



FairfieldEnergy

**2018 Annual
Public Statement
Fairfield Energy Limited**





**For Further Information,
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1. Environmental Policy

It is the policy of Fairfield Energy Limited (Fairfield) to seek to conduct its business in a responsible manner that prevents pollution and promotes the preservation of the environment.

Fairfield appreciates that our activities can interact with the natural environment in many ways. We recognise that sustained development of Fairfield and our long term success depends upon achieving high standards of environmental performance. We are therefore committed to conducting our undertakings in an environmentally responsible manner.

This means that we will:

- Integrate environmental considerations within our business and ensure that we treat these considerations with at least equal importance to those of productivity and profitability;
- Incorporate environmental risk assessment in our business management processes, and seek opportunities to reduce the environmental impact of our activities;
- Continually improve our environmental management performance;
- Comply with all environmental laws, regulations and standards applicable to our undertakings;
- Allocate necessary resources to implement this policy;
- Communicate openly in matters of the environment with government authorities, industry partners and through public statements.

In particular, we will:

- Maintain an environmental management system in accordance with international best practice and with the ISO 14001:2015 standard, including arrangements for the regular review and audit of our environmental performance;
- Conduct environmental analyses and risk assessments in our areas of operation, in order to ensure that we understand the potential environmental impacts of our activities and that we identify the necessary means for addressing those impacts;
- Manage our emissions according to the principles of Best Available Techniques;
- Publish an annual statement on our public web site, providing a description of our environmental goals and performance;
- Maintain incident and emergency systems in order to provide assessment, response and control of environmental impacts.

Ultimate responsibility for the effective environmental management of our activities rests with the Managing Director and the Board.

This policy shall be implemented by line management through the development and implementation of working practices and procedures that assign clear responsibilities for specific environmental activities with our employees and contractors.

In addition, each of our employees has a personal responsibility to conduct themselves in a manner that enables us to implement this policy and our environmental management system.



John Wiseman
Managing Director

2. Overview

2.1. Background

Fairfield Energy (Fairfield) was established in 2005 and was created specifically as a UK focused independent company to participate in the realignment of North Sea asset ownership in this mature province.

Having concluded that Dunlin had reached the point of maximum economic recovery, particularly in the light of prevailing industry conditions, termination of production from the Greater Dunlin Area was announced by Fairfield on 15th June 2015. Approval for Cessation of Production (CoP) was received from the Oil & Gas Authority (OGA) on 15th January 2016 with CoP confirmed to have occurred on 15th June 2015.

Fairfield is an experienced, late-life asset and decommissioning operator. Our current project is the decommissioning of the Greater Dunlin Area incorporating Osprey and Merlin subsea satellite fields and associated infrastructure.

2.2. Our Operations

The Greater Dunlin Area is located in Blocks 211/23 and 211/24 of the UK Continental Shelf which is in the Brent oil province in the Northern North Sea (NNS). The Dunlin Alpha platform stands some 500km north-northeast of Aberdeen within the East Shetland Basin, and 11 km from the boundary line with Norway.

2.2.1. Dunlin Alpha

The main operations on the Dunlin Alpha platform in 2018 focussed on Plug and Abandonment (P&A) and Make Safe and Handover (MS&H) activities.

All forty five Dunlin platform wells are in the process of being permanently abandoned as part of a large-scale P&A campaign which commenced in January 2016. By the end of 2018, a total of forty five wells were worked on since the campaign began of which seven had had their conductors removed, twenty had been abandoned to Phase 2 status and a further two had been abandoned to Phase 1 status.

MS&H activities ensure that the topsides are hydrocarbon free in order to safely remove equipment and isolate modules prior to eventual removal. Key MS&H activities undertaken in 2018 included:

- Quikdeck installation;
- Conductor removal;
- Legs A, C & D debris clearance;
- Leg inventory and hazardous material surveys;

Dunlin Alpha continues to act as an export hub for crude oil from the Thistle field which, having historically being combined with production from the Greater Dunlin Area and Murchison field, is exported to Sullom Voe via the Dunlin/Cormorant export pipeline.

2.2.2. Subsea Well Plug and Abandonment

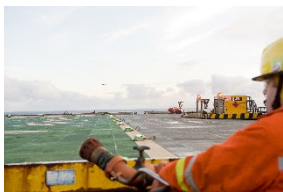
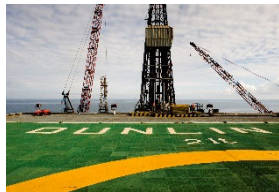
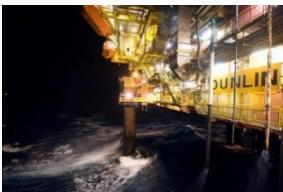
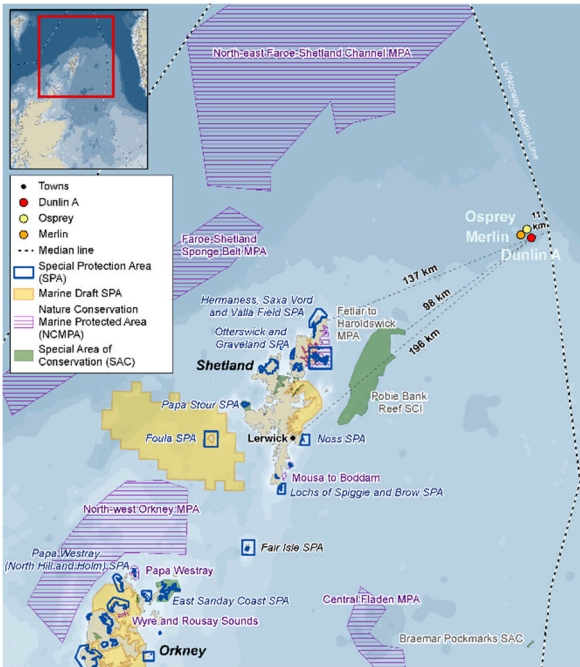
In April 2017 the Transocean 712 arrived on location at Osprey to commence plug and abandonment operations on the eight production and four water injection wells. A total of 27.93 kg of oil was discharged to sea under permit during these operations, which were complete in July 2018. The rig then moved to Merlin to undertake plug and abandonment operations at the three production and one water injection wells. By the end of 2018, two of the Merlin wells had been Phase 2 abandoned, and a further one had been Phase 1 abandoned. The remaining well was mechanically plugged, with the Subsea Xmas Tree recovered.

2.2.3. Subsea Infrastructure Decommissioning

The execution phase of Subsea Infrastructure Decommissioning (SID) commenced in August 2018, concluding for the year in October. During that time the following was achieved:

- Dunlin Fuel Gas Import line PL2852 was flooded;
- Thistle SSIV tie-in spool recovered;
- Osprey Towheads No.3 and No.7 recovered;
- Jumpers between the Osprey South and North bundle sections recovered;
- 212 concrete mattresses recovered, and;
- 644 sand / grout bags recovered.

Data on waste generated from SID will be collated upon completion of the project and reported in the subsequent Annual Public Statement.



Dunlin Alpha

Location:
196 km north east of Lerwick

Block:
211/23

Water Depth:
151 m

Operator / Duty Holder:
Fairfield Betula Limited

Installation Type:
Four-leg, concrete gravity base multi-cell substructure with a steel box girder based topsides supporting the drilling deck, module deck and lower deck.

Platform Wells:
45

Production Commenced:
August 1978

Production Ceased:
June 2015

Estimated Total Recovery:
522 million barrels

Tie-backs:
The Osprey field is a subsea development located 6 km to the north-north west of the platform. The Merlin field is a subsea development located 7 km to the west-north west of the platform.

- Infrastructure:**
- 8" oil production pipeline from Merlin to Osprey crossover manifold
 - 38" Osprey south production bundle
 - 38"/31.5" Osprey north production bundle
 - 10" water injection pipeline to Osprey
 - 8" water injection pipeline to Merlin
 - 16" oil import pipeline from Thistle Alpha
 - 24" oil export pipeline to Cormorant Alpha
 - 4" fuel gas import line from Thistle Alpha (10.3 km)
 - Dunlin Power Import Cable from Brent Charlie (22.3 km)

3. Environmental Management System

Fairfield has a structured Environmental Management System (EMS) which communicates company policy and establishes the company standards for environmental risk management. The EMS provides a controlled and systematic approach to promoting best practice in environmental management as well as outlining the mechanisms through which compliance is maintained.

The EMS has been developed in accordance with current UK environmental legislation and is certified in accordance with ISO 14001:2015.

Progress against the key objectives / programmes within our 2018 environmental programme is summarised in Table 3.1.

Our 2019 environmental programme continues and builds upon our 2018 programmes and objectives. Specifically for 2019, targets and objectives have been set in the Environmental Management System within the following programmes.

- Achieve recertification of the EMS;
- Audit / Inspection Programme;
- Completion of the Dunlin Alpha Topsides EA Delivery Programme;
- Completion of the PL5 EA Delivery Programme;
- Continual improvement of EMS.

Objective / Programme	Summary of Progress
Audit / Inspection Programme	<p>In line with the Audit / Inspection Programme, Environmental Advisors undertook audits / inspections at Dunlin Alpha, the Transocean 712 and the Normand Clipper during 2018.</p> <p>Monthly platform-wide and weekly drilling package environmental inspections were undertaken on Dunlin Alpha throughout the year.</p> <p>A third party audit of Peterson-Veolia was also undertaken to review Subsea Infrastructure Decommissioning reporting requirements and verify Environmental Accounting Report information against items recovered during 2018 operations..</p>
Dunlin Alpha EA Delivery Programme	<p>The Dunlin Alpha EA was submitted in August for Public Consultation in support of the Dunlin Alpha Decommissioning Programme.</p> <p>The decision was subsequently taken to split the Dunlin Alpha Topsides and Substructure Decommissioning Programmes during 2018.</p>
PL5 EA Delivery Programme	<p>The PL5 Comparative Assessment was held in September 2018. The EA progressed subsequently and was submitted for Public Consultation in support of the PL5 Decommissioning Programme in 2019.</p>
Continual Improvement of the EMS	<p>Highlights for the year include:</p> <ul style="list-style-type: none"> • Development of environmental inspection protocols by the HSE and E-Reps teams on Dunlin Alpha; • Successful development, implementation and ongoing delivery of the Subsea Infrastructure Decommissioning Waste Management Plan; • Significant improvements made to the designated Waste Management Area on board Dunlin Alpha.

Table 3.1 – 2018 Key Objectives and Summary of Progress

4. Environmental Performance

Given the nature of Fairfield’s operations during 2018, the potential for significant environmental impact arose from:

- atmospheric emissions from power generation;
- chemical use and discharge;
- waste; and
- accidental releases.

The environmental performance of Fairfield’s operations in 2018 are summarised in the sections that follow, and has been reported to the Department for Business, Energy & Industrial Strategy (BEIS) via the UK Environmental Emissions Monitoring System (EEMS).

4.1. Atmospheric Emissions

Atmospheric emissions from the Dunlin Alpha are derived from the generation of power required to support well plug and abandonment operations, as well as making the topsides safe prior to removal.

In 2018, 100% of the power generated by Dunlin was from diesel combustion, as fuel gas is no longer available and power is no longer imported from the Brent Charlie installation. In total, approximately 17,000 MWhrs of power was generated in support of decommissioning operations.

A summary of the atmospheric emissions generated from the Dunlin Alpha in 2018 is given below.

Emissions in tonnes	CO ₂	NO _x	N ₂ O	SO _x *	CO	CH ₄	VOC
Power Generation	13,516.4	250.9	0.9	8.5	66.3	0.8	8.4
Venting	0.6	0	0	0	0	1.3	1.3
Total	13,517.0	250.9	0.9	8.5	66.3	2.1	9.7

*Diesel used for power generation has 0.1% sulphur content.

Table 4.1 – Summary of Atmospheric Emissions Generated From Dunlin Alpha in 2018.

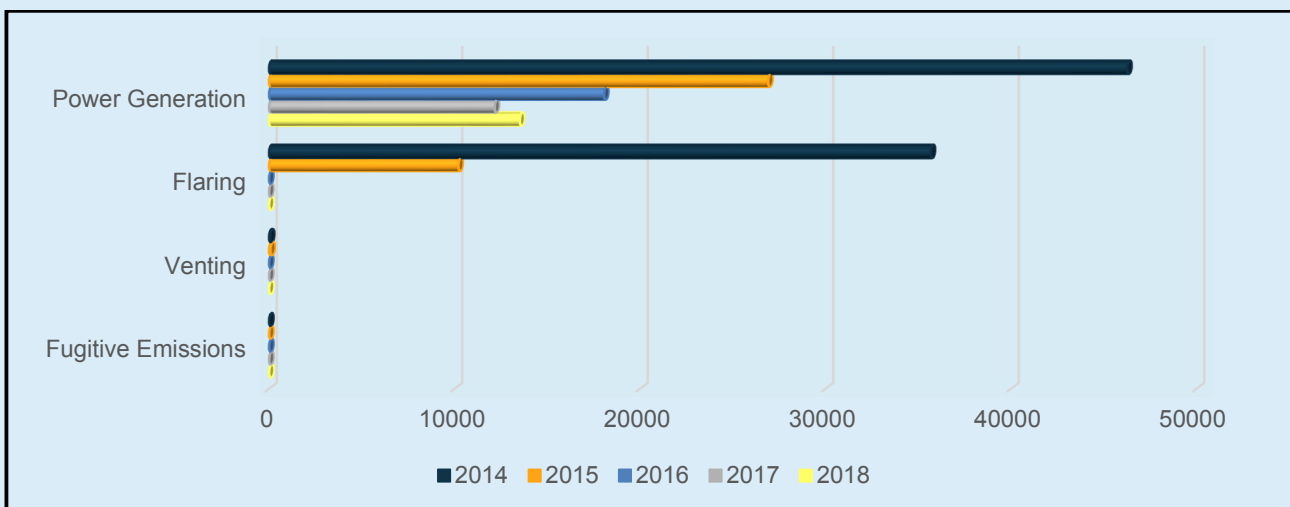


Figure 1 – CO₂ Discharges (mT) by Source

4.2. Accidental Releases

The prevention of oil and chemical releases is of the highest priority during Fairfield operations, and consequently we maintain procedures, training and awareness campaigns in order to minimise the risk of release and to ensure a rapid response to any such event.

Oil and chemical release incidents are reported to BEIS in accordance with the Petroleum Operations Notice 1 (PON1) system. Fairfield was responsible for the occurrence of seven such incidents in 2018, a summary of which is provided in Table 4.2 below.

Reference	Date	Nature of Incident	Type of Spill	Estimated Maximum Quantity Released (kg)	Location
PON1/7146	05/03/2018	Partial leak in control system on BOP stack upon functioning.	Chemical (Glycol)	47.00	Osprey
PON1/7457	16/06/2018	Partial leak in control system of BOP stack function for casing shear rams.	Chemical (STACK-MAGIC ECO-F V2).	157.00	Osprey
PON1/7601	25/07/2018	Upon removing the tree cap from the suspended well, drops of oil were observed to be leaking from top of the subsea Xmas tree by the ROV.	Oil	4.99	Merlin
PON1/7608	27/07/2018	Upon removing the tree cap from the suspended well head, Tiny droplets of oil were observed to be leaking from the top of the Subsea Xmas tree by the ROV operators.	Oil	2.66	Merlin
PON1/7792	18/09/2018	The blind flange was removed exposing the cavity between the flange and the PIMV.	Oil	1.30	Dunlin
PON1/7988	21/11/2018	WBM coming out of riser as a Promill BHA was run in the hole.	Chemical (Barite)	1.20	Dunlin
PON1/8008	28/11/2018	Due to platform movement in high wind and sea state the seal from the low pressure riser to the annular preventer lost containment. 10 litres of WBM was calculated to have made its way to sea.	Chemical (Barite)	10.10f	Dunlin

Table 4.2 – 2018 Oil and Chemical Release Incidents

4.3. Waste

In total, 3,793 tonnes of waste was generated at Dunlin Alpha during the year. Of this figure 94% was reused or recycled. A significant quantity of the total waste generated, 2,368 tonnes, arose from well plug and abandonment operations.

Well plug and abandonment operations undertaken by the Transocean 712 generated 2,745 tonnes of waste and 95% of this total figure was reused or recycled.

As mentioned previously, waste figures from Subsea Infrastructure Decommissioning will be collated at the end of the project and reported in the subsequent Annual Public Statement. The fate of all other waste generated from Fairfield operations in 2018 is presented in Table 4.3.

Waste (tonnes)	Reused / Recycled (%)	Landfill (%)
6,538	94	6

Table 4.3 – Fate of Waste Generated from Fairfield Operations in 2018

4.4. Chemical Use and Discharge

Offshore use and discharge of operational chemicals is regulated by the Offshore Chemical Regulations 2002 (as amended), where the word “chemicals” refers to fully formulated products used offshore, whether these are comprised of one or more distinct chemical substances. Such chemicals must appear on both the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) Definitive Ranked Lists of Registered Products and on the relevant Chemical Permit application.

All chemicals are tested and classified by CEFAS according to their potential to cause harm. The assessment relates to a combination of the rate of biodegradation, toxicity and potential to bio-accumulate. Environmental data are provided below according to those which are:

- Environmentally benign i.e. labelled as **Pose Little Or NO Risk** (PLONOR);
- Low risk i.e. listed in the CEFAS lowest risk categories (‘E’ or ‘Gold’ (excluding PLONOR));
- Higher risk i.e. listed in the CEFAS higher risk categories.

Products identified by CEFAS as containing chemicals marked for substitution with a more environmentally friendly alternative are flagged with a “SUB” warning. Use and discharge of such chemicals is included in the following sections.

As previously stated, production at Dunlin Alpha was ceased in June 2015 which means the use of chemicals relating to production operations has now ceased. Chemical usage / discharge from Subsea Infrastructure Decommissioning operations does not appear in this report as they are covered by PRAs which expire in September 2019 meaning that no EEMS returns have been submitted at the time of writing. With this in mind, there are no PRA or PLA chemical returns to report

Fairfield continually work with chemical suppliers to evaluate the potential environmental hazards of chemicals used, and to select less hazardous alternatives where practicable.

4.4.1.Wells Activities (DRA, WIA) Chemical Use and Discharge

In 2018, Fairfield used approximately 7,393 tonnes of chemicals during Wells Activities. This figure represents a significant rise from 2017 (3,223 tonnes) which is to be expected as, in addition to well plug and abandonment operations at Dunlin, the figure includes the chemical use and discharge associated with the twelve subsea wells plugged and abandoned by the Transocean 712 at Osprey between April 2017 and July 2018. Of the total amount of chemicals used for wells activities, around 14% were discharged to the marine environment, increasing from 3% the previous year. Again, this can be attributed to the nature of operations at Osprey – the discharge figure for Dunlin well plug and abandonment activities alone was 4%.

In terms of environmental performance, 97% of chemicals discharged during 2018 were "E" or "Gold" category chemicals. 93% of chemicals used and discharged during the year were classified "PLONOR". "SUB" chemical usage accounted for approximately 1% of all chemical usage and 0.0003% of all chemical discharge during well operations at Dunlin Alpha in 2018.

N.B. Chemical usage / discharge from Transocean 712 operations at Merlin does not appear in this report as they were not complete until February 2019. They will appear in the 2019 Report.

Products by CEFAS Classification	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
A	0.00	0.00
B	14,940.00	0.00
C	683,372.54	0.00
D	84,254.23	28,054.23
E	6,266,642.72	993,936.79
Purple	0.00	0.00
Orange	0.00	0.00
Blue	0.00	0.00
White	0.00	0.00
Silver	0.00	0.00
Gold	343,704.22	47,178.60
Total	7,392,913.71	1,069,169.62

Table 4.4 – 2018 Wells Activities Chemical Use / Discharge by CEFAS Classification

Chemical Label Code	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
PLONOR	6,187,424.94	993,926.55
SUB	79,963.98	3.25

Table 4.5 – 2018 Wells Activities PLONOR / SUB Chemical Use / Discharge

4.4.2. Decommissioning Activities (DCA) Chemical Use and Discharge

In 2018, Fairfield used approximately 2.52 tonnes of chemicals during Make Safe and Handover (MS&H) activities. This is down on the figure for 2018 (18.31 tonnes) however the vast majority of chemical usage in 2018 was during subsea umbilical flushing operations which was a one-off operation. Of the total amount of MS&H chemicals used, less than 14% were discharged to the marine environment.

In terms of environmental performance, 100% of chemicals discharged during 2018 were "E" or "Gold" category chemicals. No "SUB" chemicals were used or discharged during make safe and handover operations at Dunlin Alpha in 2018.



Products by CEFAS Classification	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
A	0.00	0.00
B	0.00	0.00
C	0.00	0.00
D	0.00	0.00
E	75.00	0.00
Purple	0.00	0.00
Orange	0.00	0.00
Blue	0.00	0.00
White	0.00	0.00
Silver	0.00	0.00
Gold	2,441.25	341.25
Total	2,516.25	341.25

Table 4.6 – 2018 Decommissioning Activities Chemical Use / Discharge by CEFAS Classification

	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
PLONOR	75.00	0.00
SUB	0.00	0.00

Table 4.7 – 2018 Decommissioning Activities SUB Chemical Use / Discharge

4.4.3. 2018 Chemical Use and Discharge: Aggregated Assessment

Combined, Fairfield operations used around 7,395 mT of chemicals during 2018. Of this figure, around 14% of chemicals were discharged to the marine environment.

In terms of overall environmental performance for operational chemical use and discharge, over 89% of chemicals used and discharged during 2018 were "E" or "Gold" category chemicals. Furthermore, "SUB" chemicals accounted for only 1.08% of chemicals used during the year. Over 84% of chemicals used and 93% of chemicals discharged during the year were classified "PLONOR".



Products by CEFAS Classification	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
A	0.00	0.00
B	14,940.00	0.00
C	683,372.54	0.00
D	84,254.23	28,054.23
E	6,266,717.72	993,936.79
Purple	0.00	0.00
Orange	0.00	0.00
Blue	0.00	0.00
White	0.00	0.00
Silver	0.00	0.00
Gold	346,145.47	47,519.85
Total	7,395,429.96	1,069,510.87

Table 4.8 – 2018 Aggregated Chemical Use / Discharge by CEFAS Classification

	2018 Chemical Use / Discharge (kg)	
	Use	Discharge
PLONOR	6,187,499.94	993,926.55
SUB	79,963.98	3.25

Table 4.9 – 2018 Aggregated PLONOR / SUB Chemical Use / Discharge

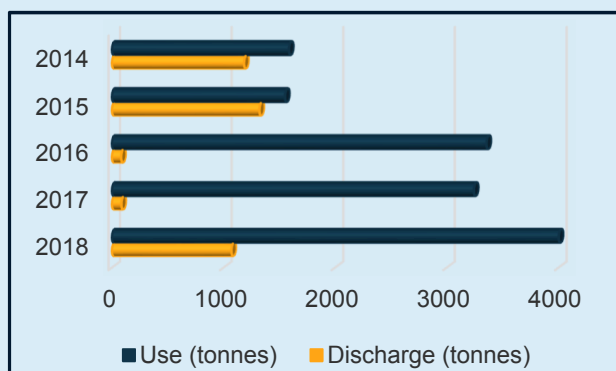


Figure 2 – Annual Chemical Use and Discharge

