

Natural Resources Wales permitting decisions

Variation

We have decided to issue the variation for Docksway Landfill Site operated by Newport City Council.

The variation and consolidation number is EPR/DP3733BK/V004

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Key issues
- Annex 1 the consultation, web publicising responses

Key issues of the decision

Newport County Council applied to vary their existing permit to allow the acceptance and deposit of Stable Non-Reactive Hazardous Waste (SNRHW) in the form of Asbestos containing wastes. At the same time they have requested to reduce the amount of non-hazardous municipal waste that they accept and to modify the design of Area 2 to allow the construction of a SNRHW monocell for the deposit of asbestos containing waste.

New waste codes have been added to the original environmental permit to allow the operator to accept asbestos containing waste. The operator is required to carry out asbestos cell monitoring including inclinometers to measure the stability of the separation wall, piezometers to measure the pore water pressure underneath the separation wall and also air quality monitoring for asbestos fibres and particulates. The operator is also required to adhere to annual waste input limits. Reporting of these monitoring requirements is required.

Environmental Risk

Given the industrial legacy of the area surrounding this site, the proposed variation is unlikely to cause significant impacts to any sensitive receptors within 2 km of the site. The existing air quality report highlighting dust and odour prepared as part of the original permit is still valid and relevant today because asbestos waste is non-odorous and must be sealed and double bagged to prevent fibres escaping. There is no risk to habitats in relation to asbestos containing wastes. The only hazards that may arise from asbestos containing wastes are to human health if asbestos fibres are unbound and broken up. This is not the case here. This is explained in the supporting documents, listed in the sites operating techniques.

Dry wastes will not be tipped in high winds without being dampened down first with the site water bowser and any loose materials will also be dampened down. Vehicles working in the asbestos cell area will also be washed down prior to leaving the area, wash water will be diverted to the SNRHW cell sump. The Operator is certified to operate the site under WAMITAB. All approved awards are listed within the application under Appendix 2.

There are no direct discharges to either surface water or groundwater from the SNRHW cell. The SNRHW Cell and the adjacent non-hazardous cell will be separated by the construction of an internal separation bund, and the leachate extraction system will be isolated from the adjacent system. The cell will impound any surface water that gathers between the bunds of the cells. As asbestos is placed in their relative cells the cover material will be placed at a gradient to the central sump where the water will be removed by submersible pumps. The run-off will then be discharged to an isolation lagoon via a sand filtration system, where it will be tested for the presence of asbestos fibres prior to discharging to the water course. Should asbestos fibres be found then the

water will be re-filtered prior to re-testing and ultimately discharge. The sand filtration system will be regularly maintained and any sand removed will be deposited in the SNRHW cell.

As part of the determination Landfill gas within cells was assessed as a matter of course. As asbestos is not biodegradable, landfill gas is not expected to evolve within the SNRHW. There are also measures in place to prevent gas migration from other cells. There are precautionary systems in place to prevent this in the unlikely event that it occurs.

Hydrogeological Risk Assessment

A revised hydrogeological risk assessment was provided as part of the application. NRW had no concerns with regards to the HRA because asbestos waste does not degrade and produce a leachate.

Stability Risk Assessment

The operator provided a, revised stability risk assessment (which confirmed that construction of the SNRHW cell would not adversely affect the environment) and a construction and operational management plan for the new SNRHW cell. Because the separation wall will be supported by existing municipal waste, the stability of this separation wall needed to be assessed. NRW employed an external landfill engineering specialist to carry out this work.

In relation to the bund separation wall stability, Geoscience and an external consultant assessed the submitted information in support of the application, to ensure that the separation wall would be suitable and provide adequate support and separation. On the 4th January a Schedule 5 notice was issued to Newport County Council requesting additional information. On the 26th January PBA consultants submitted 4 points on clarity; modelling for vertical & lateral movement of MSW supported separation wall. On 8th March Newport County Council provided a revised submission of (PBA hard copy) 2D modelling data to NRW, with one cross section going from Cell 3B (MSW) through vertical separation wall into Cell 3A (SNRHW) as requested by the Schedule 5 notice. On the 15th March we requested a 2D plot of data along the bund line and quantification of excess pore water pressure (pwp) in alluvium with shear strength parameter reduction to determine Factor of Safety (FoS).

During assessment of the information provided it was concluded that, the modelling assumes that lifts will be restricted to 2m per month, therefore reducing the rate of filling assumed elsewhere within the revised SRA. The construction geometry is shown to be a level lift of asbestos wastes on one side of the bund being balanced with a matching 2m lift of non-hazardous waste outside the bund. This design concept increases stability of the system and all calculations are based on this assumption. In table S1.1 a condition has been added that restricts the filling rate to 2m per month and states that there will be

a 5m wide Municipal Solid Waste (MSW) buttress with a down gradient slope not exceeding 1(v) in 5(h) from the outer crest of the MSW buttress

The results of the modelling shows that the separation bund will not undergo excessive deformation. Deformation is expected to be modest (circa 600mm horizontal movement at most) and uniformly distributed through the full height of the bund. This suggests that the bund in the long term will do no more than to lean gently toward the asbestos wastes. To provide consistent regulation the separation bund will be fitted with progressively installed inclinometers so that deformation can be monitored and compared against the predictions made in their report.

A six monthly monitoring interval is appropriate along with monitoring immediately before and immediately after the construction of each bund lift. The operator shall use vibrating wire piezometers to monitor pore-water pressures and deformation to ensure that the system behaves as predicted. This will be reviewed annually.

There will be a hold period from filling when the waste reaches a height of 23.5m AOD until the pore water pressure in the alluvium is at an equivalent piezometric head of 10.88m OD or less. Then a further a hold period from filling when the waste reaches a height of 33.5m AOD until the pore water pressure in the alluvium is at an equivalent piezometric head of 12.60m OD or less.

The SNRHW Cell will be located on the existing footprint of Docksway (Area 2) Landfill Site and will be operated in such a way to minimise noise and vibrations.

Operating Techniques

Acceptance of asbestos containing wastes is strictly controlled and described in detail in the operators management plan provided with the application. This plan provides information relating to how waste is accepted on to site and how it will be unloaded/tipped. It also highlight contingencies for various scenarios and environmental controls. We are satisfied that the Waste Acceptance Procedures and measures proposed for tipping are satisfactory.

Biodiversity, heritage, landscape and nature conservation

The following European Habitats Directive designated sites are located within 10km of the installation:

- Severn Estuary – SAC UK0013030
- River Usk – SAC UK0013007

The following Sites of Special Scientific Interest (SSSI) are located within 2km of the installation:

- Severn Estuary
- Gwent Levels (St. Bridges)
- River Usk (Lower Usk)

The proposal is not likely to damage any of the interest features of the SAC's or the SSSI's. This is because there are no direct emissions to air, land or water from the activity.

Water is not directly discharged off-site – water that comes into contact with the asbestos cell, is pumped to an isolation lagoon prior to testing and potential discharge, if asbestos fibres are present water will not be discharged.

There are no emissions to air or land from the asbestos cell so therefore the addition of the asbestos cell will not cause any damage to any SAC or SSSI site.

Permit Conditions

As part of the variation, the permit has also been consolidated. We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit(s). The operator has agreed that the new permit conditions are acceptable.

As part of the consolidation, the Table S3.3 Trigger levels for emissions to groundwater and monitoring requirements, has been updated. Following on from the 4 year HRA review in 2012, the emission points have been updated to reflect the current references. The HRA was reviewed in 2012 by NRW technical specialists in Geoscience and new compliance levels were agreed, this has now been reflected in the table. It was also agreed back in 2012 to remove monitoring for Mercury, Phenol and EPH – this has also been reflected in Table S3.3.

Improvement Conditions

Due to the nature of the variation and the addition of an asbestos waste cell , it was necessary for additional monitoring to be carried out on-site and therefore we have set improvement conditions (IC's). The following IC's have been set:

IC1 – The operator shall submit a report to Natural Resources Wales outlining how they aim to reduce the leachate head currently in the landfill, from 3m to the permitted level of 2m.

IC2 – The Operator is to implement a geotechnical monitoring system as described in the Stability Risk Assessment Review and is to be monitored at the intervals stated, using inclinometers. The monitoring data is to be reviewed annually, compared with the finite element models and the results reported to Natural Resources Wales for approval.

IC3 – The operator is to submit for approval by Natural Resources Wales a plan showing additional monitoring points for airborne asbestos fibres at the Eastern and Northerly boundary of the site.

IC4 – The operator is to carry out background monitoring to establish baseline levels of airborne asbestos fibre levels prior to the disposal of any asbestos wastes. Once a baseline is established all monitoring points are to be monitored on a six monthly basis.

IC5 – Following the completion of the asbestos cell and associated works, a full CQA validation report will be prepared by the operator and submitted to Natural Resources Wales for approval.

Financial Provision

Financial provision has been considered as part of the determination process. The asbestos cell is replacing an existing non-hazardous waste cell. Current financial provision is based on the non-hazardous cell requiring active leachate and landfill gas management, as the asbestos cell won't require active landfill gas or leachate treatment this has not been re-calculated and we are satisfied that the existing level of financial provision is adequate.

Annex 1: Consultation and web publicising responses

Summary of responses to consultation and web publication and the way in which we have taken these into account in the determination process.

Response received from
Brief summary of issues raised
Summary of actions taken or show how this has been covered