

Introduction

An application has been made for a Recovery Permit to facilitate the restoration of Airfield Quarry. At Duly Making stage the EA have raised the potential risk of landfill gas arising from the inert recovery activities.

Clarification was sought and the EA confirmed they :

“...require either a relevant gas risk assessment or a full justification for the absence of a gas risk assessment. Any additional information/assessment should reflect: a) potential rogue loads which if present adjacent to the boundary, could represent a source of gas, b) proximity of the sensitive receptors and geological setting (sand and gravel overlain by overburden)”

Full details on the site setting, including the location of receptors and the proposals are already included in the application and they are not repeated here. Specifically document should be read in conjunction with HQP Airfield Quarry ESSD Oct 2022 and HQP Airfield Quarry HRA April 2022.

There will only be a risk to receptors if there is a sufficient source of landfill gas and that gas has a method to reach the receptor at a concentration that would give rise to unacceptable risk to the receptor.

It is noted that the Landfill Gas Risk Assessment Report template does not require the consideration of rogue loads, and other Permit applications (available to view on the public consultation website) for inert recovery sites, either do not include GRAs, or where they do, no consideration has been given to rogue loads.

Source

The wastes that will be used for the recovery operation are inert. Inert waste within the meaning of the Landfill Directive (1999/31/EC) is waste that is not chemically or biologically reactive, and will not decompose or only very slowly:

- It will not dissolve, burn, or otherwise physically or chemically react
- It will not biodegrade or adversely affect other matter that it comes into contact with
- It will not endanger the quality of surface water or groundwater

The site is to be restored with inert waste and the void will, prior to infilling in each phase, be supplemented with an artificially engineered geological barrier (oxford clay) to the required specification stated in the HRA and to a minimum of 1m thickness of liner. The site will not be capped.

There is therefore a negligible risk of gas being created from the wastes that will be used, meaning that there is no likely source of the risk.

The EA note the potential for a “rogue load” that could create a gas risk to be accepted, however working in accordance with the Permit must be assumed and the Waste Acceptance Procedures (to be agreed as part of the Permit application, but mirror those already agreed for other HQP Recovery Permits) will ensure that the likelihood of non permitted wastes not just being deposited, but also allowed to remain in the void, is also negligible.

If a load containing organic material were to be deposited, the most likely scenario is that it would contain biodegradable materials such as grass or other vegetation. This would be visible and therefore the load removed from the void. Whilst it is acknowledged that other organic materials that could give rise to landfill gas that would not be visible, could be contained, given the sources of the wastes to be used, this is not likely.

Furthermore, even if a rogue load that contained organic materials were to be deposited undetected, it is simply that, a single rogue load in a site that will accept several million tonnes of inert waste over it's life. It may be technically a source of landfill gas, but in terms of quantity, any gas that were to be produced would be a very small amount.

Pathway

If gas were to arise that could be considered to be a risk to any of the three groups of residential properties (six houses in total) that are in excess of 30m from the areas to be restored, for the pathway to those receptors to be effective, the rogue load creating that gas would have had to have been deposited in close proximity to those three points on the site boundary. As noted above, the likelihood of the rogue load arising is very low, the amount of gas it would create is also very small but for it then to also be deposited in close proximity of these three residential groups is less than negligible.

As noted above the site is not capped, therefore, it would be expected that any gas would vent passively to atmosphere rather than horizontally traverse the inert waste surrounding it and then the compacted 1m thick oxford clay liner. This indicates no viable pathway to receptors. Noting as above, the quantity of gas arising from a rogue load would be exceptionally limited.

Even if the very small quantity of gas were not to take the path of least resistance and move vertically, but instead it were to move horizontally, the inert nature of the waste and the side wall lines would

effectively retard it's progress, reducing the likelihood of it moving into the sand and gravel unworked beyond the site boundaries.

Noting the points above, and considering the quantities of gas that a rogue load would generate it is considered there is no effective path way to the receptors, therefore there is no significant or likely risk to the residential properties from landfill gas arising from this Recovery Permit proposal.