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THOMPSONS OF PRUDHOE LTD

LOW PRUDHOE WTS PERMIT VARIATION (EPR/RP3898ZV)

ENVIRONMENTAL AND HABITATS RISK ASSESSMENT

JANUARY 2024

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1 INTRODUCTION

1.1.1 Wardell Armstrong LLP has been commissioned by Thompsons of Prudhoe (ToP) Ltd to prepare an application to vary the environmental permit for its Low Prudhoe Waste Transfer Station (Reference EPR/RP3898ZV, EAWML64001) in Northumberland.

1.1.2 The permit allows for the acceptance of a range of non-hazardous industrial and commercial wastes, as well as hazardous cement-bonded asbestos. The variation will extend the existing permit boundary to the east, allowing additional area for the external storage of inert waste for which the proposed throughput is to be increased to 150,000 tonnes. Additionally, the variation will allow for the acceptance of bagged or securely wrapped fibrous asbestos to the transfer station.

1.1.3 This document identifies the risks associated with the proposed changes, including the source of potential emissions, pathways and the sensitive receptors that could be affected, as identified in Section 2. The assessment provided in Section 3 demonstrates control methods in place to minimise the identified risks so as not to cause harm to people or the environment.

1.1.4 Section 4 provides a habitats risk assessment, demonstrating that the new activity will not cause harm to the proximal sensitive habitats and species.

2 SITE SETTING AND RECEPTORS

2.1.1 Low Prudhoe Waste Transfer Station is located on Princess Way, north of Prudhoe, Northumberland at post code NE42 6PL (National Grid Reference (NZ 10122 64002). The permit boundary is provided in the Site Location Plan (NT16466-001).

2.1.2 The site is located on an industrial estate sited at the northern extent of the adjacent town of Prudhoe. The surrounding land use is a mix of industry, agriculture and residential areas associated with Prudhoe, Ovingham village (900m west) and Wylam Village (950m northeast). The nearest residents are located approximately 300m south of the permit boundary.

2.1.3 There are a number of sensitive habitats within 2km of the permit boundary, the nearest being Castlefield Wood Local Nature Reserve (LNR) (including Well Dene ancient woodlands) 250m south of the site. Wylam Haughs LNR 1km east of the permit boundary, and Priestclose Wood LNR and ancient woodland is 1.1km South. There are nine ancient woodlands within 2km of the permit boundary.

2.1.4 There are no ecological SSSIs within 2km of the site or European Sites within 10km. There is one geological SSSI, located at River Tyne at Ovingham SSSI 1km west, which is not considered to be at risk from the activity.

2.1.5 Prudhoe Castle is a Scheduled Monument located 900m southwest of the site; the structure is not considered at risk from the proposed activity.

2.1.6 Table 2.1 provides a list summarising the sensitive receptors within 1km of the site. Receptors outside this range are considered at negligible risk from the site activities.

Table 1.1: Sensitive Receptors within 1km of the permit boundary

Receptor Name	Receptor Type	Distance/ Direction
Low Prudhoe Industrial Estate	Industrial	Adjacent
River Tyne	River	250m North
Northumberland Cresent and North Wylam View, Prudhoe	Residential	300m South
Prudhoe	Residential	300m – 1000m South
Bells Lonnen, Prudhoe	Residential	380m Southwest
Houses on Ovingham Road	Residential	400m North
Ovingham Caravan Park	Residential	450m Northwest
Millrise View and Greenwell Drive Prudhoe	Residential	500m Southwest
Prudhoe Football and Sport Centre, and playing fields	Recreational	550m Southeast
Adderlane County First School	School	600m South
Front Street Allotments	Recreational	640m East
Prudhoe Allotments	Recreational	650m Southeast
faFront Street, Wylam	Residential	720m East

Table 1.1: Sensitive Receptors within 1km of the permit boundary		
Receptor Name	**Receptor Type**	**Distance/ Direction**
Eastwoods Park	Recreational	800m Southeast
Prudhoe Castle	Recreational	900m Southwest
Piper Road, Ovingham	Residential	950m West
Prudhoe Waterworld	Recreational	980m South

3 RISK ASSESSMENT

3.1.1 This section provides an assessment of the potential environmental risks that may arise from the external storage of inert waste and acceptance of fibrous asbestos, with consideration to the possible receptors and pathways. The risk assessment shows how these risks are minimised by preventing the hazard at source or by providing measures to break the pathway and prevent pollution migrating towards receptors.

3.1.2 The risk assessment demonstrates how all identified hazards that could cause harm will be subject to strict preventative or control measures, minimising risk to an acceptable level.

3.1.3 The external storage of inert waste has the potential to cause dusty emissions beyond the permit boundary. The application is supported by a Dust Management Plan describing how ToP will control these emissions.

3.1.4 The storage of waste in external areas carries the risk of polluting emissions to surface water and groundwater, as well as emissions of dust and litter beyond the permit boundary. Only inert construction and demolition waste is proposed to be stored in external waste bays, excluding excessively dusty materials or materials that can be easily wind-blown ensuring effective protection of proximal receptors. Strict waste acceptance will ensure that only inert waste types listed in the permit can be stored in external areas.

3.1.5 The main risk from the acceptance of fibrous asbestos on the site will be emissions to air of asbestos fibres. Strict control measures will be in place to ensure risk of exposure to asbestos will be maintained at very low levels throughout the operation, especially by ensuring that all fibrous asbestos containing materials will be received double bagged or securely double wrapped and sealed.

3.1.6 The site will be subject to frequent visual monitoring and inspection (at least once a day) to ensure mitigation measures remain effective. Records will be kept of inspections and any actions taken to resolve any identified emissions.

3.1.7 Staff will be trained to understand the potential environmental risks associated with the site and their role in managing those risks. An induction will also be provided for contractors, so that they are aware of any environmental requirements.

3.1.8 Table 3.1 below provides the environmental risk assessment.

Table 3.1: Environmental Risk Assessment for the Acceptance of Fibrous Asbestos at Low Prudhoe Waste Transfer Station							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation Measures**	**Residual Risk**
Fugitive Emissions to Air							
Emissions of dust from waste storage	Local residents, local businesses, adjacent habitat and site operatives	Airborne	Annoyance and impacts upon human health as a result of dust inhalation. Deposit and damage to habitats.	Medium	Low	External storage of inert waste will not include any waste types that are likely to contain excessive dust. Materials will be stored in appropriate bays in a sheltered area of the site to prevent wind-whipping and entrainment of any dust into the air. Dust is not anticipated from the acceptance of bagged fibrous asbestos as it will be received double bagged and placed immediately in a lidded container. Dust emissions may occur from ancillary activities such as vehicle movements. Good housekeeping will ensure that roads are kept free from dusty and muddy deposits, preventing the potential for dusty emissions. A drive-in wheel bath and wash system will utilised as necessary to prevent muddy emissions onto public roads. A road sweeper which is utilised to keep hard surfaced roads and working areas clean and free of mud and debris. A water bowser with spray bar and high pressure water gun will be employed as necessary (such as during dry or windy conditions, as determined by the site manager) to dampen stockpiles or site roads to prevent dust emissions beyond the site boundary.	Low
Particulate emissions of asbestos fibres	Local residents, local businesses and site operatives	Airborne or via physical contact then inhalation	Respiratory illness i.e. lung cancer and mesothelioma	Medium	High	Strict waste pre-acceptance and acceptance procedures to ensure fibrous asbestos is only accepted if appropriately double-bagged or wrapped and sealed. All asbestos will be placed in a fully contained lockable container. Bags will remain sealed and there will be no treatment of asbestos on the site. A supply of spare bags will be kept on site to cover bag any damaged packaging.	Low

Table 3.1: Environmental Risk Assessment for the Acceptance of Fibrous Asbestos at Low Prudhoe Waste Transfer Station							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation Measures**	**Residual Risk**
Litter	Local residents, local businesses, adjacent habitat and site operatives	Airborne	Nuisance to local population and businesses and damage to habitats.	Medium	Low	Litter is not expected from the acceptance and storage of bagged fibrous asbestos or inert waste. Waste with the potential to general litter (e.g. plastics, paper, fabrics) must be stored within the WTS building. Bagged asbestos will remain sealed at all times with no exceptions. Routine daily inspections will identify any litter that is present, and the resulting litter will be collected and disposed of appropriately if required.	Low
Arson and / or vandalism	Local residents, local businesses and site operatives	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land.	Medium	Low	The site has security fencing to ensure that no unauthorised individuals can gain access to the site. All bagged or wrapped asbestos containing waste will be stored within an enclosed locked container with no access to the bags. Inert waste is not combustible therefore there is a very low risk of arson.	Low
Fugitive Emissions to Land and Water							
Fugitive emissions to land, groundwater and surface water	Park Burn, River Tyne, groundwater	Run-off, infiltration	Pollution of ground and surface water	Medium	Medium	Storage of wastes in the external areas will be limited to inert wastes listed in the permit. The external bays are surfaced with impermeable concrete, and run-off is directed into the site's existing sealed ACO drainage system linked to the WTS building, which drains to a below ground leachate collection tank. The tank is periodically emptied to foul sewer to maintain its capacity. The external area is surfaced with permeable hardcore. As waste is not stored in this area, the risk of contamination of surface water or groundwater is negligible.	Low

Table 3.1: Environmental Risk Assessment for the Acceptance of Fibrous Asbestos at Low Prudhoe Waste Transfer Station							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation Measures**	**Residual Risk**
						Fuels and oils stored on site will be stored within double-bunded containers. Spill-kits will be available nearby which site operatives will be trained to use in case of spillages.	
Fugitive Emissions to Land and Water from runoff of stored asbestos waste	River Tyne Surface water bodies, local habitats, groundwater	Run-off	Pollution of ground and surface water	Low	Medium	There will be no point source emissions to land or water resulting from the acceptance of fibrous asbestos. The material is bagged or wrapped, dry and will be stored within sealed designated containers only, which will not allow the ingress of rain.	Very Low
Noise							
Noise and vibration from vehicles and site plant	Local businesses, local residents	Airborne	Disturbance and impacts upon the psychological health if prolonged	Medium	Medium	The site already operates as a waste site and is located on an established industrial estate, therefore the risk from additional noise from the activity will be limited. All plant and equipment will be maintained in accordance with the manufacturer's recommendations to ensure that it functions correctly and without excessive noise. Engines on delivery vehicles will be switched off where appropriate to prevent excessive idling. Noise levels will be taken into consideration during the purchase of new equipment, with quieter models being utilised where this will result in equal or better performance and is economically viable.	Low
Abnormal Operating Scenarios							
Plant malfunction or breakdown	Local residents, local businesses, local habitats, and site operatives	Airborne	Annoyance and impacts upon human health as a result of dust inhalation. Deposit and	Medium	Medium	Should any abnormal emission caused by plant malfunction or breakdown be detected, it will be investigated, and remedial action will be taken immediately. If necessary, the operation will be adjusted or stopped to prevent, or, where that is not possible, minimise identified emissions. Suppression methods, such as dampening with water will be used as appropriate. The	Low

Table 3.1: Environmental Risk Assessment for the Acceptance of Fibrous Asbestos at Low Prudhoe Waste Transfer Station							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation Measures**	**Residual Risk**
			damage to habitats.			event and actions taken to remediate the emission will be promptly recorded in the site diary. The plant will be operated and maintained (including preventative maintenance) in line with the manufacturer's recommendations to prevent abnormal operation.	
Plant malfunction or breakdown	River Tyne Surface water bodies, local habitats, groundwater	Run-off	Pollution of ground and surface water	Low	Medium	Should any abnormal emission caused by plant malfunction or breakdown be detected, it will be investigated, and remedial action will be taken immediately. If necessary, the operation will be adjusted or stopped to prevent, or, where that is not possible, minimise identified emissions. Where safe to do so leaking equipment will be moved to an area of the site with impermeable pavement. Any spillage will be cleaned up as soon as possible using appropriate absorbents and these will be stored in a leak proof container pending removal to an authorised site. Repairs will be carried out by a qualified person and signed off before the equipment is brought back into use. The event and actions taken to remediate the emission will be promptly recorded in the site diary. The plant will be operated and maintained (including preventative maintenance) in line with the manufacturer's recommendations to prevent abnormal operation.	Low
Asbestos containment failure	Local residents, local businesses and site operatives	Airborne or via physical contact then inhalation	Respiratory illness i.e. lung cancer and mesothelioma	Medium	High	Containment failure is highly unlikely due to the strict waste acceptance in place. Containment will consist of a 40 yd enclosed asbestos skip, which is not prone to failure. Should any failure to contain fibrous asbestos be detected, the material will be dampened immediately if necessary, and the site manager informed. The cause will be investigated and acceptance of asbestos will cease whilst the matter is resolved. Records of the incident and any	Low

Table 3.1: Environmental Risk Assessment for the Acceptance of Fibrous Asbestos at Low Prudhoe Waste Transfer Station							
Hazard	**Receptor**	**Pathway**	**Consequence**	**Probability of exposure**	**What is the overall risk**	**Mitigation Measures**	**Residual Risk**
						remedial action taken will be kept.	

4 HABITATS RISK ASSESSMENT

4.1.1 Using Defra's MAGIC Maps application, several sensitive habitats have been identified in proximity to Low Prudhoe Waste Transfer Station. This Habitats Risk Assessment identifies the location of nearby habitat receptors and describes the measures in place to ensure proximal habitat and ecological receptors will not be harmed.

4.2 Sensitive Habitats

4.2.1 There are no ecological SSSIs within 2km of the site or European Sites within 10km of the site.

4.2.2 There are three Local Nature Reserves within 2km of the site, namely:

- Castlefield Wood Local Nature Reserve (LNR), 250m south;
- Wylam Haughs LNR, 1km east; and
- Priestclose Wood LNR, 1.1km South.

4.2.3 There are a total of nine ancient woodlands within 1km of the site, including:

- Well Dene (within Castlefields Wood LNR), 250m south;
- Hagg Bank, 420m northeast;
- Horsely Wood, 500m north;
- Priestclose Wood, 1.1km south;
- Channels Wood (Ancient & Semi-Natural Woodland), 1.2km southeast and Channels Wood (Ancient Replanted Woodland) 1.8km southeast;
- Dayhole Dene, 1.6km northeast;
- Beaumont Wood, 1.9km southwest;
- Mill Wood/ Eels Wood, 1.9km east; and
- Whittle Dene, 1.9km west.

4.2.4 Each of these areas of ancient woodland and local nature reserves is recognised as Deciduous Woodland in the Priority Habitat Inventory. The nearest designated Deciduous Woodland is adjacent to the east permit boundary of the site. Other proximal areas of Priority Habitat Inventory Deciduous Woodland are located along the banks of the River Tyne (50m north) and around Prudhoe Castle (900m west). There is an area of Woodpasture and Parkland BAP Priority Habitat, located 950m northeast.

4.3 Sensitive Species

4.3.1 Within 1km of the site, Curlew and Lapwing have been identified as Priority Species for CS Targeting.

4.3.2 There are two records of Granted European Protected Species Applications within 1km of the site, each related to Bats. The first, located 560m north of the site, was granted in October 2013 and expired July 2014. It related to common pipistrelle, soprano pipistrelle, brown long-eared and natterer's bat. The second, located 400m northwest of the site, was granted in October 2020 and ends March 2026, relates to common pipistrelle and soprano pipistrelle.

4.3.3 There are two records of Great Crested Newts from the Great Crested Newt Pond Surveys 2017 – 2019 data set. Each record was taken in 2019 in a small pond located 450m northeast of the site.

4.4 Environmental Protection Measures

4.4.1 The main risk to local habitats is from fugitive emissions to air resulting from the acceptance of fibrous asbestos and storage of inert waste, and emissions to surface water from run-off from waste storage area.

Emissions to Air

4.4.2 Dust and particulates escaping the permit boundary may have adverse physical or chemical impacts on habitats, such as smothering of vegetation or changes to water quality, as well as indirect impacts resulting from those effects. Asbestos is a hazardous substance that can cause respiratory illness when inhaled. A site-specific environmental risk assessment has been developed for the acceptance of fibrous asbestos (see section 3), and the dust management plan for the site is provided in support of this permit application.

4.4.3 The measures to control the acceptance, handling and storage of inert waste and fibrous asbestos have been developed to ensure that appropriate measures are employed to prevent unacceptable risk from dust, particulates and asbestos fibres to any nearby habitat receptors or to human health.

4.4.4 Strict measures are in place across the site to control emissions of dust, ensuring that there is limited risk of emissions escaping beyond the permit boundary, as described in Table 3.1. In summary, these methods include the following.

- External storage of inert waste will not include any waste types that are likely to cause excessive dust. Materials will be stored in appropriately sized bays to prevent wind-whipping and entrainment of any dust into the air.
- Minimisation of drop heights when handling and loading inert waste for recycling.
- Fibrous asbestos will only be accepted on the site if it is appropriately double-bagged, or where this is not possible, double wrapped and sealed with appropriate packaging (1000-gauge polythene sheeting).
- Strict pre-acceptance and acceptance procedures will be operated at the site to ensure only permitted waste types are accepted, limited to 10 tonnes of asbestos per day. A supply of spare asbestos bags/wraps will be available which will be used to double-bag bags that are overfilled and not fully sealed, or torn or otherwise defective.
- Bagged asbestos waste will be placed directly into the sealed lockable container following acceptance on site. No more than 10 tonnes of asbestos will be stored on site at any time.
- Site roads and operational areas are subject to good housekeeping to keep surfaces free of any build-up of mud or dust that may cause emissions beyond the permit boundary.
- A water bowser with spray bar and high pressure water gun will be employed as necessary to dampen stockpiles or site roads to prevent dust emissions beyond the site boundary.
- Site plant will be operated and maintained in accordance with the manufacturer's recommendations.
- Daily visual inspections will be undertaken to ensure no visible emissions of dust escape the site boundary. site infrastructure, including site roads, building and containers will be inspected at least weekly. Inspections are recorded, noting any issues and remedial actions undertaken.

4.4.5 Further details of mitigation measures adopted at the site are provided in the Operating Techniques document supporting this application.

Emissions To Water

4.4.6 The extension to the permit boundary will allow additional waste storage space, which will be used for inert wastes listed in the permit.

4.4.7 Storage of wastes in the extended area of the permit boundary will be limited to inert wastes only. The external storage areas in the eastern extension area are surfaced with concrete to provide an impermeable surface. Surface water run-off is directed into the site's existing sealed ACO drainage system linked to the WTS building, which drains to a below ground leachate collection tank. The tank is periodically emptied to foul sewer to maintain its capacity.

4.4.8 The remainder of the external area is surfaced with permeable hardcore.

4.4.9 Other wastes accepted to site (besides bagged asbestos, which is accepted into a sealed skip that will not allow the ingress of rain or escape of run-off) are stored within the WTS building which has an impermeable reinforced concrete pavement draining to the leachate collection tank.

4.4.10 Site buildings, drainage and infrastructure are subject to good practice maintenance and inspected at least once a month for damage and defects. Any issues are investigated immediately and remedial actions taken as necessary. All inspections and actions are recorded in the site diary.

4.4.11 There will be no point source emissions to land or water resulting from the proposed activities.

5 CONCLUSION

5.1.1 Risks to any nearby receptors will be controlled through implementation of ToP's environmental management system, operating procedures, staff training and effective process design.

5.1.2 The habitats risk assessment demonstrates the site will employ appropriate measures to ensure minimal risk of particulates escaping beyond the site boundary. The effects of the activities undertaken at the site are therefore considered not to be significant on nearby sensitive habitats or species.

5.1.3 Site processes and infrastructure will be maintained to ensure that the site continues to operate to the required standard, and risk to the identified receptors remains low.

5.1.4 The site will be inspected daily and monitored in accordance with the environmental permit, with records maintained evidencing compliance.

5.1.5 In the event of a potentially polluting occurrence, strict procedures will be followed in order to prevent damage to the site plant and infrastructure, minimise potential effects upon human health and protect the local environment.

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