Notice of request for more information
Environmental Permitting (England and Wales) Regulations 2010

Notice requiring further information

To: Gwyn Jones
Streetscene and City Centre Services
Newport City Council
Civic Centre
Newport
NP20 4UR

Application number: PAN-000072

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 14th May 2015. The information requested should be sent to the following address by 15th February 2015.

Information should be sent to:

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

Name	Date
Kevin Ashcroft	4th January 2016

Authorised on behalf of Natural Resources Wales

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Schedule

The Stability Risk Assessment submitted indicates that a form of engineered cell separation barrier is to be constructed to separate the wastes. Several scenarios are considered in the SRA, one where the rate of asbestos waste input exceeds the rate of non-hazardous waste input, the second where the reverse is true and the third where the two wastes increase in height at a similar rate. For each of these scenarios the report considers how the separation system is to be constructed and examines the stability of the separation system.

The proposals submitted with this variation application have been subjected to slope stability modelling using limit equilibrium methods. Each of the three scenarios has been simulated by producing limit equilibrium models of an external slope, with the asbestos waste mass overlying or underlying the general wastes. Undrained strengths have been assigned to the materials as it has been considered that the slopes will remain for a limited time before being buried as the waste mass rises. The simulations aimed to quantify the maximum slope and height that could be shown to be stable. The assessment therefore focusses on the separation structure during construction and filling but does not consider the performance of the structure once filling has buried the structure.
Whilst the approach taken in the SRA is an appropriate means to assess the stability of external slopes, **it does not provide any assurance that the system is capable of providing separation in the medium to long term**: this is a key omission that has to be addressed.
The proposal is to provide separation by a relatively slender separation structure, referred to in the SRA as a “liner”. This “liner” is not self-supporting; it is constructed either directly onto a general waste slope, an asbestos waste slope or both in a complex interleaving pattern. As the liner is not inherently stable in the long term (as a self-supporting bund would be) it will deform in response to stress increases in the waste masses on either side and also in response to biodegradation within the general wastes. As time passes the geometry of the liner will change and it is this that requires further consideration.
There is no doubt that a coupled stability/deformation analysis is required to fully understand the longer term (post construction) fate of the separation structure.
In view of the above we do not approve the SRA in its current form as it does not demonstrate the long term separation of the different wastes, which is a key requirement of the design of asbestos cells in non-hazardous landfills

1. The proposal will need to be supported with appropriate evidence. This evidence should comprise a finite element deformation stability analysis using proprietary software such as Plaxis, Phase or Flac. The analysis should aim to quantify deformation in section (conventional 2D analysis) but should also consider the system holistically, so that the full consequence of deformation can be considered. **Please provide a revised SRA supported by appropriate modelling to consider post construction deformation of the separation structure in a fully justified numerical analysis.**