Environment Agency permitting decisions

Bespoke permit

We have decided to issue the variation for Mohawk Wharf Recycling Facility operated by Keltbray AWS Limited.

The variation number is EPR/FP3092LH/V003.

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 decision checklist
- Annex 2 the consultation and web publicising responses

The operator has proposed to vary their existing permit to include a soil bioremediation facility. The soil treatment operation will treat hazardous waste containing organic contaminants including petroleum hydrocarbons and non-hazardous wastes containing hydrocarbons, which are classed as non-hazardous due to their contamination thresholds.

The bioremediation treatment process will involve placing the waste into mounds referred to as biopiles and mixing them with a micro-organism culture. The biopiles are then left to allow the micro-organisms to break down the organic pollutants within the soils (bioremediation).

Other site activities will include the screening of wastes which contain components not suitable for direct use in restoration e.g. concrete and stones. The applicant has demonstrated that they have appropriate infrastructure on site and have put in place appropriate management systems to ensure that risk of emissions causing pollution beyond the boundary of the site is insignificant. We have assessed their proposals and consider them to

represent best available techniques for the facility. The proposals are in line with the requirements of Environment Agency guidance Sector Guidance Note S5.06 Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste, and Technical Guidance Note How to Comply with your Environmental Permit.

Based upon the information in the application, we are satisfied that the operator can undertake the proposed treatment activities and accept the wastes they have proposed because appropriate measures are to be put in place to prevent or where that is not practicable minimise and effectively mitigate emissions to prevent a significant risk of pollution beyond the boundary of the site.

Key issues of the decision

Waste acceptance, handling and storage

Pre-acceptance procedures

Pre-acceptance screening checks are carried out before waste is accepted on to site (reference: *Pre-Acceptance Procedure to assess CDE Waste, Keltbray Environmental. January 2015*). The checks are designed to:

- screen out unsuitable wastes;
- confirm details relating to composition;
- identify verification parameters used to test waste on arrival at site;
- identify substances within the waste that might affect treatment;
- accurately define the range of hazards associated with the waste; and
- determine the cost of disposal options.

The procedure involves the provision of information and representative samples of the waste to allow the operator to determine suitability of the waste for treatment. The following information is requested from the waste producer:

- Type of process producing the construction waste;
- Quantity of waste;
- Chemical analysis of waste derived from site and geotechnical investigations;
- Any associated hazards associated with the waste;
- Defined European Waste Code (EWC).

If representative sample and analysis testing has not been completed by a third party, then Keltbray will obtain a representative sample from the site. Any samples taken by Keltbray include the following information: location of sampling point; composite/spot sample type; and other relevant site information. All samples are clearly labelled, including hazards identified and

tracked. Analysis is carried out by a laboratory with robust quality assurance and control methods.

Following waste characterisation a technical assessment is made of its suitability for treatment. All records relating to pre-acceptance are maintained for verification at the waste acceptance stage.

Waste Acceptance Criteria

Acceptance procedures when waste arrives at Mohawk Dock are intended to confirm that the waste characteristics match that from the pre-acceptance checks. Loads are not accepted unless sufficient storage capacity exists on site. All vehicles are weighed on the weighbridge and documents are checked. Inspection checks are undertaken before offloading. Any discrepancies are resolved before waste is accepted. Waste is then unloaded into the appropriate reception bays (separated as hazardous or non-hazardous and inert).

All waste, whether for on-site treatment or storage, are sampled and undergo verification and compliance testing to ensure consistency with pre-acceptance information and to confirm the treatment method.

The site sampling plan has been developed in accordance with *BS EN 14899:2005 Framework for the Preparation and Application of a Sampling Plan*.

Waste Rejection Procedure

Loads will be rejected if:

- The correct paper work has not been provided or completed to a satisfactory standard;
- The material received does not conform with permitted waste for the sites permit;
- The material received is different from what is stated in the description and chemical analysis initially received by the waste producer.

Loads can also be rejected if the driver does not comply with the site rules, for example not wearing the correct PPE. If wastes not permitted by the site are discovered within a load, such as asbestos material, the vehicle will be isolated immediately, no further wastes will be allowed to be placed from the producing site and the incident and time of discovery will be recorded in the site diary.

The technical competent person (TCP) will contact the waste carrier to inform them of the non-conformance. The waste will be quarantined pending collection by the waste carrier, producer or final disposal to a licensed facility if the material has been unloaded. The non-conforming waste will either be:

- Reloaded to the waste carrier and recorded on duty of care paperwork;
- Removed from the deposition area and placed in a suitable isolation location for subsequent removal from site, and recorded in the site diary; or

- The whole loads (and any adjacent loads which could have been contaminated will be treated as contaminated and removed from site for disposal at appropriately licensed facility; or
- Otherwise dealt with in accordance with procedures discussed, and agreed, with the Environment Agency at the site.

The TCP will ensure that the matter is recorded and will investigate the non-conformance.

The waste acceptance and handling procedures proposed by the operator are in accordance with the requirements of the Environment Agency Sector Guidance Note S5.06: Guidance for the Recovery and Disposal of Hazardous and Non-Hazardous Waste (SGN S5.06). The operator has confirmed they will operate the site in accordance with this guidance and this guidance has been incorporated into the permit's operating techniques via reference of the application technical standards table in table S1.2.

The operator has outlined an appropriate monitoring and sampling scheme at the acceptance stage which is in line with our guidance note SGN 5.06. This sampling method ensures that results taken are representative of the level of contamination throughout each soil batch. Samples are then sent to an appropriately accredited laboratory for analysis. Proposed batches which do not meet the treatment requirements will not be accepted at the site.

The operator's pre acceptance will also allow them to determine if any special requirements are necessary for a particular waste. This will allow the site to prepare to receive that waste in order to ensure all appropriate mitigation is put in place at the site ready for when the wastes arrives.

We have assessed the waste acceptance procedures proposed by the operator and we are satisfied that appropriate procedures will be in place to ensure only appropriate wastes enter the site. It is also clear that the operator's site infrastructure is sufficient to accept the waste types they have proposed and the operator has the appropriate infrastructure and procedures in place to manage non conformances.

Containment

All offloading, quarantine points, treatment and storage bays have a concrete hard standing surface with sealed drainage that prevents any spillage / run off entering the storage systems or emitting offsite.

Site staff are trained to undertake regular inspection and maintenance of storage areas, including processing areas. Any defects are reported to management for repairs to be organised. Inspections look out for signs of damage, deterioration and leakage. Records are kept detailing action taken as part of the site working plan. Faults are repaired as soon as practicably possible.

In addition to storage bays for soils there are also separate open top bins for metals, plastics and general rubbish separated from the incoming soils and an

area for hardcore/oversize material from screened soils. All bins are clearly labelled.

Surface water and run off from dust dampening generated by the deposit and processing of waste all drains to the site interceptor. This is then treated via the on-site water treatment plant, capable of treating >20m^3/hr. This consists of a settlement tank (sediment/oil separation), followed by ratchet ring filters and a collection tank. If necessary the water is also treated through tanks containing Granulated Activated Carbon. The interceptor tanks are regularly checked for integrity and checks recorded. Appropriate spill kits are placed around the site in order to deal with accidental spillages.

All fuels, oils and chemicals stored on site will be kept in a secure and bunded facility, and in accordance with COSHH regulations. Quantities will be kept to a minimum.

Fugitive Emissions – Dust

The operator has identified potential sources of dust emissions from the proposed soil treatment facility and has outlined mitigation techniques to prevent significant dust emissions outside the boundary of the site.

Traffic enters the site on a one-way road system to reduce traffic movements to and from site. The site has a Traffic Management Plan in place to identify restrictions based on local circumstances. This will also reduce dust emissions from the site. The plan is communicated to suppliers and sub-contractors as part of the Environmental Management Plan for the site. A Dust Minimisation Plan is also in place. Dust inspections are conducted as a minimum daily. Visual monitoring of dust levels are undertaken on site and from transport leaving the site. In addition a sprinkler system is to be installed around the site.

The following steps are taken on site to minimise dust:

- Damp down of exposed soils and stockpiles is undertaken when necessary;
- Spraying water at work faces, loading operations and site access roads;
- Location of soils and stockpiles away from dust-sensitive properties, taking into account prevailing wind;
- Erecting windbreak netting around material stockpiles and vehicle loading/unloading areas;
- Debris is monitored on local carriageways and maintained with a road sweep if required;
- Exhaust from blower used to aerate the biopiles passes through a small air-treatment unit (activated charcoal) to minimise dust emissions from the biopile;
- Loading of material into lorries/sips within designated bays/areas;
- Hoarding or fencing with wind nets around site parameter;
- Sheeting of lorries leaving site carrying loose material;
- No burning of materials on site;

- Neighbourhood liaison;
- Site personnel trained in best practice for dust control.

Dust is unlikely to be an issue during biopiles turning as the batches are to be kept moist as part of the remediation process therefore suppressing dust particulates. If biopiles become dry, additional water will be added to manage dust and assist the remediation process.

In periods of prolonged dry and windy weather the site contingency plans for dust is to hire a *Dustboss* or *Motofog* systems, which have in the past been successfully used on their previous construction and demolition sites. In the event the mitigation techniques proposed by the operator are not effective and there are substantiated dust emissions, the Environment Agency will notify the applicant to undertake a review of their management plan. These plans will be reviewed by the Environment Agency and once approved they must then be implemented at the site.

Fugitive Emissions - Emissions from the biopiles

Air emissions including Volatile Organic Compounds (VOCs) will be mitigated by using an activated carbon biofilter system. Air is extracted through the base of the biopiles and passed through the biofilter for treatment. The biofilter is a proven method of managing VOCs (e.g. BTEX - benzene, toluene, ethyl benzene, xylene), petroleum hydrocarbons (TPHs) and polycyclic aromatic hydrocarbons (PAHs).

Storage of the waste in biopiles may still result in a release of VOC emissions, however, the levels of contaminants released will be insignificant in the relation to benchmark thresholds outlined in our guidance. To mitigate potential releases, biopiles from high risk wastes biopiles will be covered with tarpaulins. The tarpaulins minimise emissions from the top of the biopiles and will maximise extraction through the base.

In addition, regular monitoring of VOCs on site is undertaken around the perimeter of the soil facility, in between the biopiles and at the biofilter using a hand held photo ionisation detector (PID).

Treatment

Bioremediation treatment uses microbes (bacteria and fungi) to convert potentially harmful pollutants to harmless or environmentally acceptable products. The most common classes of compounds encountered at the Mohawk Wharf facility are:

- Petroleum hydrocarbons (e.g. petrol, diesel, fuel oil)
- Aromatic hydrocarbons (e.g. benzene, toluene, ethylbenzene and xylene (BTEX)
- Phenols
- Polyaromatic hydrocarbons (PAH’s).

Nitrogen and phosphorus are added as a specifically blended substrate of urea, monoammonium phosphate and trace elements. The nutrients are

added to the waste biopiles as a solution by either spraying or injecting into the biopiles. Sometimes specific hydrocarbon degrading bacteria are added to the biopiles to increase the rate of degradation.

Stockpiles are aerated to support efficient degradation. Keltbray uses passive and active aeration. Passive involves periodic turning of biopiles every 3-4 days and is effective for small biopiles. Active aeration for larger biopiles (>50m³) involves air injection and air extraction. During air extraction, air is blown through the pile via perforated pipes by an air blower and excess water is collected in a tank. The exhaust from the blower passes through a small activated carbon air treatment unit which also minimises odour and volatile organic compounds (VOC) emissions. Air injection is generally used during winter months to maintain the biopile temperature above 15°C as the blower forces warmer air through the biopile which accelerates treatment at low ambient temperatures.

Wastes will be treated until they achieve levels of organic contamination in line with the appropriate thresholds for restoration soils. The number of samples taken from the stockpile is dependant on the size (adopted from BS *ISO 10381-1:2002 Soil quality - Sampling - Part 1: Guidance on the design of sampling programmes.* Chemical analysis of the samples is undertaken by a UKAS accredited laboratory.

Annex 1: decision checklist

This document should be read in conjunction with the Duly Making checklist, the application and supporting information and permit/ notice.

Aspect considered	Justification / Detail	Criteria met Yes
Consultation		
Scope of consultation	The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements.	✓
Responses to consultation and web publicising	The web publicising and consultation responses (Annex 2) were taken into account in the decision. The decision was taken in accordance with our guidance.	✓
Operator		
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator.	✓
European Directives		
Applicable directives	All applicable European directives have been considered in the determination of the application. • Waste Framework Directive (Council Directive 2008/98/EC) • Industrial Emissions Directive (2010/75/EU)	✓
The site		
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.	✓
Site condition	The operator has provided a description of the condition	✓

Aspect considered	Justification / Detail	Criteria met Yes
report	of the site. The site is not situated in a hydro geologically sensitive location. Alongside this, no public water supplies and no surface waters are present in the vicinity of the site. We consider this description is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5).	
Biodiversity, Heritage, Landscape and Nature Conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat . A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the site. The following European and Nationally protected sites are within the relevant search distances from the installation: • Lee Valley Ramsar and Special Protection Area (SPA) 9.2km northwest from site • Epping Forest Special Area of Conservation (SAC) 8km north from site; • Gilbert's Pit (Charlton) Site of Special Scientific Interest (SSSI) 1.9km southeast. Dust has been identified in the habitats assessment as a potential hazard and source of fugitive emissions from this site. However, based on the distances from the site to the closest habitat sites and the proposed mitigation measures for the waste activities, dust is considered to have no likely significant effect. Natural England have been consulted with an Appendix 11 for information only and the Appendix 4 has been completed for our own audit trail. These decisions were taken in accordance with our guidance.	✓
Environmental Risk Assessment and operating techniques		
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility.	✓

Aspect considered	Justification / Detail	Criteria met Yes
	The operator's risk assessment is satisfactory. • H1 Amenity and Accident Risk assessment was completed for all of the proposed hazardous waste activities at the site. We have reviewed this assessment and consider it satisfactory. The assessment shows that, applying the conservative criteria in our guidance on Environmental Risk Assessment, all emissions may be categorised as environmentally insignificant. **See key issues section for further information.**	
Operating techniques	We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. • How to comply with your Environmental Permit – EPR 1.0, • Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste – Sector Guidance Note S5.06. The proposed techniques for priorities for control are in line with the benchmark levels contained in the Technical Guidance Note and we consider them to represent appropriate techniques for the facility. Operational procedures have been submitted as part of the application which cover different aspects of site operations including the following; • Waste pre-acceptance; • Waste acceptance; • Waste storage; • Checking for contamination of source segregated materials; • Emissions from the process; and • Abatement of fugitive emissions. The key measures proposed by the Operator include the following: • Hydrocarbon contaminated soils will be stored on impermeable hard standing in a bunded area. All leachate generated will be collected in a drainage chamber via interceptor before being reused on site or tankered offsite; • The following controls for dust are undertaken:	✓

Aspect considered	Justification / Detail	Criteria met Yes
	biopiles situated in covered building; covering stockpiles; dust suppression and watering roads; sprinkler systems; and contingencies for prolonged dry periods; • Operational techniques in place for: pre-acceptance, waste acceptance, storage of all hazardous and non-hazardous wastes accepted on the site. This includes the sampling of hazardous waste; • There will be no mixing of any batches of hydrocarbon contaminated soil waste, all material accepted will be batched, stored and treated within different bays; • Water usage will be monitored and reported via the permits performance parameters. Water use is kept to a minimum and drainage water is recycled on site and used for dust control.	
The permit conditions		
Waste types	We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility. Waste types in tables S2.2 have been identified for activities involving the treatment of hazardous waste. Waste types in tables S2.3 have been identified for activities involving the treatment of non-hazardous waste. Table S1.1 provides additional controls on the waste characteristics permitted in table S2.1- S2.4 which cannot be accepted on the site for each waste treatment process (e.g. waste with hazardous properties due to presence of heavy metals; wastes comprised or contaminated with asbestos; liquid wastes). We are satisfied that the operator can accept these wastes for the following reasons: the operator has appropriate waste pre-acceptance and acceptance procedures and risk management plans in place. We made these decisions with respect to waste types in accordance with 'How to comply with your environmental permit' and SGN S5.06 Guidance for the recovery and disposal of hazardous and non hazardous waste.	✓

Aspect considered	Justification / Detail	Criteria met Yes
Incorporating the application	We have specified that the applicant must operate the permit in accordance with descriptions in the application, including all additional information received as part of the determination process. These descriptions are specified in the Operating Techniques table in the permit.	✓
Monitoring	We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. Monitoring of treated soil batches has been included to ensure the operator demonstrates that biopiles have been treated to a point where the contaminants are below the required thresholds for restoration soils. We made these decisions in accordance with Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste – SGN S5.06.	✓
Reporting	We have specified reporting in the permit. • Annual production/treatment • Performance parameters We made these decisions in accordance with Guidance for the Recovery and Disposal of Hazardous and Non Hazardous Waste – SGN S5.06.	✓
Operator Competence		
Environment management system	There is no known reason to consider that the operator will not have the management systems to enable it to comply with the permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.	✓
Technical competence	Technical competency is required for activities permitted. The operator is a member of an agreed scheme.	✓
Relevant convictions	The National Enforcement Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found. The operator satisfies the criteria in RGN 5 on Operator	✓

Aspect considered	Justification / Detail	Criteria met
		Yes
	Competence.	

Annex 2: 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
Dr Gary Lau – Public Health England – 21st January 2015
Brief summary of issues raised
Based solely on the information contained in the application provided, PHE has no significant concerns regarding risk to health of the local population from this proposed facility, providing that it takes all appropriate measures to prevent or control pollution, in accordance with the relevant sector technical guidance or industry best practice. We recommend that any variation EP issued for this site should contain conditions to ensure that the following potential emissions do not impact upon public health: • Emissions to air such as fugitive/nuisance dusts, volatile organic compounds (VOC) and asbestos; • Emissions of odour; and • Waste disposal and handling e.g. litter and debris. In addition, the Environment Agency may wish to consider whether the applicant has an appropriate monitoring regime in place for emissions to air, and a complaints procedure in place for prompt investigation of off-site nuisance. In relation to potential risk to public health, we recommend that the EA also consult the following relevant organisation(s) in relation to their areas of expertise: • the local authority for matters relating to impact upon human health of contaminated land; noise, odour, dust and other nuisance emissions; • the Food Standards Agency, where there is the potential for deposition on land used for the growing of food crops or animal rearing; • the Director of Public Health for matters relating to wider public health impacts.
Summary of actions taken or show how this has been covered
<u>Fugitive emissions, Odour and VOCs</u> The main potential source of odour at this site is the release of VOCs from contaminated soil therefore the controls put in place to manage odour emissions at the site will in turn act to manage VOC emissions. We have assessed the techniques proposed by the operator to manage odour and VOC emissions from the soil facility and consider them to represent the best available techniques for this operation. Odour and VOCs are mainly managed through the use of the air extraction system and biofilter, which is a proven method of treating organic air contaminants. Air is extracted from the base of the biopiles and passed through the biofilter which contains a biological medium (activated carbon) that can actively remove components from the air which produce odour e.g. VOCs. Other odour mitigation includes covering biopiles with tarpaulins to contain odour and managing the pre-acceptance of waste to ensure wastes received at the site are not significantly malodorous. Please refer to the key issues

section of this document for more information regarding VOCs mitigation. The existing permit also contains standard odour prevention conditions which require the site to prevent odour beyond the site boundary.

Dust

The permit contains conditions which require the operator to appropriately manage the emission of substances not controlled by emission limits, including dust. In order to demonstrate they will effectively manage dust within the requirements of the permit and Environment Agency guidance the operator has proposed a number of measures for managing dust emissions at the site. We have assessed these measures and consider them to represent the best available techniques in line with our guidance. Please refer to the key issues section of this document for further information on the types of dust mitigation proposed at the site.

Consultation of relevant organisations

The listed organisations were consulted as part of this application and any comments received have been addressed in this document.

The following organisations were also consulted, however no response was received:

- Newham London Borough Council – planning department
- Newham London Borough Council – environmental health department
- Health and Safety Executive.

This proposal was also publicised on the Environment Agency's website between 29/12/2014 and 26/01/2015. No responses from this consultation was received.