

Notice of request for more information

The Environmental Permitting (England & Wales) Regulations 2016

Company Secretary

Rathlin Energy (UK) Limited
Suite 1, 7th Floor
50 Broadway
London
SW1H 0BL

Application number: EPR/BB3001FT/V005

The Environment Agency, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit duly made on 18/10/2021.

Send the information to either the email or postal address below by **09/12/2022**. If we do not receive this information by the date specified then we may treat your application as having been withdrawn or it may be refused. If this happens you may lose your application fee.

Email address: psc@environment-agency.gov.uk.

Postal address:

Permitting and Support Centre
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Name	Date
Senior Permitting Officer	18/11/2022

Authorised on behalf of the Environment Agency

Notes

These notes do not form part of this notice.

Please note that we charge £1,200 where we have to send a third or subsequent information notice in relation to the same issue. We consider this to be the first notice on the issues covered in this notice.

The notes in italics that appear after information requests in the attached schedule do not form part of the notice. The notes are intended to assist you in providing a full response.

Schedule

Please provide the following information:

Chemical inventory

1. Please update and resubmit your chemical inventory to remove the chemical below from your water based drilling fluids

Reasoning: The Schedule 5 response contains an assessment of three substances proposed in the water-based drilling fluids to determine whether these are hazardous or non-hazardous under the Joint Agencies Groundwater Directive Advisory Group (JAGDAG) Methodology for the determination of hazardous substances.

The Environment Agency has reviewed the data provided for the assessments. The information provided does not provide any references or specific detail. For example, the species studied in the toxicity studies are not noted and the aquatic toxicity data is focussed on acute effects rather than chronic effects.

*For Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.- (phosphonooxy)-, ether with 2,2 bis(hydroxymethyl)-1,3- propanediol (4:1), potassium salt (CAS: 99129-23-4) the Environment Agency have been unable to find any relevant information on this substance. The data provided in the table indicates it may be persistent because no degradation is observed, and of low aquatic toxicity based on the acute data provided for algae, invertebrate and fish. There is no classification data available for this substance and therefore no indication of potential human health effects. Overall, the Environment Agency have concluded that there is insufficient data on this substance to be able to assess in accordance with the JAGDAG methodology. **We are unable to approve this substance for use in the water-based drilling fluids and the associated drilling product will need to be removed from the Chemical Inventory.***

2. Please update and resubmit your chemical inventory as below:

Reasoning: The Schedule 5 action tracker confirms that the D250 surfactant will be used in deeper oil-based mud sections of the well only at depths greater than 1492m TVDSS. We would recommend that this statement is also included in the Chemical Inventory for completeness.

Site Surface Water Management Plan (SWMP) Rev 3 (RE-EPRA-WNA-SWMP-013)

3. Please revise and resubmit the SWMP making the following changes below, in order that it aligns with the draft permit. Our comments on this document (V3) are set out below:

Reasoning: The volume and location of holding tanks have been clarified in the Site Surface Water Management Plan. The SWMP proposes during high risk activities for the drilling area

that there will be one sample per holding tank prior to each discharge of site surface water via the interceptor and into Lambwath Stream.

Site surface water will be analysed for a reduced suite consisting of pH, electrical conductivity, total suspended solids, BTEX, MTBE, TPH and PAH. This is based on the rationale that this suite will be used to monitor for surface water contamination and this suite is consistent with the parameters set out in the West Newton B SWMP. Whilst the Environment Agency acknowledge the proposed monitoring suite is consistent with that at West Newton B, this variation application seeks to permit the discharge of site surface water during high-risk activities including drilling and workover operations which are periods where potentially polluting substances are being stored and used on site. This is different from West Newton B which prohibits the discharge of site surface water during drilling and workover activities.

The proposed analysis parameters and screening limits in Appendix 2 are limited to total suspended solids and hydrocarbons only. A range of potentially polluting substances will be stored, used and handled in the drilling area during high-risk activities including drilling fluids, well maintenance treatment products and formation water. There is a risk that contamination other than hydrocarbon contamination could go undetected and enter the surface water environment with the reduced analysis suite proposed in Table 6.1. The petrol interceptor will only treat hydrocarbons and there would be no detection and treatment of heavy metals and other pollutants such as chloride, sodium and sulphate that could be present in the surface water discharge.

Considering the wide range of substances that will be used, handled and stored in the drilling area, the Environment Agency is not satisfied that surface water parameters in Appendix 2 is sufficient to demonstrate the site surface water is uncontaminated prior to discharge. The Environment Agency consider there to be a risk that other pollutants could enter surface water environment from the site surface water discharge which will require further mitigation.

The Environment Agency will require additional parameters to be monitored (in addition to the reduced suite proposed in Table 6.3 of the WMP) and appropriate discharge limits applied. This is necessary show that the collected site surface water is clean, not contaminated and therefore suitable for discharge into the dry ditch. In addition to the surface water parameters and screening limits in Table A1 of the SWMP, the following parameters should be analysed in the site surface water, and discharge limits applied to the surface water discharge activity during drilling, well workovers and other high-risk activities (as defined in the SWMP):

Parameter	Discharge Limit (mg/l)
Aluminium	0.2
Antimony	N/A
Arsenic	0.05

Boron	2
Cadmium	0.00015
Total Chromium	0.0034
Copper	0.001
Iron	1
Lead	0.0012
Manganese	0.123
Mercury	0.00007
Nickel	0.004
Selenium	N/A
Sodium	200
Zinc	0.0138 mg/l (10.9µg/l bioavailable plus ambient background 2.9µg/l)
Chloride	250

Note: Cadmium, lead, mercury, nickel are priority hazardous substances. Arsenic, chloride, chromium, copper, iron and manganese are freshwater specific pollutants.

There are other limitations with the SWMP as submitted. The proposal to sample the perimeter containment ditch for the full analysis suite following the cessation of high-risk activities or after a leak or spill of a hazardous substance does not include any screening/ discharge limits for the full parameter suite. The SWMP suggests that once the results have been received and comply with the screening limits in Appendix 2 the water will be discharged. The SWMP does not define what a hazardous substance is in the context of this site, however there are substances that could cause surface water pollution and these would not necessarily be defined as hazardous substances.

These comments also apply to Table 6.3 following the leak or spill of a hazardous substance in the production area. Section 5.4.1 of the SWMP states that once the results confirm that the surface water has not been contaminated, the containment system will be opened to allow discharge operations to continue, therefore discharge limits are needed for key parameters listed in Table 6.3.

The Environment Agency would recommend that the discharge limits listed above (and those in Appendix 2) also apply to water that has been sampled following a leak or spill to confirm that the site surface water is clean and free from contamination.

For low-risk activities, chloride and sodium should be added to the proposed analysis suite as indicator substances for formation water to show the site surface water discharge during production activities is clean and uncontaminated.

The SWMP should be revised considering our comments above because this document will be listed as an Operating Technique in the permit. We would also recommend that the following revisions are also made to the SWMP:

A revision is needed to Table 6.1 which relates to high-risk activities only. Row 6 of the table suggests that the reduced suite will be analysed monthly where isolation valves are left open. This does not apply to high-risk activities because the isolation valve must remain closed to ensure there is no uncontrolled polluting discharge during high risk activities.

Row 5 in Table 6.2 states that a reduced suite at outlet 1 will be analysed quarterly. This is not relevant for low-risk activities in the drilling area because outlet 1 will be sampled monthly.

The limit for total suspended solids is 100mg/l is accepted.

Appendix 3 contains a plan of the surface water sampling locations around the site. The Environment Agency would benefit from an explanation of the difference between sample points 2,3 and 4 because the plan shows the same arrow pointing to sample points 2,3 and 4. This comment also applies to sample points 6 and 7 which appear to be at the same location and 5 and 8.

Question 10. This question remains unanswered. There is no information in the Environmental Risk Assessment or SWMP that explains how water that accumulates in secondary containment will be managed and disposed of.

The Schedule 5 action tracker suggests that the Environmental Risk Assessment has been revised and clarification has been sought from the Environment Agency, however there is no clarification in the ERA apart from statements that there will be dedicated secondary containment measures for oil/ produced fluid to prevent spill into the tertiary containment system. Please update and resubmit the SWMP to confirm.

Gas Management Plan

4. Please can you update section 7.3 of your Gas management plan (GMP) Rev 6, July 2021 to make it clear that Nitrogen would be used for hydrostatic fluid lifting and CO2 for clearing near wellbore debris as per your email on 17/10/22. The current GMP includes both N2/CO2 without this distinction.

Reasoning: It should be noted that CO2 has a higher specific heat capacity than N2, making it a more powerful inerting agent, therefore, to increase the flammability of the gas it would be preferable to use N2 as the lifting gas. The Environment Agency object to the use of CO2 for lifting purposes as it is likely to increase the likelihood of cold venting.

Air Quality Impact Assessment (Air quality assessment of a wellsite development: West Newton A wellsite dated 28th May 2021)

5. Please can you revise and resubmit your air quality impact assessment to reassess the impact on Lambwath Meadows SSSI.

Reasoning: The process contributions (PCs) do not screen out for nutrient nitrogen and acid deposition.

Table 8 – Maximum modelled nutrient nitrogen and acid deposition at Lambwath Meadows SSSI					
Critical load	Baseline deposition rates	PC	PC% of Critical load	PEC	PEC% of Critical load
Nutrient nitrogen deposition (kgN/ha/yr)					
20 – 30 (neutral grassland)	24.30	0.246	1.23	24.5	123
Acid deposition (keq/ha/y)					
2.008	1.90	0.0335	1.67	1.93	96

The incorrect background data figures on UK Air Pollution Information System (APIS), also appear to have been used, but even with this correction we have calculated there is still a small exceedance >1% of the PC critical load figure. We also recognise the high background level also. The report and subsequent ecological report submitted on 02/09/22 (extract below) both conclude the impact is negligible, but there is no supporting data to confirm this statement. Please can you either provide more data to quantify the impacts on the SSSI to assist with our consultation with Natural England or provide revised more accurate modelling which includes actual operations compared to current worst case calculations assuming full load, 24hr a day operations in order to shown there is no significant impact. The ecological report submitted to us on 02/09/2022, also concludes a slight exceedance but doesn't explain further any impacts.

6.19 The 1% screening threshold for nutrient nitrogen (N) deposition is slightly exceeded at the SSSI. However, the existing large background nutrient nitrogen deposition rate at the SSSI means that there is already an exceedance of the critical load and therefore the PC from the operational site is negligible and will not reasonably result in changes to the vegetation assemblage. It is therefore concluded that the nutrient nitrogen deposition resulting from the operation of the Development will result in no significant effects on the SSSI.

6.20 The acid deposition PC to the SSSI also slightly exceeds the screening criteria. However, the annual PEC is 1.93 keq/ha/y against a background deposition of 1.90 keq/ha/y represents a negligible change in the baseline conditions. It is therefore assessed that there will be no significant effects on Lambwath Meadows SSSI as a result of acid deposition during operation.