

DNO North Sea (ROGB) Limited 2023 OSPAR Public Statement

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Schooner & Ketch Decommissioning Project

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1 Introduction

DNO ASA is a Norwegian oil and gas operator active in the Middle East, the North Sea and West Africa. Founded in 1971 and listed on the Oslo Stock Exchange, the Company holds stakes in onshore and offshore licenses at various stages of exploration, development and production in the Kurdistan region of Iraq, Norway, the United Kingdom, Côte d'Ivoire, Netherlands and Yemen. DNO North Sea (ROGB) Limited (DNO) is an independent oil and gas business unit focused on exploration, appraisal and production in Norway, the Atlantic Margin and the UK continental shelf (UKCS). In compliance with OSPAR Recommendation 2003/5¹ the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) requires that all existing United Kingdom Continental Shelf (UKCS) oil and gas operators undertaking offshore operations prepare an annual statement of their environmental performance, covering the calendar year, and make that statement available to the public. This report summarises the environmental performance of DNO's UKCS operations in 2023 as required by OSPAR.

2 DNO UK Continental Shelf (UKCS) Operations

In January 2019, DNO successfully acquired Faroe Petroleum (ROGB) Limited (Faroe). Historically Faroe had operated the two producing assets, Schooner and Ketch, located within the UK Southern North Sea gas basin. The Schooner and Ketch fields are located within Block 44/26a, and Blocks 44/28b respectively, approximately 150 kilometres from the Theddlethorpe Gas Terminal (TGT) on the Lincolnshire coast (Figure 2-1). The Schooner and Ketch Fields ceased production in 2018 in line with TGT's cessation of operations and were subsequently granted formal Cessation of Production (COP) in November of the same year. DNO was the licensee for the Schooner and Ketch fields and ultimately accountable for the safe and responsible decommissioning of both fields.



Figure 2-1. Location of the Schooner and Ketch Fields.



¹ OSPAR Recommendation 2003/5 to Promote the Use and Implementation of Environmental Management Systems by the Offshore Industry

In 2021 the Duty Holdership for the Schooner and Ketch installations was successfully transitioned from Petrofac to Three60 Energy (Three60). Three60 are required to report the environmental performance related to the operation and maintenance of these installations through their OSPAR Public Statement for 2023. DNO is the Well Operator for Schooner and Ketch fields, as well as Pipeline Operator. Therefore, this public statement specifically relates to Schooner and Ketch wells and pipelines operations.

Both the Schooner and Ketch installations were four-legged, twelve-slot Normally Unmanned Installations (NUI). When the platform wells were producing, they were remotely controlled from the Murdoch platform. Gas and condensate were exported to Murdoch, where separation and compression occurred before the gas was transported via the (then) ConocoPhillipsoperated Caister-Murdoch System (CMS) infrastructure to TGT for processing.

In association with ConocoPhillips U.K. (COP), DNO submitted Decommissioning Programmes (DPs), coupled with the supporting Environmental Appraisal and Comparative Assessment reports, for Schooner and Ketch. Final approval of both DPs was received from OPRED in July 2019. As planning for the Schooner and Ketch Decommissioning Project progressed, DNO elected to remove the non-buried Ketch pipeline (in lieu of burial and backfill in the original DP) in order to reduce impacts to future users of the sea and to eliminate residual liability. To capture this change, the Ketch DP was revised accordingly and approved in 2022. Further revisions of the Ketch DP were approved by the regulator to take account of the Viking Link interconnecting subsea cable, the sections of the Ketch pipeline cut ends. A final revision was also necessary in 2023 to request permission to leave two 13m unrecoverable sections of Ketch pipeline(s) in burial.

The Schooner DP was also revised in 2023 to include the removal of an additional protection structure within the Schooner 500m safety zone which was completed as part of the 2023 decommissioning works. This revision also pertains to an additional section of exposed Schooner pipeline(s) that was removed from the Murdoch MD 500m zone during the 2023 decommissioning works.

The summary scope of the Schooner and Ketch Decommissioning Project that has been completed is:

- The plug and abandonment (P&A) of twenty platform wells (nine at Ketch and eleven at Schooner) and one sub-sea well at North West Schooner;
- The removal of topsides and jackets from both the Schooner and Ketch installations by Heavy Lift Vessel (HLV);
- The cut and recovery of both Schooner & Ketch pipeline at both their respective platform tie-in ends including Murdoch MD platform tie-in location;
- Cut and recovery of the Ketch pipeline, including rock dumping at pipeline crossings;
- The recovery of miscellaneous grout bags, concrete mattresses and debris at various points along the pipelines and within Schooner & Ketch 500m zones along with Murdoch 500m zone;
- The cut of Topaz 6" pipeline and 3.5" umbilical by Heavy Lift Vessel (HLV), recovered by the subsea contractor, up to the burial transition point. (The Topaz subsea



installation was tied back to Schooner and operated and decommissioned by INEOS $\ensuremath{\mathsf{UK}}\xspace$

• Platform and pipeline route site remediation and overtrawl survey performed by the National Federation of Fishermen's Organisation Services (NFFO) approved fishing vessel.

In order to minimise disturbance to birdlife, comprehensive seabird surveys were made prior to the removal of the Schooner and Ketch jackets and topsides, and all activities were carried out in accordance with the Schooner and Ketch Bird Management Plan. All items recovered were safely transported to suitable, permitted and licensed onshore facilities for recycling and disposal. Upon completion of the decommissioning scope, surveys were carried out and debris was removed. In accordance with approved DPs, periodic surveys will be agreed with the OPRED in order to monitor infrastructure that has been left in-situ.

Schooner and Ketch 500m Safety Zone Decommissioning Works that have been completed to date (i.e. in cooperation with Three60, the installation(s) Duty Holder) include:

- Flushed, cleaned pipelines for Schooner (PL1222: 18" wet gas export and PL1223: 3" methanol piggyback) and Ketch (PL1612, 18" wet gas export, and PL1613, 3" methanol piggyback) have been filled with seawater and disconnected from the Murdoch and relevant platform ends.
- Topaz pipeline (tied back to Schooner NUI) has been flushed, cleaned and filled with seawater.
- NW Schooner WHPS and debris cap recovered by P&A rig and sent ashore for recycling.
- Ketch NUI topside and jacket removed in April 2022.
- All 20 platform-based wells and 1 subsea well have been successfully P&A'd (the Schooner and NW Schooner P&A campaign was completed January 2023)
- Schooner NUI was removed May 2023, with final disposal currently underway (see Figure 2-2 and Figure 2-3).
- Topaz 6" pipeline and 3.5" umbilical sections that tied into Schooner platform were cut and removed (completed June 2023).
- 99% of the Ketch pipeline(s) (PL1612 & PL1613) have been removed (campaign completed July 2023) and disposed of (see Figure 2-4).
- Schooner pipeline tie-in ends (at Schooner and Murdoch platform) were removed and exposed pipeline ends rock dumped successfully.
- NW Schooner tie-in valve protection structure removal.
- Schooner & Ketch 500m zone site remediation and debris clean up (completed July 2023).
- Ketch pipeline route debris recovery (completed July 2023).



 NFFO overtrawl survey performed at Schooner & Ketch 500m zones and 50m either side of pipeline corridors.

Figure 2-2. Schooner Topside Removal (May 2023)





Figure 2-3. Schooner Jacket Removal (May 2023)







Figure 2-4. Schooner & Ketch Pipeline Decommissioning (June 2023)



3 DNO Health, Safety, Security and Environmental (HSSE) Policy

DNO is committed to managing the integrity of its operations and business activities responsibly. Our HSSE Policy (Figure 3-1) is a public commitment to this that supports our core values and focuses DNO's Management Systems on robust safety and environmental risk management and incident prevention.

	, Safety, Security and Environmental (HSSE) Policy Statement
DNO is cor safety and	nmitted to managing the integrity of its operations and business activities responsibly. Consideration of the health security of our personnel, our other stakeholders and the environment is central to how we conduct our business.
We strive t	o create a rewarding working environment for our employees, contractors and the communities in which we operate.
We are cor	amitted to the HSSE goals of:
:	Avoiding harm to all personnel involved in, or affected by, our operations;
:	Complying with the applicable legal and regulatory requirements where we operate as well as relevant industr
	standards; and
•	Achieving continuous improvement in our HSSE performance.
This Policy •	Statement shall be implemented through the Company's business management system, "the DNO Way", to ensure: A work environment characterized by respect, trust, cooperation, and a shared understanding of DNO's values where
•	concerns can be freely faised; HSSE is integral to the roles and responsibilities of everybody who works for and with DNO:
•	HSSE risks are identified, understood, assessed and controlled;
•	Delivery of continuous improvement by setting clear HSSE goals at the business unit and individual levels, achieving these goals through improve planning and execution of work and a trained and eccentrate workform and have been been been been been been been be
	from our successes and failures; and
•	Engagement with our suppliers and contractors to ensure alignment with our values and goals.
Our commi	tment to health and wellbeing:
•	Prevention of work-related illness;
•	Active health promotion to reduce health risks associated with the work environment;
:	Allowing freedom of association and expression; and Maintain a diverse workforce free from discrimination.
Our commi	tment to safety: Provision of a safe workplace free from injuries and accidents:
•	Maintenance of asset integrity through sound design, maintenance, inspection, operations and management o
	change procedures; and
•	ensure an open reporting culture for incidents and near misses from which we learn to avoid recurrent incidents.
Our commi	tment to the environment and communities:
:	Minimize undesirable effects on the environment and biodiversity resulting from our activities; Promote the reduction of emissions and pollution from our operations:
•	Minimize fresh water used in operation, especially in water-stressed areas; and
•	Contribute to the sustainable development of the regions where we operate.
Our commi	tment to security:
•	Provide a secure work environment for all personnel involved in our activities and
•	Abide by the Voluntary Principles on Security and Human Rights.
The respon Director of reviews and	sibility for compliance with this policy lies with everybody who works for and with DNO. It is the role of the Managin DNO ASA to ensure compliance with this Policy and the DNO Way through line management combined with regula J audits.
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Figure 3-1. DNO HSSE Policy



4 DNO Management System

DNO has implemented a Business Management System (BMS) that fully integrates Health, Safety, and Environment (HSE) policies, standards, procedures, and work instructions. The general purpose of the BMS is to prevent DNO activities from putting people, the environment, property or the reputation of the company at risk and aims to:

- Achieve full compliance with the OSPAR Recommendation 2003/5 to promote the use and implementation of Environmental Management Systems by the offshore industry;
- Achieve the general objectives of the North Sea Transition Authority Stewardship Expectation 11;
- Achieve the environmental goals of the prevention and elimination of pollution from offshore sources and of the protection and conservation of the maritime area against other adverse effects of offshore activities; and
- Maintain continual improvement in environmental performance.

The environmental elements of the BMS:

- Have been implemented at a strategic level and integrated into corporate plans and policies;
- Identify the organisation's impacts on the environment and set clear objectives and targets to improve its management of these aspects and the organisation's overall environmental performance;
- Ensure preventative actions are incorporated to avoid negative impact to the environment;
- Are designed to deliver and manage compliance with environmental regulations on an ongoing basis, and to quickly initiate corrective action where potential cases of legal non-compliance are identified;
- Identify DNO's significant resource use and aim to deliver good resource management; and
- Incorporate assured requirements and performance metrics that demonstrate the above and can be communicated in a transparent manner.

In 2023 DNO successfully obtained independent verification that their Environmental Management System (EMS) is in accordance with the elements and requirements set out in Section 2 of the DECC EMS Guidance and the Recommendation² and fully complies with OSPAR 2003/5.

5 2023 UKCS Environmental Performance

DNO aims to minimise its environmental impact from operational and business activities undertaken annually. Offshore operations that were conducted by DNO as Wells and Pipelines Operator in the UKCS in 2023, are outlined in section 5.1.

² DECC, 2014, OSPAR 2003/15 DECC Guidance (revised issue 5 May 2014)

5.1 **2023 Summary of Operations and Reportable Incidents**

Table 5-1 provides a summary of the Schooner and Ketch operations undertaken in the period January 2023 to December 2023.

Please note that reportable emissions relating to the operation and maintenance of the Schooner and Ketch installations for 2023 are presented in Three60 Energy's Public Statements for 2023 as Installation(s) Duty Holder.

Drilling & Well Related Activities	Schooner NUI	Ketch NUI	
Well Operations	1 subsea well NW Schooner was completed on 6th January 2023	No activity during 2023	
(includes P&A)	NW Schooner WHPS and Debris cap recovered by P&A rig and sent ashore for onward recycling.		
Pipeline Operations	PL1222 / PL1223: Cut and remove platform tie-in spool sections (16" gas export pipeline and 3" methanol piggyback) at Schooner NUI and at Murdoch MD platform approaches including pipeline stabilisation feature removals (mattresses, grout bags and associated debris). Exposed pipeline ends rock dumped. 100% completed in June 2023. Topaz 6" pipeline and 3.5" umbilical (PL2631 & PLU2632) sections cut and recovered up to burial at Schooner platform approach location. Schooner 500m safety zone site remediation performed and left in over-trawlable state. NW Schooner tie-in tee valve protection structure removal	Cut and recovery of entire 18" gas export and 3" methanol pipelines (100% completed at July 2023 end). Scope included removal of pipeline stabilisation features (mattresses and grout bags and associated debris) along 26.6km pipeline route including tie-in spool removal at Murdoch MD platform approach. Pipeline ends at crossing locations were protected by deposited rock to leave sections remaining in-situ in an over- trawlable state.	
Facilities Related Activities			
Jacket & Topside Removal	1	No activity during 2023	

Table 5-1. DNO 2023 UKCS Operations

5.2 2023 Chemical Use and Discharge

During 2023, a total of 175 tonnes of chemicals were used during P&A operations and 4 tonnes were discharged to sea under permit (Figure 5-1).



Of the total quantity of chemicals used, 76 te (43% of total chemical usage, by mass) is categorised as presenting little or no risk to the environment. 0.4 te (0.2% of total chemical usage, by mass) contained components included on the OSPAR List of Chemicals for Priority Action and are candidates for substitution. No chemical that is a candidate for substitution was discharged to sea.

All chemicals were used and discharged during in compliance with the Offshore Chemical Regulations (OCR) and were fully permitted. There were no instances of chemical permit non-compliance in 2023.



Figure 5-1. 2023 Chemical Use and Discharge Summary

5.3 2023 Waste

During the 2023 decommissioning operations a total of 7,500 tonnes of waste were generated. Of this total, 16 tonnes (0.2%) were reused, 7,059 tonnes (94.1%) were recycled (predominantly scrap metals from subsea pipelines recovered during the Ketch subsea campaign, parts of the Ketch jacket and recovered conductors from well P&A), 6 tonnes (0.1%) were processed for waste to energy conversion, 255 tonnes (3.4%) were treated (liquids rendered inert before disposal) and 164 tonnes (2.2%) was sent to landfill. No waste was incinerated. 94 tonnes (1%) of the total waste were classed as hazardous and 7,405 tonnes (99%) classed as non-hazardous (Figure 5-2, Figure 5-3 and Figure 5-4).





Figure 5-2. Ketch and Schooner Decommissioning Waste Fate – % of 2023 Total



Figure 5-3. Ketch and Schooner Decommissioning Waste Fate - Monthly % of 2023 Total



Figure 5-4. Ketch and Schooner Hazardous and Non-Hazardous Waste 2023

5.4 2023 Atmospherics

During 2023 decommissioning operations there were atmospheric emissions arising from the combustion of fuels from the rig, vessels and from helicopter flights servicing the rig (Figure 5-5).

In total, 3,547 te of CO_2 were emitted from all sources, and 90 tonnes of other products of combustion. As well as carbon dioxide (CO_2), nitrous oxide (N_20) and methane (CH_4) are greenhouse gases that contribute to global warming: when these effects are considered in addition to the CO_2 produced, there was a total of 3,617 te of CO_2 equivalent emitted during 2023. The largest source of emissions were vessels, including the rig supply vessels and the vessels involved in removing the Schooner pipeline from the seabed.





Figure 5-5. 2023 Atmospheric Emissions (All Sources)

5.5 2023 Unplanned Releases and Other Regulatory Reportable Incidents

Unplanned releases to sea can have a negative impact on the marine environment, DNO work to minimise this risk with a strong focus on prevention. DNO ensured regulatory approved Oil Pollution Emergency Plans (OPEPs) were in place for all relevant operations. During 2023 there were zero unplanned chemical releases and zero unplanned oil releases.

No other regulatory reportable incidents occurred in 2023.



6 2023 Key Performance Indicators (KPIs)

The over-riding objective for the Schooner and Ketch Decommissioning Project was to conduct wells P&A, and carry out all removal, dismantling and disposal operations in a safe and environmentally responsible manner. For the duration of the Project, HSE objectives and targets have been defined annually and agreed with key contractors. These objectives and targets were monitored using KPIs that have been updated in accordance with the risk profile presented during various operations/phases. Project KPIs for 2023, including final status as reported, are presented in Table 6-1.

Objective / KPI	Target	
Audit, Review and Verification (ARV)	90 % compliance with 2023 ARV Plan	
Compliance Assurance	90 % compliance with the DNO S&K Decom Permits, Licences, Authorisations and Notifications register, resulting in ZERO delayed UK approvals	
Emergency Preparedness	Emergency response exercises and drills (including Tier 1 contractors) completed as planned	
	No Reportable releases of oil (PON1s) - aligned with DNO North Sea Business Unit (NS BU) KPIs	
Zero reportable incidents	No reportable incidents with high potential consequences - aligned with DNO NS BU KPIs	
	No regulatory or permit non-compliances	
Demonstrable HSE Leadership	4 Senior Management purposeful visits to the project per year	
Adhere to waste hierarchy: eliminate, re-use,	Tubulars from P&A operations are re-used, not recycled	
recycle, treatment, dispose	97% - quantity of waste recycled - includes recovery target for Ketch disposal	

Table 6-1. Schooner and Ketch Decommissioning Project HSE KPIs for 2023