

Notice of request for more information
Environmental Permitting (England and Wales)
Regulations 2016

Notice requiring further information

To: Mr. William Watkins
Radnor Hills Mineral Water Company Ltd
Heartsease
Knighton
Powys
LD7 1LU

Application number: PAN - 000849

Natural Resources Wales, 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, dated 17th October 2016. The information requested should be sent to the following address by 31st March 2017.

Information should be sent to:

Wales Permitting Centre
Natural Resources Wales
Cambria House
29 Newport Road
Cardiff
CF24 0TP

Name

Date

Saul White

31st January 2017

Authorised on behalf of Natural Resources Wales

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Schedule

Further information is required in relation to your Groundwater Risk Assessment. The additional information that we require is itemised below;

Management of discharge

1. In the application it states that *“Under normal conditions the (trade) discharge will be split 50/50 between the two locations (river and groundwater). Monitoring of the river and groundwater level will be used to determine when the discharge should be moved up to 100% to the river, or the wetland. This will be done manually by an operator, and the EMS will contain a procedure to control this”* The application contains no technical information on what the parameters are that would trigger this action and the Environmental Management System (EMS) provided does not include any detailed information on how this would be managed. Please provide full details on the points raised above.

Design and construction of drainage field

2. Figure 2 of the Environmental Permit – Application Supporting Document (updated by letter dated 18th November 2016) shows how the trade effluents will be disposed of at this site. The letter dated 18th November explains that a new un-lined wetland area is proposed. Can you please confirm;
 - a. Whether this is in addition to the existing ‘the wet’ and the ‘lagoon’.
 - b. The size of this new feature
 - c. Provide an updated detailed plan of the disposal area to confirm the above.
3. Please provide details on the design and construction of the un-lined ‘wetland’ and the un-lined lagoon/ponds, we require;
 - a. The ground condition into which they are installed.
 - b. Cross sectional drawings with the elevation (in mAOD) of these features with photographs.

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4. We note that Section 1.7.3 of the Groundwater Risk Assessment states that; *'the final lagoon was constructed by removal of top soil and 4 or 5 shallow pits were dug through the clay into the underlying gravels'*. Can you provide further technical details and clarity on how this was carried out along with any technical information on the construction of 'the wet' which precedes the lagoon?
5. We expect drainage fields to be designed and sized in accordance with the relevant British Standards, which is BS6297:2007. Section 1.7.2 of the Groundwater Risk Assessment supplied attempts to make a comparison between the sizing requirements of the British Standards to demonstrate that the system at this site is comparable. The basal area of these features is given as 1267m² (the wet) and 779m² (lagoon), which totals 2046m². Based on the maximum volume of discharge of 298m³ per day, this would require a British Standard sized drainage area equivalent to between 4000m² and ~33,000m² dependant on the infiltration rate. This is significantly larger than the basal area of the features already in place. Please explain how the features have been determined as large enough to deal with the trade effluent discharge.
6. In addition, the sizing of the existing features also assumes that the entire base of the wetland and lagoon is contributing to effluent disposal. We require clarification if that is the case, or alternatively if there likely to be preferential flow of effluent, concentrated in the gravelly area where the clay layer was removed to construct the lagoon.

Infiltration rate

7. Information in the groundwater risk assessment suggests that groundwater mounding is occurring from the existing discharge (which is lower in volume than that proposed in the permit application) and that there is expected to be limited attenuation of the effluent. Section 1.8 of the groundwater risk assessment confirms this stating 'in terms of infiltration rates, discharge of the Klargester (domestic effluent) only and final lagoon would meet Environment Agency and Building Regulations guidance, but the other scenarios would exceed this capacity'. This statement contradicts the letter from Sustainable Direction dated 18th November 2016 which on page 2 states; 'The work shows that the soakaway exceeds both Environment Agency and Building Regulations requirements'. We require further justification to demonstrate why the British Standards have not been followed and justify that the system installed can provide an equivalent level of treatment to one which is designed and constructed as per the British Standards.

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Hydrogeological setting

8. We require that the relationship between the groundwater and the water levels in 'the wet' and the lagoon/pond features be explained in further detail. Can you please confirm;
 - a. If the water level in these features are reflecting that of local groundwater levels or is there an unsaturated zone present.
 - b. Would the mounding of groundwater effectively negate the presence of an unsaturated zone?
9. We understand from the application that groundwater flooding occurs in this location. Can you confirm whether this means that periodically the lagoon and other 'wetland' would be inundated by groundwater?
10. Our Groundwater Protection: Principles and Practice (GP3) position statement **G1 - Direct inputs into groundwater** states that "*We will only agree to the direct input of non-hazardous pollutants into groundwater if all of the following apply:*
 - a. it will not result in pollution of groundwater;
 - b. there are clear and overriding reasons why the discharge cannot reasonably be made indirect;
 - c. there is adequate evidence to show that the increased pollution risk from direct inputs will be mitigated."

We require evidence to demonstrate that there will be no direct discharge to groundwater, during all operating conditions and during all variations of hydrogeological conditions, including any periods of groundwater flooding.

11. Conversely can you confirm whether there are periods where these features dry-out? Meaning that the effluent would be discharging onto the surface of the ground at one concentrated point?
12. Clarification is required with regards to the effluent quality sample chamber location. The plan provided shows sample points labelled 'ES3' and 'ES5' as being after an un-lined wetland. The sample chamber needs to be positioned prior to any of the effluent entering the ground. For reference if a discharge to ground is accepted we would also expect compliance limits to be set at a series of downgradient monitoring boreholes that would need to be installed and these would form part of the conditions on any permit issued.

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Quality of trade effluent

13. Table 19 of the Environmental Permit – Application Supporting Document sets out the parameters within the trade effluent discharge and their maximum quantity at the point of discharge. We note from the ‘application supporting document’ that various cleaning fluids, acids etc. are used as part of the process. Can you confirm whether there is any expectation that any of these will be present in the final effluent?
14. Section 4.5 (Operating techniques) of the Environmental Permit – Application Supporting Document (page 27) states “*Some chemicals and ingredients are stored externally. These are positioned within bunded areas which are roofed to exclude rainwater. These areas are able to be drained to a 30m³ holding tank and then to the effluent treatment plant*”. Can you please confirm whether the effluent treatment plant is able to treat ‘neat’ chemicals that could enter from any leaks from these storage areas?
15. The current discharge has had historical issues with hazardous substances being present in the effluent. Can you provide evidence and justification that these will not be present in the proposed discharge?

Discharge to river downstream

16. Section 4.3 of the Environmental Permit – Application Supporting Document sets out 4 options considered for the discharge. The final option was a discharge to the River Teme further downstream where it does not suffer reduced water flows during the summer months. We require justification as to why this option has not been pursued. We do not accept the justification in the application relating to groundwater recharge. Given the proximity of shallow groundwater, and possibility of groundwater flooding, there does not appear to be a particular need for groundwater recharge at this location.
17. For this particular location we would expect a downgradient compliance point to be set for groundwater at a maximum distance of 50m from the point of discharge. The risk assessment should be updated to assess if at this distance an appropriate environmental standard would be breached.

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18. Section 5.8 of the groundwater risk assessment contends that conditions in groundwater for the proposed trade discharge would remain aerobic but there is a lack of data to confirm this. Can you please confirm;
- a. Has any seasonal variability of baseline dissolved oxygen concentrations been measured?
 - b. How will you ensure that aerobic conditions will be maintained?
19. Table 2.4 (Sampled Groundwater Quality) of Appendix C 'Radnor Hills Effluent Discharge Evaluation of Risk to the Water Environment – Addendum A. RUKHydro, October 2016) shows a number of substances which were elevated or in exceedance of the relevant environmental standard in the downgradient sampling points. We understand that an improved treatment system is being installed but can you provide further evidence and justification to show that these exceedances will not occur in future.

Site Condition Report

20. The purpose of collecting baseline reference data for the application is to demonstrate that when the permit is surrendered the activities have not caused deterioration in the quality of soils and groundwater beneath the permitted area. Neither of the supplied reports provide details on the quality of soils and groundwater beneath the actual operational areas which are included within the permit boundary. We therefore require the baseline data as stated in the H5 guidance document. If this data is not provided it is at your own risk and we will consider baseline to be zero contamination when the permit is surrendered.
21. *Natural Resources Wales (October 2014) Guidance for application H5 Site Condition Report – guidance and templates* sets out the information needed as part of the permit application to satisfy the requirement of the IED. We require that relevant hazardous substances as listed in the guidance are assessed.

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