

Our Ref: 01.01.01.01-5632U
UKOP Doc Ref:1328312



Offshore Petroleum Regulator
for Environment & Decommissioning

SHELL U.K. LIMITED
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LONDON
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Registered No.: 00140141

Date: 22nd February 2024

Department for Energy Security &
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Dear Sir / Madam

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2020**

**Jackdaw to Shearwater Pipeline installation and associated works - PIPELINE
PL6234**

I refer to your amended application dated 22nd February 2024, reference PL/2366/1 (Version 2).

It has been determined that the proposed changes to the project is not likely to result in a significant effect on the environment, and therefore an environmental impact assessment is not required.

A screening direction is therefore issued for the changes to the project. An amended schedule of conditions, comments, and main reasons for the decision on the amended application, are attached. A copy of this screening direction will be forwarded to the application consultees, the Oil and Gas Authority and published on the gov.uk website.

If you have any queries in relation to this screening direction or the attachments, please do not hesitate to contact [REDACTED] on [REDACTED] or email the Environmental Management Team at OPRED@energysecurity.gov.uk.

Yours faithfully



**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2020**

**SCREENING DIRECTION CONFIRMING THAT AN ENVIRONMENTAL IMPACT
ASSESSMENT IS NOT REQUIRED**

**Jackdaw to Shearwater Pipeline installation and associated works - PIPELINE
PL6234**

PL/2366/1 (Version 2)

Whereas SHELL U.K. LIMITED has made an application dated 22nd February 2024, under The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020, and whereas the Secretary of State has considered the application and is satisfied that the project is not likely to have a significant effect on the environment; in exercise of the powers available under regulation 6, the Secretary of State hereby directs that the application for consent in respect of the project need not be accompanied by an Environmental Impact Assessment, provided that the project is carried out as described in the application for the screening direction and in accordance with the conditions specified in the attached schedule.

In giving a screening direction under regulation 6 of the above Regulations, the Secretary of State accordingly gives agreement to the Oil and Gas Authority to the grant of consent for the project as detailed in the applications, PA/4335 and PA/4996.

Effective Date: 22nd February 2024

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THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2020

SCHEDULE OF SCREENING DIRECTION CONDITIONS

The grant of this screening direction is conditional upon the screening direction holder complying with the following conditions.

1 Screening direction validity

The screening direction shall be valid from 15 June 2023 until 14 July 2025.

2 Commencement and completion of the project

The holder of the screening direction must confirm the dates of commencement and completion of the project covered by the screening direction. Notification should be sent by email to the Environmental Management Team Mailbox: OPRED@energysecurity.gov.uk

3 Nature of stabilisation or protection materials

Rock deposits

112500 tonnes of clean, inert rock material, containing minimal fines, (The quantity of rock deposited should be the minimum required to provide the necessary stabilisation or protection, and any surplus rock must be returned to land). No deposits of rock to prevent upheaval buckling (UHB) on the pipeline shall be undertaken until a post direction amendment to this screening direction is submitted and agreed detailing the locations of the proposed UHB rock deposits

Sand deposits

800 tonnes of clean, inert rock or sand material containing minimal fines. (The amount of sand deposited should be the minimum required to provide the necessary protection, and any surplus sand must be returned to land).

Grout bags deposits

18,120 tonnes of grout contained within 25 kilogramme capacity biodegradable bags. (The number of bags deposited should be the minimum required to provide the necessary protection, and any surplus bags must be returned to land).

Concrete mattress deposits

136 concrete mattresses, each measuring 6 metres x 3 metres x 15 centimetres.



61 concrete mattresses, each measuring 6 metres x 3 metres x 30 centimetres.

183 concrete mattresses, each measuring 6 metres x 2 metres x 15 centimetres.

90 concrete mattresses, each measuring 6 metres x 4.2 metres x 15 centimetres.

(The number of mattresses deposited should be the minimum required to provide the necessary protection, and any surplus mattresses must be returned to land).

Glass Reinforced Plastic (GRP) Covers

30 GRP covers each measuring 12 metres x 6 metres x 2 metres. (The number of GRP covers deposited should be the minimum required to provide the necessary protection, and any surplus must be returned to land).

Concrete Ballast

600 tonnes of concrete ballast contained within 25 kilogramme capacity biodegradable bags. (The amount of ballast deposited should be the minimum required to provide the necessary protection, and any surplus must be returned to land).

Concrete Plinths

10 concrete plinths each measuring 3 metres x 2 metres x 100 centimetres. (The number of plinths deposited should be the minimum required to provide the necessary protection, and any surplus must be returned to land).

4 Location of pipeline and stabilisation or protection materials

at the locations detailed in the PL SAT

5 Prevention of pollution

The holder of the screening direction must ensure that appropriate measures are taken to minimise discharges, emissions and waste, in particular through the appropriate use of technology; and to ensure that necessary measures are taken to prevent incidents affecting the environment or, where they occur, to limit their consequences in relation to the environment.

6 Inspections

Should the Department consider it necessary or expedient for an inspector appointed by the Secretary of State to investigate whether the conditions of the screening direction are being complied with, the holder of the screening direction shall afford the inspector with such facilities and assistance as the inspector considers necessary to exercise the powers conferred by the regulations. The holder of the screening direction shall additionally ensure that copies (electronic or paper) of the screening



direction and any other relevant documents are available for inspection by the inspector at:

- a) the premises of the holder of the screening direction; and
- b) the facilities undertaking the project covered by the screening direction.

7 Piling

Marine mammal mitigation measures

i) All piling should be undertaken in accordance with the relevant sections of the current Joint Nature Conservation Committee (JNCC) 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise', and must be undertaken in accordance with the following conditions:

a) Prior to the commencement of piling operations a 'pre-shooting' marine mammal search must be undertaken, to determine whether any marine mammals are located within 500 metres (m) of the piling location. The duration of the pre-shooting search must be at least 30 minutes in water depths of less than 200m, and at least 60 minutes in water depths of greater than 200m. (Further information can be found in the JNCC guidelines).

b) Following completion of the pre-shooting search, a 'soft start' must be undertaken, to reduce the possibility of causing injury to marine mammals. The duration of the soft start must be a minimum of 20 minutes. If any marine mammals are detected within 500m of the piling location during the pre-shooting search, the soft start must be delayed until it has been confirmed that the marine mammals have moved out of the 500m zone. (Further information can be found in the JNCC guidelines).

c) If any marine mammals are detected within 500m of the piling location during the pre-shooting search, piling operations must be delayed until it has been confirmed that the marine mammals have moved out of the 500m zone. (Further information can be found in the JNCC guidelines).

d) If piling operations are suspended for any reason for a period of more than 10 minutes, a marine mammal search must be undertaken prior to the resumption of the piling operations. The duration of the search must be at least 30 minutes in water depths of less than 200m, or at least 60 minutes in water depths of greater than 200m, or for the duration of the suspension if piling operations can be resumed in less than 30 minutes. If any marine mammals approach within 500m of the piling location during the search, the resumption of piling operations must be delayed until it has been confirmed that the marine mammals have moved out of the 500m zone. In any event a further soft start (minimum duration of 20 minutes) must be undertaken prior to the resumption of the piling operations. (Further information can be found in the JNCC guidelines). If piling operations are suspended for a period of more than 30 minutes the resumption of piling operations must be delayed until a pre-shooting search and soft-start have been undertaken in accordance with conditions 7 i) (a) and 6(b).



e) A MMO must be available to undertake visual monitoring during any pre-shooting search or soft start procedure undertaken during the hours of daylight. Piling operations must be delayed if poor visibility prevents the visual monitoring. The MMO may not have a dual role during any periods of visual monitoring required as a condition of the consent, e.g. undertaking the duties of a Fisheries Liaison Officer. (Further information can be found in the JNCC guidelines).

f) MMOs must be trained marine mammal observers and must be familiar with piling mitigation techniques and the requirements of the JNCC guidelines and reporting forms; and must be aware of the marine mammal species likely to be encountered in the area. (Further information can be found in the JNCC guidelines).

g) A proven PAM system, i.e. one that has been successfully demonstrated to be able to detect vocalising marine mammals, must be available on the source vessel to undertake acoustic monitoring if any search or soft start procedure is undertaken during the hours of darkness or during periods when visual observations are not effective because of the weather conditions or sea state. (Further information can be found in the JNCC guidelines).

h) PAM operatives must be familiar with acoustic monitoring techniques and the requirements of the JNCC guidelines and reporting forms. (Further information can be found in the JNCC guidelines).

i) Agreed lines of communication must be established between MMOs, PAM operatives, the piling contractor and the vessel's officers and crew, as appropriate, to facilitate the visual and/or acoustic monitoring of marine mammals in accordance with the consent conditions. (Further information can be found in the JNCC guidelines).

j) A report of the visual and/or acoustic monitoring undertaken during the course of the piling must be completed and submitted by email to the Environmental Management Team Mailbox: OPRED@energysecurity.gov.uk, and copied to JNCC at seismic@jncc.gov.uk, within 6 weeks of the date of expiry of the completion of piling activities. The report must be compiled using the current JNCC Reporting Forms and must include the Department's reference number and the Marine Mammal Recording Form in its original format (i.e. as a Microsoft Excel spreadsheet and not converted to an Adobe Portable Document Format file). (Further information can be found in the JNCC guidelines).

ii) Commencement and Completion of Operations

The holder of the consent must notify the Department within 2 days:

(a) of commencement of operations and

(b) of completion of the operations.

Notification should be sent by email to the Environmental Management Team



Mailbox: OPRED@Energysecurity.gov.uk

iii) Survey Log

A record of the piling operations authorised under the screening direction must be maintained on board the vessel(s) undertaking the operations covered by the screening direction, and made available for inspection upon request by any person authorised to act on behalf of the Secretary of State. The record must include the following information:

- a) the date and time of commencement and completion of piling activities;
- b) the date and time of commencement and completion of any marine mammal visual or acoustic searches;
- c) the date and time of commencement and completion of any soft start procedures;
- d) the quadrant and block location of the piling vessel on each day that the piling operations are undertaken, using the form available on the gov.uk website at <https://www.gov.uk/oil-and-gas-offshore-environmental-legislation>, noting this form is intended for geological survey reporting; and
- e) details of any problems encountered during the course of the piling activity, including information relating to the physical injury of any marine mammal or conflict with fishing gear or fishing operations.

8 Monitoring

The results of any pre or post-placement surveys carried out to confirm the necessity for the deposits covered by the screening direction and/or to confirm the accurate positioning of the stabilisation or protection materials, should be forwarded to the Department following completion of the surveys

9 Check monitoring

Should the Department consider it necessary or expedient to undertake an independent monitoring programme to assess the impact of the project covered by the screening direction, the screening direction holder shall afford the Department with such facilities and assistance as the Department considers necessary to undertake the work.

10 Atmospheric emissions returns

Following completion of the project covered by the screening direction, the holder of the screening direction shall report all relevant atmospheric emissions, such as combustion emissions, using the appropriate Environmental Emissions Monitoring System (EEMS) reporting forms.



11 Deposit returns

The holder of the screening direction shall submit a report to the Department following completion of the deposit covered by the screening direction, confirming the quantity of materials deposited and the estimated area of impact, using the appropriate Environmental Emissions Monitoring System (EEMS) reporting form. Where no deposits are made, a 'nil' return is required.

12 Unauthorised deposits

Following completion of the project covered by the screening direction, the holder of the screening direction shall recover any materials accidentally or temporarily deposited on the seabed, such as debris, temporary containers, structures or deposits, or scientific instruments, and shall return the materials to land. If it is not possible to recover any of these deposits, full details of the materials remaining on the seabed must be reported to the Department in accordance with the requirements of Petroleum Operations Notice No.2 (PON2).

13 Screening direction variation

In the event that the holder of the screening direction proposes changes to any of the particulars detailed in the application for a screening direction, the holder must notify the Department immediately and submit an application for a post screening direction amendment. The post screening direction must be in place prior to the amended proposals taking effect.

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COMMENTS ON THE APPLICATION FOR SCREENING DIRECTION

Section 1

The attention of screening direction holders is drawn to the following provisions regarding The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020.

1) You are deemed to have satisfied yourself that there are no barriers, legal or otherwise, to the carrying out of the project covered by the screening direction. The issue of a screening direction does not absolve the screening direction holder from obtaining such authorisations, consents etc that may be required under any other legislation.

2) The Department would draw your attention to the following comments:

No deposits of rock to prevent upheaval buckling (UHB) on the pipeline shall be undertaken until a post direction amendment to this screening direction is submitted and agreed detailing the locations and volumes of the proposed UHB rock deposits.

3) All communications relating to the screening direction should be addressed to:

OPRED@energysecurity.gov.uk

or

Offshore Petroleum Regulator for Environment & Decommissioning
Department for Energy Security & Net Zero
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

Tel [REDACTED]



SCHEDULE OF SCREENING DIRECTION DECISION REASONS

The Secretary of State has decided that, based on the information provided, the project is not likely to have a significant effect on the environment. The main reasons for this decision are:

1) Decision reasons

The following provides a summary of the assessments undertaken by OPRED to determine whether an Environmental Impact Assessment is required for this project. This document summarises the information considered, the potential impacts and sets out the main reasons for the decision made. In considering whether an Environmental Impact Assessment is required or not, the following have been taken into account:

- a) The information provided by the developer;
- b) The matters listed in Schedule 5 of The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Regulations 2020) (the Regulations);
- c) The results of any relevant preliminary verifications or assessments of the effects on the environment of the project; and
- d) Any conditions that the Secretary of State may attach to the agreement to the grant of consent.

Characteristics of Project

This screening direction (PL/2366) relates to subsea installation works at Jackdaw. Having regard, to the matters identified at paragraphs 1(a) to (g) of Schedule 5 to the Regulations, the characteristics of the project include the following.

Summary of the Project

This screening direction is for the installation of the subsea infrastructure associated with the proposed development as detailed under **PA/4335 and PA/4996** , this comprises:-

- production pipeline (PL6234);
- services umbilicals (PLU6232 and PLU6233);
- new subsea isolation valves (SSIVs) at Jackdaw and Shearwater (no piling shall take place until such time as a post direction amendment is submitted and agreed detailing noise assessment associated with SSIV piling operations);

and associated stabilisation and protection materials as follows:-

- Mattresses (470 no)



25 kg grout bags (18,120 tonnes)
Glass Reinforced Plastic (GRP) covers (12m x 6m x 2 m) (30 no)
Concrete ballast (600 tonnes)
Concrete Plinths (3m x 2m x 1m) (10 no)
Sand (800 te)
Rock (112500 te) (no rock deposits associated with upheaval buckling of the pipeline (UHB) shall take place until a post direction amendment is submitted and agreed detailing the specific locations and volumes of any such deposits)

Description of project

The Jackdaw Field is an ultra high pressure high temperature (uHPHT) reservoir located in the Central North Sea (CNS) in Block 30/2 (Figure 1 1), c. 275 km from the Scottish coastline (Aberdeen) and c. 5 km from the UK/Norway median line. The Jackdaw Development has been subject to an Environmental Statement (ES) (Reference No. D/4260/2021) which OPRED agreed to grant consent to in May 2022. The proposed Jackdaw Development will comprise a Well Head Platform (WHP), with four new platform production wells, tied back to the Shearwater platform for processing and onward export via the existing Fulmar Gas line and the Forties Pipeline System.

This screening direction is for the installation of the subsea infrastructure associated with the proposed development. This comprises production pipeline (PL6234), services umbilicals (PLU6232 and PLU6233), new SSIVs at Jackdaw and Shearwater and associated stabilisation and protection materials. Work is expected to take place from mid June 2023 (starting with Phase 1 activities considered in permit applications under Master Application Template reference PRA/321) and may continue until July 2025.

PL6234 will be laid using the reel-lay method and will be trenched and backfilled along its entire length to a target burial depth of 1.0 m to Top of Pipe (ToP) except on the approaches to the two platforms and the crossings over the Judy to Culzean submarine communications cable and the Pierce gas export pipeline (PL4867). If the depth of the pipeline in the trench is deemed insufficient, then as a contingency, rock may be placed over the affected area to ensure there is adequate cover to prevent upheaval buckling (UHB) of the pipeline, the detailed locations of any such proposed rock are not yet known and would be the subject of a post direction amendment prior to the deposition of any UHB prevention rock deposits.

The tie-in spools, and EHC umbilicals, the SSIVs at Shearwater and Jackdaw (including the cooling spool at the WHP) will be installed using Construction Support Vessels and/or Dive Support Vessels (DSV) and will be protected/supported using a combination of concrete mattresses and 25 kg grout/sandbags and potentially GRP covers/ballast plinths/concrete ballast over the cooling spool. The SSIV at Jackdaw will be piled.

The project is not at risk from natural disasters given its location in UK offshore waters, or unplanned major accident scenarios leading to an environmental incident.



No cumulative interactions are foreseen with any other existing or approved projects. The nearest oil and gas installation is 7 km from the project location. The project is sited on an area of seabed comprised of gravelly sand with varying proportions of shell accumulations, pebbles, cobbles, and boulders. The sediment type is described as circalittoral coarse sediment. There is no risk to human health from the works to deposit protective and support materials on the seabed.

Location of Project

Having regard, in particular, to the matters identified at paragraphs 2(a) to (c) of Schedule 5 to the Regulations, the environmental sensitivity of geographical areas likely to be affected by the project has been considered as follows.

The Jackdaw field is located in the Central North Sea (CNS) in Block 30/2, approximately 275 km from the Scottish coastline (Aberdeen) and approximately 5 km from the UK/Norway median line, in an area where the water depth is between 75 and 92 m.

The predominant current in the region originates from the vertically well-mixed coastal water and Atlantic water inflow of the Fair Isle/Dooley current, which flows around the north of the Orkney Islands and into the North Sea. The project location is not within any protected areas, with the closest being 21 km away. The pipeline route was broadly split between two habitats, circalittoral muddy sand and circalittoral fine mud. The south-eastern section of the pipeline route (nearest the Jackdaw WHP) was classified as circalittoral muddy sand and the north-western section was classified as circalittoral fine mud, with patches of deep circalittoral mixed sediment. All three of these habitats are considered Priority Marine Features (PMFs) in Scottish waters, coming under the broad categories of "Offshore deep-sea muds" and "Offshore subtidal sands and gravels". The macrofauna recorded across the Jackdaw field and along the pipeline route are typical of sandy CNS sediments. Community composition is dominated by annelids, molluscs, arthropods and echinoderms and is considered representative of background communities.

A number of potentially sensitive habitats were also noted during the surveys including OSPAR Habitats 'Sea pens and burrowing megafauna', individuals and small clumps of horse mussels, PMF 'mud habitats in deep water' along sections of the pipeline route and the broad habitats PMF 'offshore subtidal sands and gravels' along a section of the pipeline route.

The project works and timing will take place at a time when a number of fish species may be found to be spawning or using the area as juveniles or nursery locations. Fish PMFs potentially present in the area include anglerfish (*Lophius piscatorius*), blue whiting (*Micromesistius poutassou*), cod (*Gadus morhua*), herring (*Clupea harengus*), ling (*Molva molva*), mackerel (*Scomber scombrus*), Norway pout (*Trisopterus esmarkii*), sandeels (several members of the family Ammodytes), Spurdog (*Squalus acanthias*) and whiting (*Merlangius merlangus*).

Sightings of cetaceans are most common between the months of July and



September. Seals are not expected to be present at the remote location. Seabirds are most common in the area during the summer months when expected density is 5-10 individuals per square km.

The project area is primarily used for demersal and shellfish fishing, but with a very low historical effort. Shipping intensity at the project location is also very low to moderate. The surrounding area comprises other oil and gas infrastructure within 10 km, but is not within a military activity zone, with no telecommunications cables, marine aggregate sites in proximity. The pipeline location is within the Innovation and Targeted Oil and Gas (INTOG) area, however the closest approved windfarm is approximately 90 km away. There are 2 wrecks near the pipeline (600 m and 2 km respectively).

Type and characteristics of the potential impact

In accordance with paragraph 3 of Schedule 5 to the Regulations, the likely significant effects of the project on the environment have been considered. Potential impacts on the environment from the activities associated with the project were assessed, with particular focus on the predominant impacts resulting from physical presence of the installed infrastructure and associated deposits and seabed disturbance resulting from the deposit of those materials.

Other than the matters considered further below, there is not likely to be any significant impact of the project on population and human health.

The existing Shearwater platform has an existing 500 m safety zone and a new safety zone will be established around the new Jackdaw WHP, some of the infrastructure works will be carried out within these 500 m safety zones. Pipeline installation works outwith the 500 m safety zones will involve trenching and burying the pipeline with rock deposits where sufficient burial depth cannot be achieved. In addition, 2 pipeline/cable crossing will require to be constructed outwith the 500 m zones. A guard vessel will be on location during pipeline installation until such time as the pipeline has been fully backfilled. The presence from the installation of permanent support and protection materials (partly within exclusion zones) does have the potential to interact with users of the sea - primarily fishermen. The installations of the various types of deposits are deemed necessary to prevent snagging with the pipeline infrastructure and will not pose a hazard to fishing gear. The project is in a very low-level fishing area and so the impact on other users of the sea is not expected to be significant.

Seabed impacts will arise from the installation of the pipeline, umbilicals, SSIVs, and protective deposits, where potential smothering may occur. The predicted maximum area of temporary impact is estimated at 1.614 km² and area of permanent impact is predicted at 0.110 km². The effects of trenching are understood to be temporary, and the recolonisation of the area commences when the trenching is completed. There will be, particularly for sea pens and burrowing megafauna, temporary impacts. Burrowed mud habitats show a medium sensitivity to abrasion/penetration which may be caused by the project activities. Sea pens have been shown to re-anchor



themselves after disturbance and can be resilient. Ocean Quahog are sensitive to increased siltation and can bury into the sediment when disturbed as long as their inhalant siphon is not damaged. The proposed activities may result in a loss of a small number of juvenile individuals however it is not thought that the project activities will impact on the population viability. Following completion of installation activities, it is expected that the benthos will begin to recover quickly. The impact to the seabed environment at the location has therefore been assessed as not significant.

The interaction with fish spawning and nursery locations is assessed as not significant as spawning and nursery areas are transient and widespread. The impact to fish species is therefore not significant. The quantity of deposits to the seabed is inclusive of a contingency allowance, which may not be used, thus reducing the insignificant impact further.

Noise emissions associated with the piling of the SSIV will not result in a significant impact when the mitigation measures specified in the application are implemented.

The proposed operation will utilise a number of vessels, and atmospheric emissions have been assessed from the diesel used for each vessel, and the time spent on location. The total atmospheric emissions from the vessels undertaking the phase 2 and phase 3 project work, accounts for 0.084% of the total UKCS CO₂ emissions. The emissions may result in a deterioration of the local air quality, but due to the relatively short duration of the work, and that the exposed conditions in the area will rapidly disperse the emissions, it is not anticipated that there will be a significant impact.

The main risk of accidental release of hydrocarbons is from a loss of diesel inventory from a vessel. The assessment showed that there is no potential for a significant effect from the loss of diesel from a vessel. Therefore, the impact was not assessed further.

There are no expected transboundary impacts as a result of the planned works, and no cumulative impacts have been identified given the other known existing and approved projects in the wider area.

Taking all the above determinations into account, the Secretary of State has concluded that the project is not likely to have a significant impact on the environment, and so an EIA is not required.

2) Mitigation of significant effects

The following are features of the project or measures envisaged that the developer has proposed to avoid or prevent what might otherwise have been significant adverse effects on the environment: