and demonstrate that 74.2 % of all the chemicals used and 98.6 % of those discharged, were rated PLO.

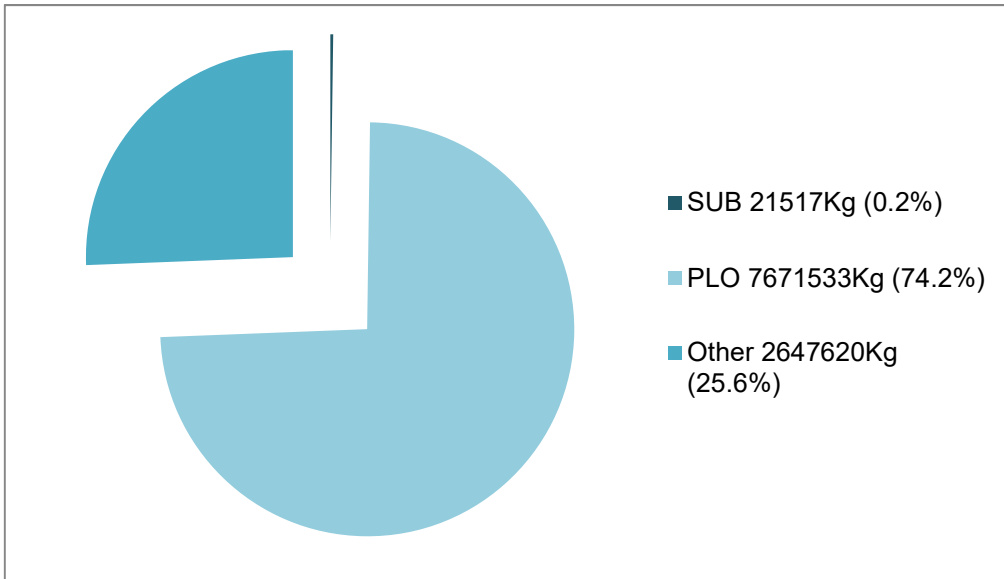


Figure 4.19 – Chemical Use during drilling operations by OCNS

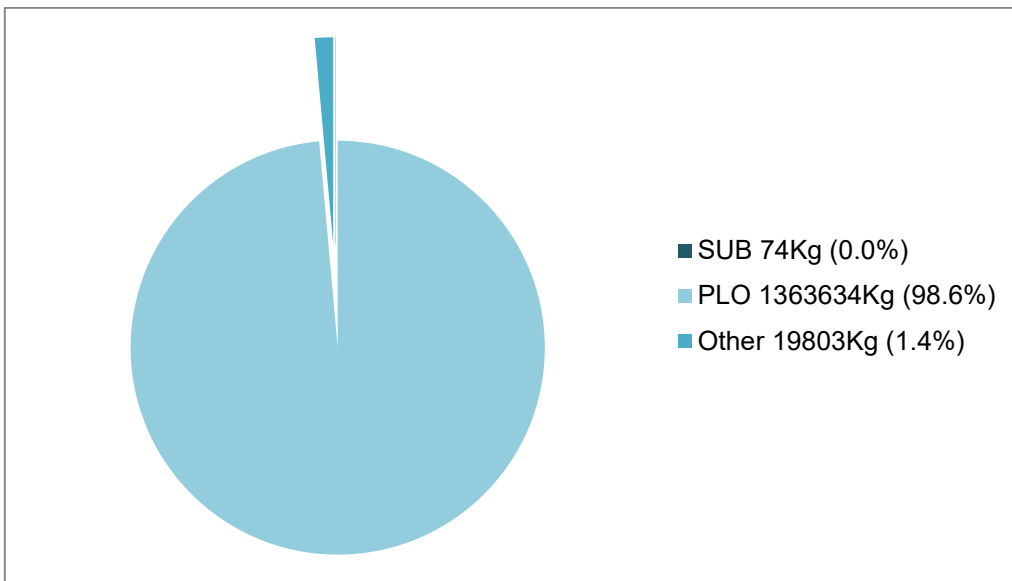


Figure 4.20 – Chemicals Discharged during drilling operations by OCNS

### 4.3 Waste

Waste is generated from offshore operations and is transported onshore for re-use, recycling, treatment or disposal.

On both production and drilling installations, waste is segregated into categories before back-loading. As much waste as possible is sent for recycling. This includes wood, scrap metals, paper/cardboard, glass and plastics.

Waste that cannot be recycled is sent to landfill. Certain types of waste that are harmful to the environment (Special Waste) are sent ashore to be processed and disposed of by licensed handlers in accordance with the relevant legislation.

Premier continues to target areas where the amount of waste generated can be further reduced. E-reps are actively involved in continuous awareness raising and reduction of waste initiatives.

**(a) Babbage**

A total of 34.28 tonnes of waste was disposed of from the Babbage platform in 2017. Babbage recycled 42.5% of its waste during the year. The majority of non-recycled waste was sent for treatment. Figure 4.21 shows the fate of waste produced from the Babbage platform.

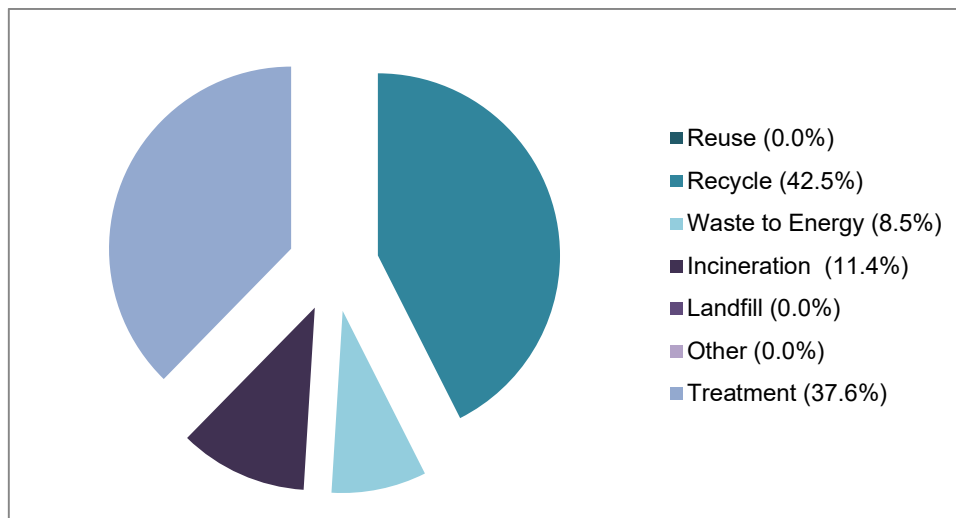


Figure 4.21 Babbage Waste Disposal Routes

**(b) Balmoral**

A total of 214.119 tonnes of waste was disposed of from the Balmoral FPV in 2017 compared to 164.2 tonnes in 2016. The increase of the total waste generation was due to the number of construction and obsolete equipment dismantlement work scopes.

Balmoral recycled about 71% of its waste during the year. This is consistent with the waste recycled in 2016. Throughout 2017 participation of Environmental

Representatives (E-reps) and continuous waste management awareness raising contributed in good overall performance. Figure 4.22 shows the fate of waste produced from the Balmoral FPV in 2017.

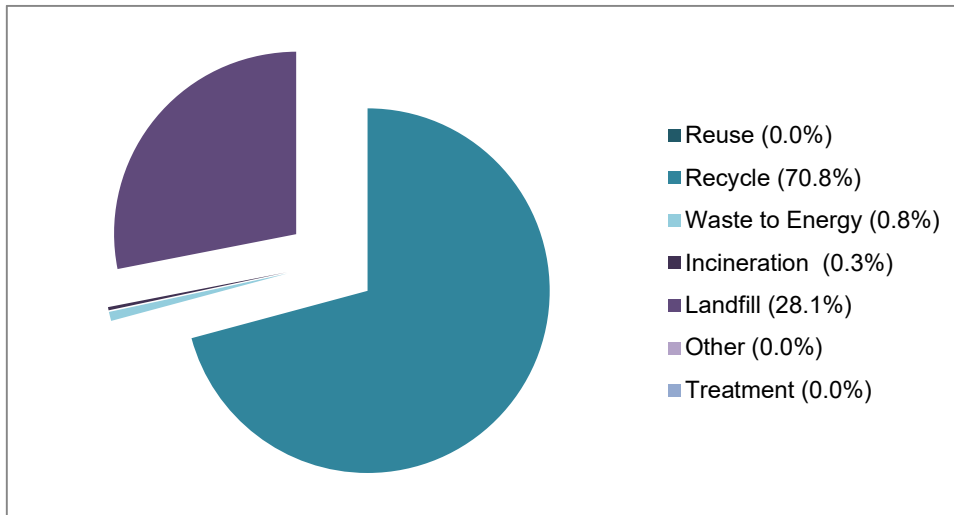


Figure 4.22 – Balmoral Waste Disposal Routes

**(c) Solan**

A total of 106 tonnes of waste was generated on Solan in 2017. Of this 28.8tonnes (27%) was sent to landfill and 73.5 tonnes (69%) was recycled.

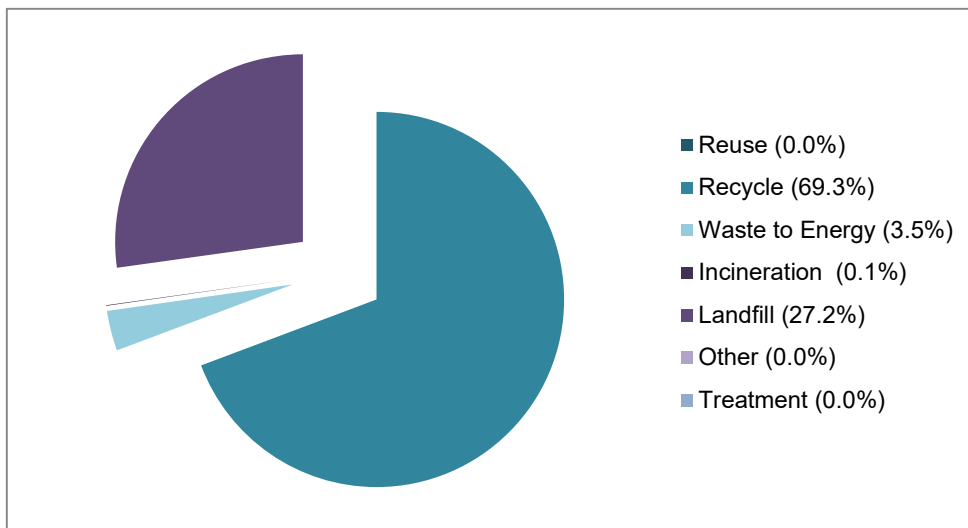


Figure 4.23 Solan waste disposal routes

**(d) Voyager Spirit (Huntington Field)**

A total of 107.09 tonnes of waste was disposed of from the Voyager Spirit FPSO in 2017. The Voyager Spirit FPSO recycled 63.2% of its waste during the year. The majority of non-recycled waste was sent to landfill. Figure 4.24 shows the fate of waste produced from the Voyager Spirit FPSO.

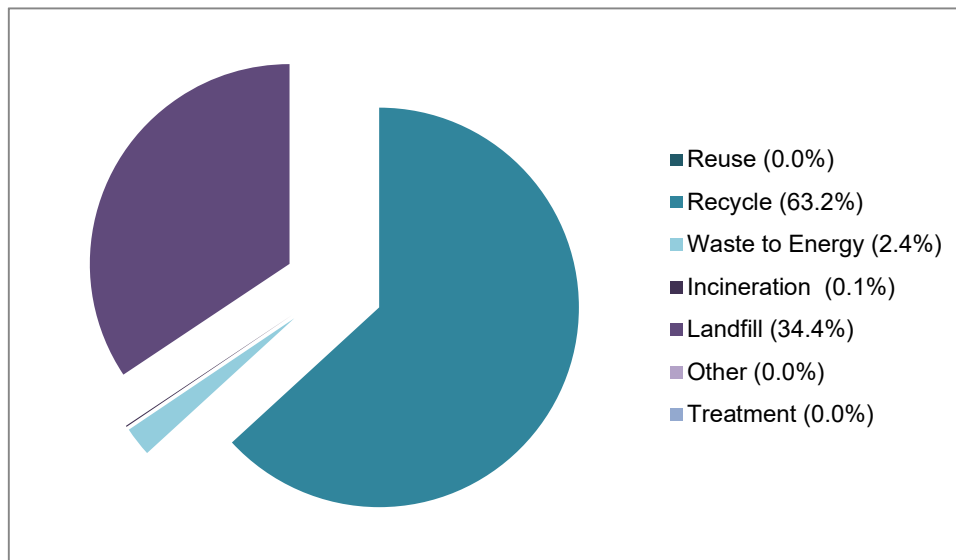


Figure 4.24 – Voyager Spirit Waste Disposal Routes

**(e) Catcher Drilling (Ensco 100)**

During 2017, 2,367 tonnes of drilling waste (e.g. back loaded drill cuttings) was generated during drilling operations, of which 262 tonnes (11 %) of oil was recycled. In addition to this, 983 tonnes of operational waste (e.g. waste generated on the rig) was disposed of from the rig. Of this 983 tonnes, 684 tonnes (69.6%) was recycled, 243 tonnes (24.7 %) was sent to landfill and the remaining 56 tonnes (5.7 %) was either treated or waste to energy.

Figure 4.25 shows the Operational Waste from the Drilling Rig used for Catcher Area drilling operations during 2017.

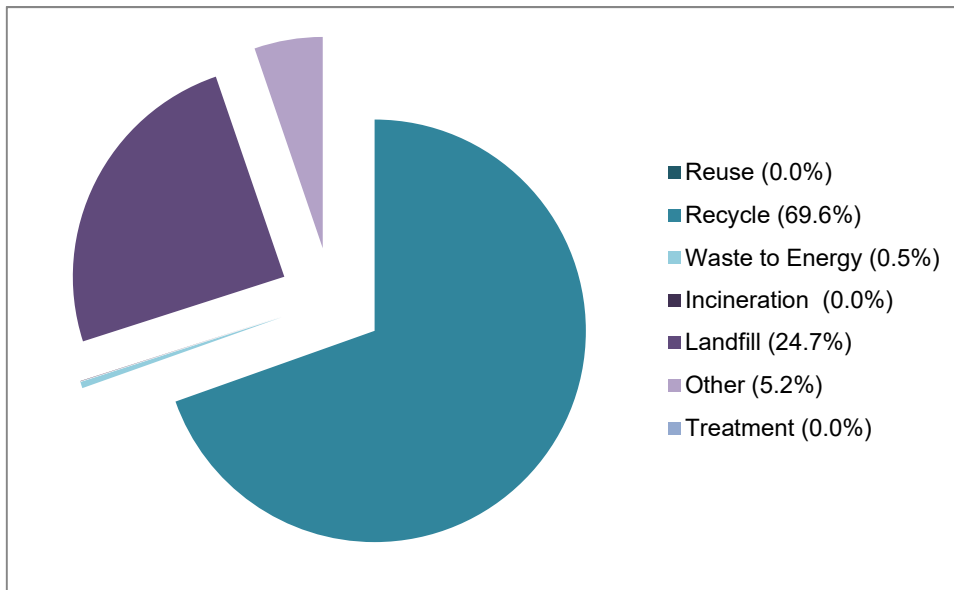


Figure 4.25 – Ensko 100 Waste Disposal Routes

**(f) Catcher**

A total of 51 tonnes of waste was disposed of from the BW Catcher FPSO during 2017. Of this figure, 22 tonnes (43%) of general waste was landfilled, c. 20 tonnes (38.9%) of general and special wastes were recycled and 9 tonnes (18%) of segregated recyclables were converted to energy.

Figure 4.26 shows the fate of the Operational Waste from the BW Catcher FPSO.

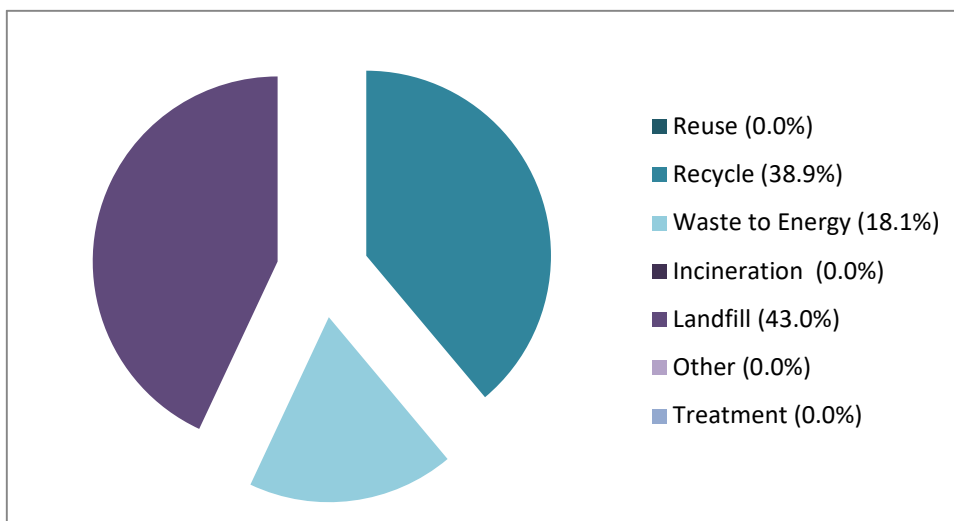


Figure 4.26 – BW Catcher Waste Disposal Routes

## 4.4 Atmospheric Emissions

Atmospheric emissions arise during offshore drilling and production operations predominantly as a result of fuel combustion for power generation and gas flaring activities.

### (a) Babbage

Due to the size of the installation and the installed thermal capacity of the power generation equipment, Babbage does not fall under the requirements of the Pollution, Prevention and Control (PPC) Regulations or the European Union Emissions Trading System (EU ETS) Regulations.

### (b) Balmoral

The Balmoral FPV is regulated under the Pollution, Prevention and Control (PPC) Regulations as a large combustion installation. As such, the installation has set limits on atmospheric emissions of nitrous oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), carbon monoxide (CO), methane (CH<sub>4</sub>) and volatile organic compounds (VOCs).

Figure 4.27 below shows the combustion emissions (excluding CO<sub>2</sub>) for 2017.

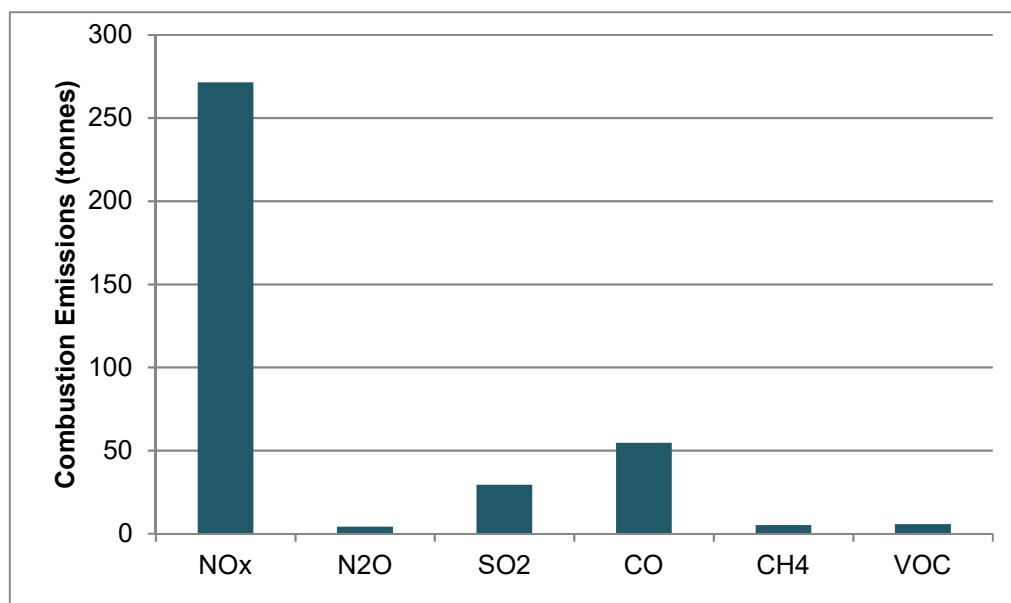


Figure 4.27 – Combustion Emissions from Balmoral in 2017

All emissions were within limits set by BEIS in the Balmoral PPC Permit.



Balmoral is also regulated under the European Union Emission Trading System (EU ETS) Regulations, which regulate CO<sub>2</sub> emissions for combustion sources, such as turbines and flaring. Balmoral has no gas export route and as a result, produced gas is used as fuel gas or is flared from the installation.

CO<sub>2</sub> emissions as a result of combustion sources are presented in Figure 4.28.

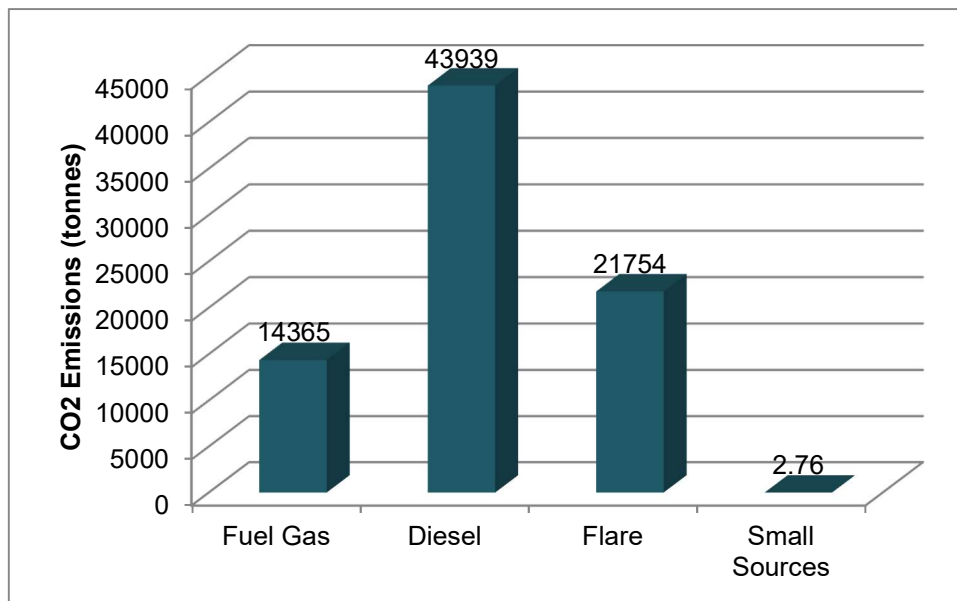


Figure 4.28 – CO<sub>2</sub> Emissions from Balmoral Combustion and Flaring in 2017

During 2017, 80,060 tonnes of CO<sub>2</sub> were emitted from combustion and flaring on Balmoral. Of these emissions, 73% were as a result of combustion for power generation and the remaining 27% resulted from the flaring of excess gas.

CO<sub>2</sub> emissions decreased by approximately 1% compared to 2016 levels; this indicates the energy efficiency initiatives implemented over the last couple of years have been maintained by Balmoral. During normal operations, Balmoral FPV runs with one turbine on fuel gas and one turbine on diesel. This reduction is also due to the increased number of shut-downs (planned and unplanned) and production restrictions during 2017.

**(c) Solan**

Solan is regulated under the European Union Emission Trading System (EU ETS) Regulations, which regulate CO<sub>2</sub> emissions for combustion sources, such as turbines and flaring. Solan has no gas export route and as a result, produced gas is used as fuel gas or is flared from the installation.

A total of 38,093 tonnes of CO<sub>2</sub> were emitted from the Solan platform in 2017, 11% from fuel gas combustion, 45% from flare gas emissions and 43% from diesel combustion.

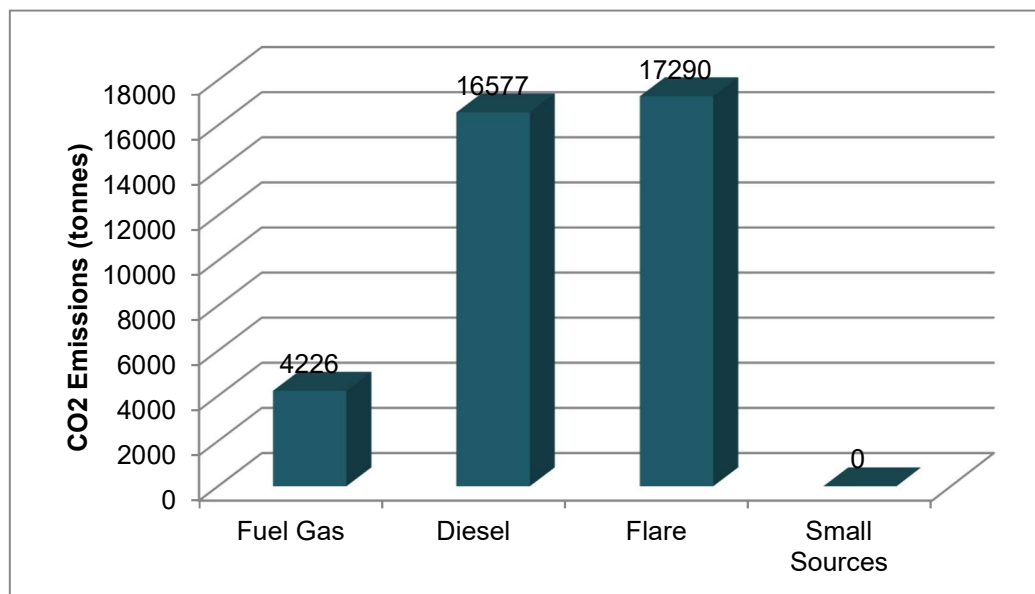


Figure 4.29 – CO<sub>2</sub> emissions from combustion and flaring

**(d) Voyager Spirit (Huntington Field)**

The Voyager Spirit FPSO is regulated under the Pollution, Prevention and Control (PPC) Regulations as a large combustion installation. As such, the installation has set limits on atmospheric emissions of nitrous oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), carbon monoxide (CO), methane (CH<sub>4</sub>) and volatile organic compounds (VOCs).

Figure 4.30 shows the combustion emissions (excluding CO<sub>2</sub>) for 2017.

All emissions were within limits set by OPRED in the Voyager Spirit FPSO PPC Permit.

The Voyager Spirit FPSO is also regulated under the European Union Emission Trading Scheme (EU ETS) Regulations, which regulate CO<sub>2</sub> emissions for combustion sources, such as turbines and flaring. Gas is exported via the CATS pipeline.

CO<sub>2</sub> emissions as a result of combustion sources are presented in Figure 4.31.

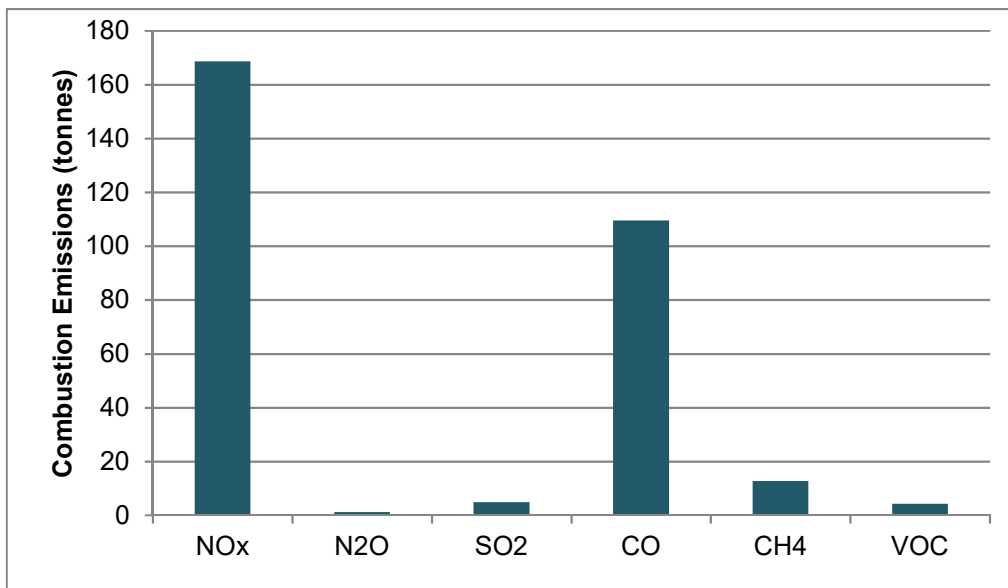


Figure 4.30 Voyager Spirit FPSO Combustion Emissions

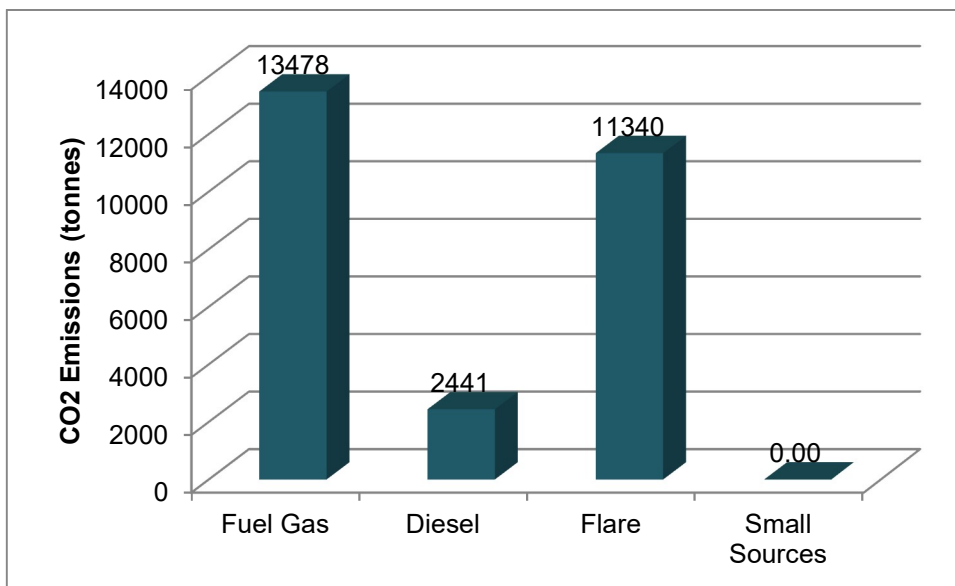


Figure 4.31 Voyager Spirit FPSO CO<sub>2</sub> Emissions: Combustion and Flaring

**(e) Catcher Drilling (Ensco 100)**

Atmospheric emissions generated during Catcher Area drilling operations, were as a result of well test operations. There were five well test operations undertaken during 2017. Combustion emissions from Catcher Area drilling operations (excluding CO<sub>2</sub>) in 2017 are shown in Figure 4.32. In addition, 28,183 tonnes of CO<sub>2</sub> were released during these operations, as shown in Figure 4.33.

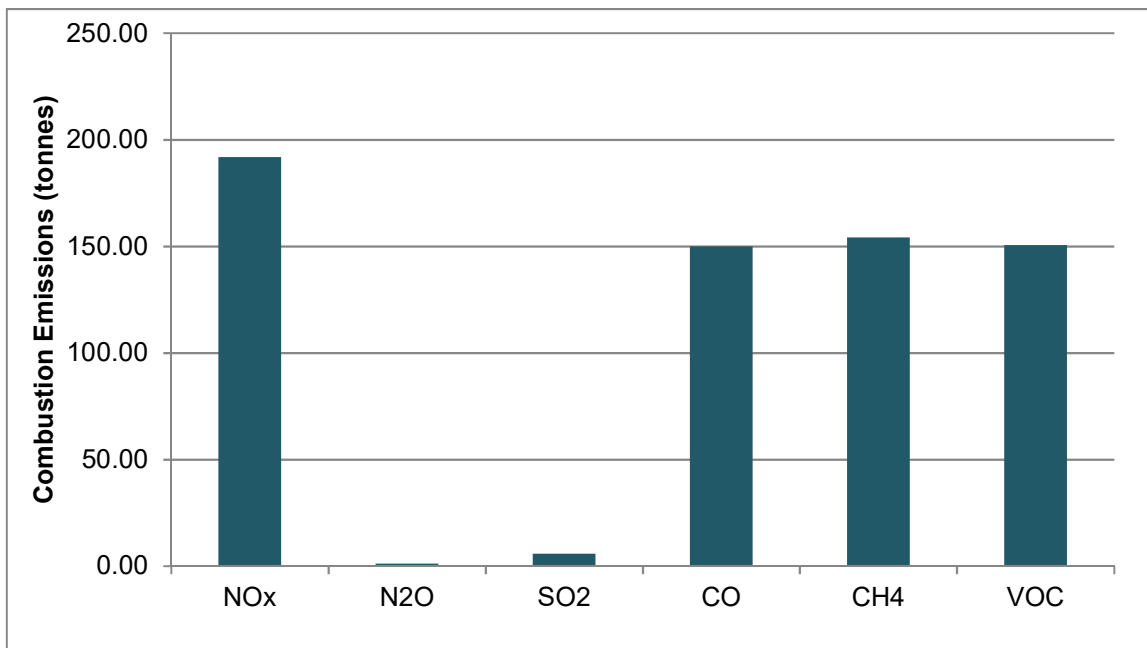


Figure 4.32 – Combustion Emissions Catcher Drilling Operations

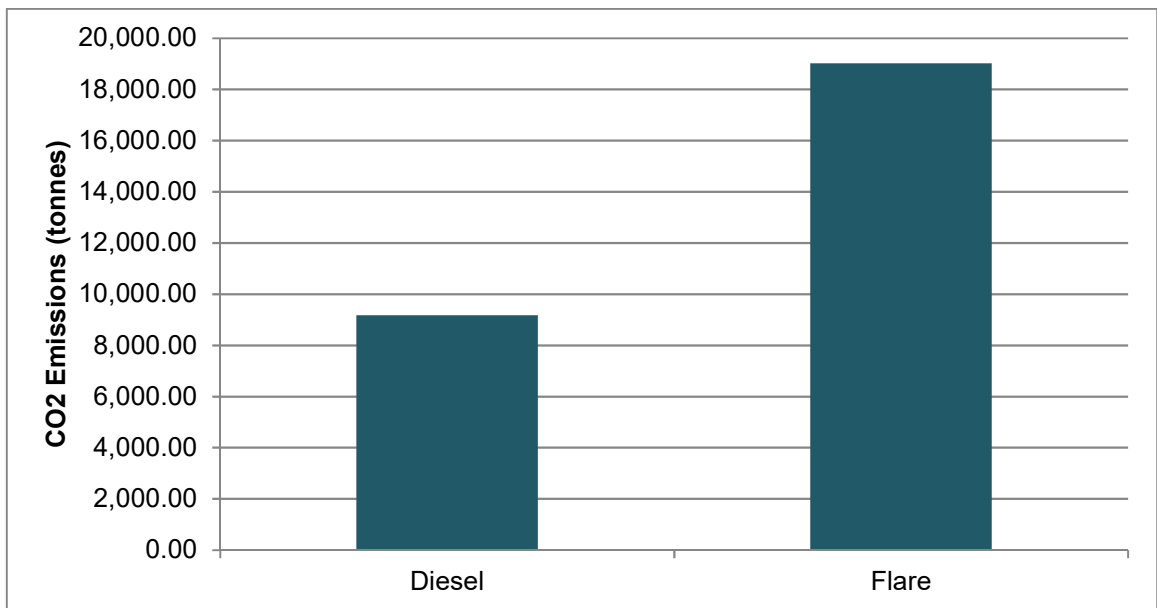


Figure 4.33 – Carbon Dioxide Emissions Catcher Drilling Operations

(f) **BW Catcher**

The BW Catcher FPSO is regulated under the:

- European Union Emission Trading System (EU ETS) Regulations, which regulate CO<sub>2</sub> emissions for combustion sources, such as turbines and flaring; and

- Pollution, Prevention and Control (PPC) Regulations which set limits on atmospheric emissions of nitrous oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), carbon monoxide (CO), methane (CH<sub>4</sub>) and volatile organic compounds (VOCs).

As described in Section 2.1, the BW Catcher EU ETS permit, flare and vent consents are owned by Premier UK. In contrast, the PPC permit is owned and will be reported against separately by BWOCUK.

Figure 4.34 illustrates the CO<sub>2</sub> emissions from combustion and flaring activities. During 2017, fuel gas was not commissioned and therefore only CO<sub>2</sub> emissions from diesel combustion and flare gas were reported.

A total of 6,087 tonnes of CO<sub>2</sub> were emitted from the BW Catcher FPSO in 2017, 68% from diesel combustion and 32% from flare gas emissions.

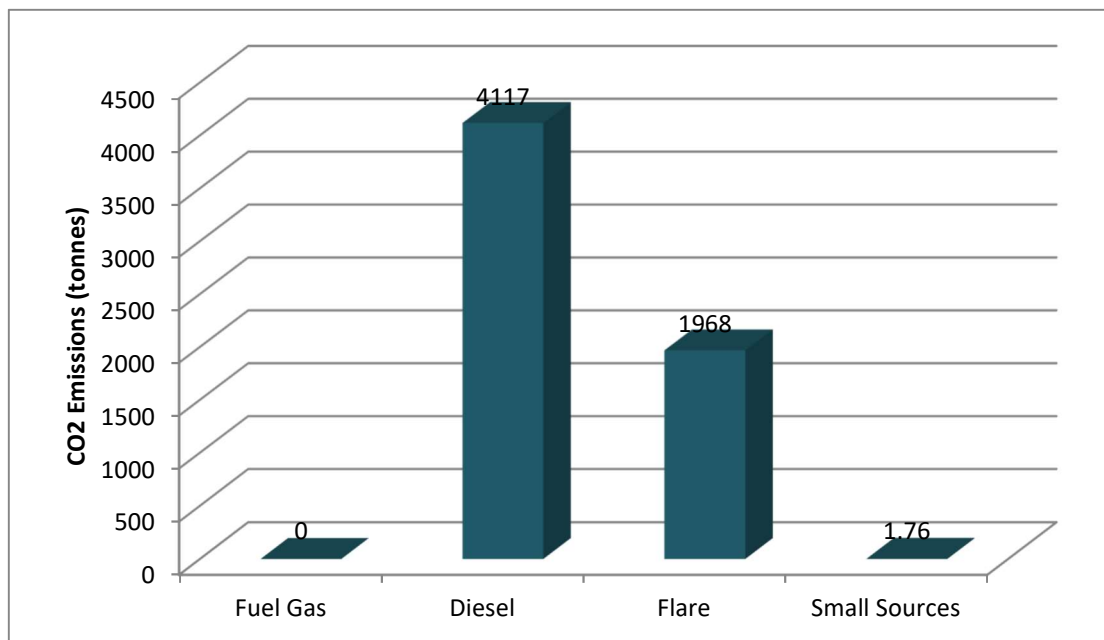


Figure 4.34 – CO<sub>2</sub> emissions from combustion and flaring

## 5.0 INCIDENTS

Premier UK strives to prevent the unplanned release of hydrocarbons and chemicals, however, on occasion accidental releases do occur. All unplanned releases of hydrocarbons and chemicals to sea from offshore oil and gas installations and pipelines, regardless of size, are reported to OPRED and other statutory agencies via the Petroleum Operations Notice 1 (PON1) form. Permitted Discharge Notifications (PDNs) are also submitted using PON 1 forms when permitted discharges are in breach of conditions / limits associated with the installations Oil Discharge Permit.

A number of processes are in place to prevent unplanned releases and these include planned maintenance of equipment, asset integrity inspections, activity risk assessment, area inspections, pre-acceptance drill rig and routine audits, procedural controls and training and competency for individuals interacting with process plant. Oil Pollution Emergency Plans (OPEPs) approved by OPRED are in place covering all operational assets including third party drilling installations. These plans are exercised on a regular basis and followed in the event that an unplanned release does occur, to ensure that the incident is reported in a timely fashion and that contingency and mitigation measures are in place.

### 5.1 Unplanned Releases – PON 1

During 2017, a total of 27 PON1s were submitted to the regulator for unplanned releases. 19 of these reports were directly attributable to assets directly operated by Premier UK or operated by Installation Operators (IOs) appointed by Premier UK (Figure 5.1). These releases equate to a total of 1.74 tonnes of hydrocarbon and 10.75 tonnes of chemical released.

As shown in Figure 5.2 a further 8 PON1s were submitted in relation to facilities not directly operated by Premier. These included three PON1s from drilling rig activities, four from subsea construction vessel activity on the Catcher field and a further single PON submitted in relation a sheen identified during platform Supply Vessel operations.

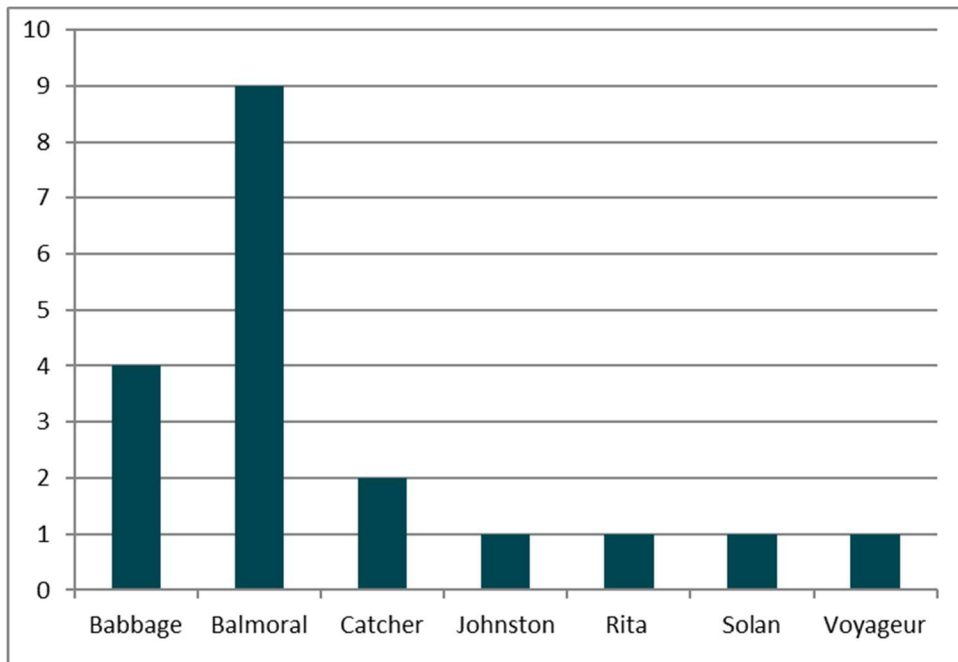


Figure 5.1 Unplanned releases from Premier Operated Assets during 2017

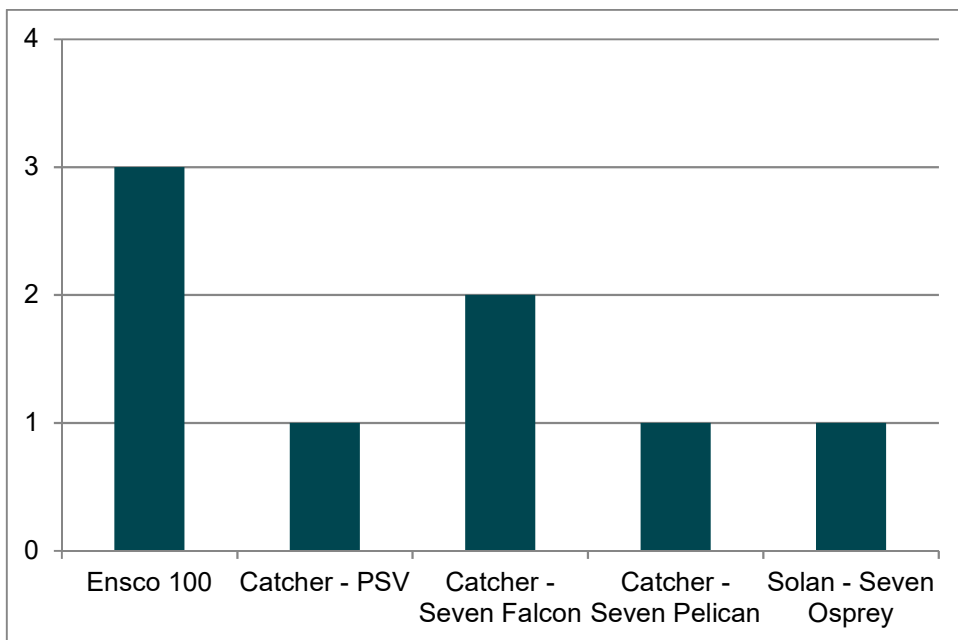


Figure 5.2 Unplanned releases from Assets Controlled by Third Parties during 2017

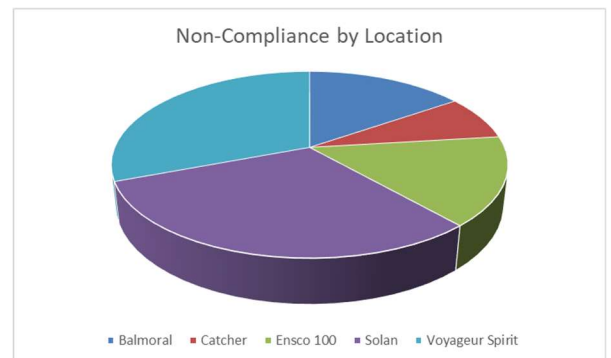
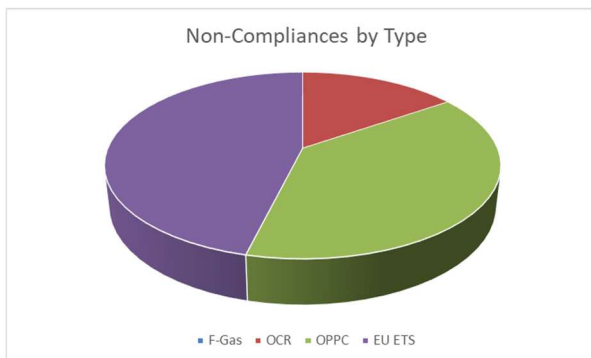
During 2017 there was a significant reduction in the number of releases reported as opposed to 2016 (27 as compared to 39 in 2016). This is attributed to a continued focus on spill prevention, ongoing hazard awareness training and improvements in operational control procedures.

Although the mass of hydrocarbon release was less in 2017 as compared to 2016 (1.74 tonnes as compared to 2.75 tonnes in 2016), unfortunately the mass of chemical released increased from c. 3 tonnes in 2016 to over 10 tonnes in 2017. The majority of this release mass resulted from 3 subsea infrastructure related releases, with one single incident contributing c. 8.5 tonnes to the total mass released. This release resulted from a failure on the Balmoral Field subsea infrastructure which led to a release of subsea hydraulic fluid.

The subsea hydraulic fluid concerned was a PLONOR chemical, meaning it had been determined to pose little or no risk to the environment. However, an Environmental Impact Assessment was conducted to assess the impact of the worst case loss of this fluid and this report concluded that the release rate encountered resulted in no significant impact on the environment. In addition, Premier UK continuously monitored the release whilst a rectification plan was developed and the leak was subsequently repaired using a Dive Support Vessel which was mobilised at the earliest practicable opportunity.

## 5.2 Regulatory Non-Compliance (NC)

A total of 13 Non-compliances were raised in relation to environmental legislation or permit condition breaches during 2017 which is seven less than were submitted in 2016.





*Figure 5.3 Non compliances by permit type and by location*

A total of six non-compliances were raised in relation to European Union Emissions Trading Scheme (EU ETS) regulations. These non-compliances were minor in nature but reportable under EU ETS rules and were mainly related to issues with flare metering which were subsequently corrected by applying mismeasurement calculations.

An additional five non-compliances were raised in relation to Oil Pollution Prevention and Control (OPPC) legislation. Two of these instances related to upset process conditions leading to produced water discharges that exceeded peak reporting thresholds for a limited amount of time. One non-compliance resulted from a monthly average discharge threshold being exceeded, one to a meter failing its uncertainty requirements and one was attributable administrative error which resulted in an out of date calibration graph being used for a very short period.

Two final non-compliances were raised against the Offshore Chemical Regulations (OCR). These included one discharge of fluid containing an oil based mud residue that was discharged exceeding a permitted threshold level and one instance where a chemical was used in exceedance of that specified in the installation chemical permit.

All unplanned releases and non-compliances are thoroughly investigated by Premier and reported both internally and where required to the regulator. Corrective and preventative actions are identified and tracked via the company's incident investigation and reporting tool Synergi and any cross asset learnings are communicated to the wider business unit via an alerts process.

## 6.0 ENVIRONMENTAL PERFORMANCE AGAINST TARGETS

Objective/Target	Progress
Complete successful re-certification to ISO 14001 and OHSAS 18001 Standards	During 2017 a specific programme to review, update and refresh the environmental management system was undertaken, culminating in successful re-certification of the HSE-MS system to both ISO 14001 and OHSAS 18001.
Improve EU ETS compliance	Premier UKs EU ETS document suite was reviewed and revised to drive consistency and transparency of monitoring across the qualifying installations in the UK BU. Additional internal assurances were also added to annual work plans associated with ETS verification.
Continue Subsea activity Awareness Campaigns	Pre-mobilisation awareness sessions were conducted for all operations. Bespoke awareness packages continued to be developed and delivered to the DSV teams for each specific campaign.
Reduce Atmospheric Emissions where practicable	A Ruston turbine fuel gas re-route project was completed on the Balmoral FPV to re-instate fuel gas availability to the turbines, reducing diesel burn and associated CO <sub>2</sub> emissions.
Review usage and possibilities to reduce chemical usage	Review of rig-wash products was completed which resulted in a change out to more effective and environmentally friendly product. Review and reduction in SUB labelled chemical products continued to be a focus. A project to review the feasibility of change out of the current firefighting foams for a more environmentally friendly substitute commenced with the technical review continuing into 2017.
Raise level of environmental awareness amongst the workforce	Two environmental representative engagement sessions were held in collaboration with safety reps to promote collaborative working and help to promote environmental awareness throughout the workforce. In addition a global HSE stand-down, and two additional HSE engagement sessions were held featuring specific environmental topics such as waste awareness, oil spill response, permit compliance etc.

Objective/Target	Progress
Review and develop internal oil spill response capabilities	Work continued on the development of tactical response plans and wider response capabilities for west of Shetland assets. Workshops to improve the awareness of senior management and technical supporters in relation to oil spill preparedness and response were undertaken. In addition a framework for a Premier UK 'Environmental Unit' with specific technical response capabilities was developed. Initial testing of this unit was undertaken in 2017 with further capability building to continue in to 2018.
Develop environmental management processes for future decommissioning programmes	A framework for the establishment of PLANC registers was developed along with a framework for the completion of Comparative Assessments for subsea infrastructure. Decommissioning gate review processes were developed and implemented in order to provide a robust, strategic way to ensure environmental considerations will be built into decommissioning planning and execution cycles.
Complete full Environmental Impact Assessments for new Developments	The Tolmount Field Development offshore Environmental Statement and onshore Planning Application were completed during 2017 and submitted to the regulator for review. It is anticipated that this process will be completed late Q2 2018.

*Table 6.1 – Premier UK 2017 Performance against Objectives and Targets*