

Zennor Petroleum Limited

OSPAR Public Statement 2016

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Appendix A Finlaggan Appraisal Well EHS Targets



1. Introduction

1.1 Purpose

The Offshore Petroleum Regulator for Decommissioning & the Environment (OPRED) require all offshore operators to produce a Public Statement to report their environmental performance under the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) Recommendation 2003/5 to promote the use and implementation of Environmental Management Systems (EMS) by the offshore industry. These statements must be prepared on an annual basis (covering offshore installation activities carried out during the previous calendar year), made available to the public and copied to OPRED by 1st June each year.

1.2 Structure

This Public Statement outlines Zennor Petroleum Limited (referred to hereafter as 'Zennor') environmental performance for its UK Continental Shelf (UKCS) operations during 2016. The statement consists of the following:

- Section 2: Describes Zennor's activities in the UKCS during 2016;
- Section 3: provides a summary of Zennor's ISO 14001-certified EHS Management System (EHS MS);
- Section 4: Summarises Zennor's performance during 2016 in relation to the environmental policy, objectives and targets, and relevant legislative requirements;
- Section 5: Sets new environmental objectives and targets for 2017.



2. 2016 UKCS Offshore Activities

2.1 In 2016, Zennor Pathway Limited (a wholly owned subsidiary of Zennor Petroleum Limited) drilled the Finlaggan Appraisal Well (21/05c-7) located in UKCS Block 21/05c using the Sedco 704 semisubmersible rig (see location in Figure 3.1 below). The well was spudded on 04th April 2016 and the rig departed the location on 20th July 2016.

BRITANNIA BRITANNIA BLP HUMMINGBIRD FPSO CHESTNUT FIELD BUOY: KFB 01/2 FORTIES BRAVO
TONTO MAULE FORTIES ALPHA FASP FORTIES DELTA FORTIES C TO CRUDEN BAY (F FORTIES UNITY **FORTIES ECHO** BRIMMOND NELSON Proposed Finlaggan Well Location Surface Structure Zennor Buoy UKCS Block 21/05 Petroleum **FPSO** UKCS Quadrant Platform UKCS Block Subsurface Structure Finlaggan Well Manifold Oil & Gas Wellhead Oil & Gas Infrastructure Infrastructure Map Pipeline Hydrocarbon Field 1:220,000 Condensate Oil ED50 UTM Zone 31N Data sources: UKOilandGasData (2014).

Figure 3.1. Finlaggan Well Location



3. The Environmental Management System

3.1 EHS FMS

Zennor operates an Environment, Health and Safety Management System (EHS MS) which complies with international (e.g. ISO14001, 18001) and UK (e.g. HS(G)65) standards for health, safety and environmental management. The EHS MS applies to Zennor Petroleum Limited and all of its operating subsidiaries specifically those with licence operated assets, e.g. Zennor North Sea Limited and Zennor Pathway Limited.

The Zennor EHS Management System establishes the main requirements and provides the framework for managing EHS hazards and risks. The basis for the management system is the concept of "Plan Do Check Act" which provides an iterative process to achieve continual improvement in EHS performance. The EHS MS has been certified to ISO14001 by BSI as required by OSPAR Recommendation 2003/5 and related DECC guidance.

The management system has been set up to match the contents of the new format ISO standards as closely as possible. The requirements of the management system are defined within the following headings:

- Leadership
 - o Leadership and Commitment
 - o Roles and Responsibilities
- Planning
 - Risks and opportunities
 - o Environmental Aspects
 - o Compliance
 - o Objectives, Targets and Plans
- Support
 - Resources
 - Contractor Management
 - Competence
 - Awareness and Communication
 - Documented Information
- Operation
 - Operational Planning and Control
 - Management of Change
 - Emergency Response
- Performance Evaluation
 - o Monitoring, Measurement, Analysis and Evaluation
 - o Incident Reporting
 - o Evaluation of Compliance
 - o Audit
 - Management Review
 - Improvement
 - Nonconformity and Corrective Action
 - Continual Improvement

Bsi completed an ISO14001 annual surveillance audit in January 2017 and no improvement actions were identified.



3.2 EHS Policies

Two policies support the EHS MS:

- Environmental, Health and Safety Policy (see below)
- 2. Corporate Major Accident Prevention Policy (CMAPP)

Both of these documents are approved by Zennor senior management and reviewed at least annually as part of the EHS MS management review.



Environmental, Health and Safety Policy Statement

It is the policy of Zennor Petroleum Limited to manage all the activities and operations of the Zennor Group (collectively "Zennor") in a responsible manner that protects the health and safety of its employees, contractors and public, but also minimises adverse impacts on the environment.

To accomplish this we will:

- Ensure that all personnel, whether employees or contractors, are aware of their delegated environmental, health and safety responsibilities and are properly trained to undertake these.
- Provide the resources necessary to implement this policy and to develop and maintain our EHS systems.
- Ensure that environmental, health and safety protection command equal prominence with other business considerations in the decision making process.
- Design and manage our activities to prevent pollution, minimise environmental and health impacts and provide work places where safety hazards have been fully assessed and appropriately mitigated.
- Encourage use of the best available techniques to reduce the environmental impact of our
 operations, particularly with regard to the efficient use of energy and materials, the
 minimisation of waste and the prevention of pollution.
- Commit to continual improvement of our EHS performance by setting objectives and targets and performing regular audits and reviews.
- Ensure that appropriate contingency plans and resources are in place to respond to incidents and emergencies.
- Ensure that all our operations comply with legislative requirements and associated codes of practice and guidance.
- Communicate and consult with stakeholders and the public and have regard for their interests when planning activities.
- Conduct regular audits of our EHS management system to ensure that it is being observed and to seek improvements within the system.
- Act with integrity at all times.

Responsibility for compliance with our EHS policy and standards lies with the Managing Director, line management and all staff who are engaged in work on our behalf.

Martin Rowe Managing Director Zennor Petroleum Limited January 2017



3.3 Progress against 2016 Objectives & Targets

The main objective for 2016 was to implement the EHS Management System for Zennor's operations and, where possible, establish a baseline for identification of future improvements in EHS performance.

Zennor's 2016 EHS MS targets and the corresponding status as of the 10th January 2017 is detailed in Table 4.1 below.

Table 4.1. Zennor's 2016 Targets

Management System Requirement	Targets	When	Status (10/01/17)			
	Obtain ISO14001 certification	Q1	Completed			
Management	Actively identify areas for improvement in the EHSMS through application to the Finlaggan project	Q4	Completed			
Systems	Process for EHS management of non- operated JVs including performance review and lessons learned	Q2	Completed			
Plans, Objectives & Targets	Establish project specific EHS targets for each operation: 1. Finlaggan	Q1	Completed			
Measuring & Monitoring Performance	Establish weekly operational EHS performance report when operations start	Q2	Completed			
	Zero LTIs	Q4	Completed			
Performance Targets	Zero hydrocarbon and chemical spills	Q4	One unplanned chemical release			
Emergency Planning	Emergency Management Plan update prior to operations	Q2	Completed			
Audits	Finlaggan Appraisal Well EHS audit on completion	Q3	Completed			
, tadito	Management System audit	Q1	Completed			
Continuous Improvement	Review Aragon well and incorporate improvements into Finlaggan well EHS Plan	Q1	Completed			

Performance against EHS targets for the Finlaggan appraisal well is provided in Appendix A.



4. Environmental Performance Summary

4.1 Emissions and Discharges

Table 5.1 provides a summary of the emissions, discharges and wastes from the Finlaggan drilling operations.

Table 5.1. Zennor's 2016 UKCS Reportable Emissions, Discharges & Waste

Environmental Indicator	Units	2016 Finlaggan Well			
Drilling Activities					
Wells Drilled	No. of Wells	1			
Fuel (Diesel) Consumption ¹	Tonnes	1,028			
Well Testing (Gas) Consumption	Tonnes	1,508			
	Environmental Incidents				
Chemical Release	No. Incidents	1			
Hydrocarbon Release	No. Incidents	0			
Atmospheri	c Emissions From Diesel Co	nsumption ²			
CO ₂	Tonnes	3,289.6			
СО	Tonnes	16.1			
NOx	Tonnes	61.1			
N₂O	Tonnes	0.2			
SO ₂	Tonnes	4.1			
CH ₄	Tonnes	0.2			
voc	Tonnes	2.1			
Atmospheric Emissions From Flaring ²					
CO ₂	Tonnes	4,222.4			
со	Tonnes	10.1			
NOx	Tonnes	1.8			
N₂O	Tonnes	0.1			
SO ₂	Tonnes	0.02			
CH ₄	Tonnes	67.9			
VOC	Tonnes	7.5			



Chemical Consumption ³				
Gold (use / discharge)	kg	24,786 / 9,068		
C (use / discharge)	kg	13,300 / 0		
D (use / discharge)	kg	556,264 / 3,067		
E (use / discharge)	kg	1,375,190 / 277,038		
SUB (use / discharge)	kg	16,916 / 160		
Dri	lling Emissions and Dischar	ges		
Drill Cuttings Discharged to Sea	Tonnes	448		
Drill Cuttings Shipped to Shore	Tonnes	797		
Waste Stream Discharged from Well Clean-up (before the well is abandoned)	m ³	36.57		
Waste Stream Discharged from Well Clean-up (before well test)	m ³	0		
Total Volume of Produced Water Discharged	m ³	61.374		
Weight of Dispersed Oil Discharged from Produced Water	Tonnes	0.00065		

Diesel consumed by the Sedco 704 semi-submersible drilling rig during drilling the Finlaggan well.

Atmospheric emissions have been calculated using Oil and Gas UK emission factors.

Chemical products with a substitution warning can also be recorded as E, D, C and Gold.

All operations were completed within regulatory and consent conditions except for an unplanned release of chemicals during cementing operations. A PON1 was submitted, investigations were completed and reviewed with DECC/BEIS and actions to prevent recurrence have been implemented.



5. Environmental Objectives and Targets for 2017

6.1 2017 Objectives and Targets

Zennor does not have any offshore operations planned for 2017. Objectives and targets are focused on improvements to the management system identified from 2016 performance and plans for operations in 2018.

Table 6.1. Zennor's 2017 Targets

Management System Requirement	Targets	
Management Systems	Implement non-operated monitoring process and review	Q1
	Review EHSMS and update contractor selection process	Q1
Plans, Objectives & Targets	Establish project specific EHS plan for the Finlaggan development	Q3
Risks and Environmental Aspects	Ensure EHS factors part of the final host selection process for Finlaggan development	Q2
	Finalise Environmental Statement for Finlaggan field development	Q2
Measuring & Monitoring Performance	Finalise Finlaggan development consents register	Q2
Performance Targets	Zero LTI's	Q4
	Zero hydrocarbon and chemical spills	Q4
Audits	External EHSMS audit	Q4
Continuous Improvement	Review appraisal well and incorporate improvements into Finlaggan development EHS Plan	Q3



Appendix A Finlaggan Appraisal Well EHS Targets

Well Targets: Leading Indicators					
Action	Indicators	Target	Actual	Comment	
Leadership and Communication	Zennor management visits to rig	1 per well	3		
	HSE Induction to Zennor and drilling personnel	All personnel	100%		
Contractors	Implement inspection plan and close out of actions from contractor audits	100%	48/48		
Emergency Response	Emergency response exercise	1	1		
	OPEP Drills	1 per shift per well	2		
Monitoring	Weekly reporting of chemical use against consent	Weekly	Weekly		
Audit	Implementation of audit plan - number of audits completed/planned	100%	6/5		
Review	EHS Performance review	End of well	1		

Well Targets: Lagging Indicators				
Action/Statistic	Indicators	Target	Actual	Comment
Safety Statistics	Total No Recordable Incidents (TRIs)	0	0	
	Total No Lost Time Incidents (LTIs)	0	0	
	Medical Treatment Cases	0	0	
Hydrocarbon and chemical spills	Total No Spills	0	1	
	Amount Spilt (bbls)	0	330 gal	Chemical release during cementing operations. PON1 submitted
Compliance	OPPC discharge consent	30ppm oil in water	10.5 ppm	